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PROGRESS PROJECT

Status-Quo Assessment Report

Brasov Agency for Sustainable Development (PP02)

Date 30/04/2025

VERSION 0



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Table of Contents

1.	GENERAL DESCRIPTION OF THE BRASOV COUNTY REGION AND ITS DEMOGRAPHY	3
1.1	LAND AREA BY TYPE	3
1.2	POPULATION DENSITY (INCLUDING POPULATION IN URBAN AREAS/TOTAL)	4
1.3	MUNICIPALITIES	5
2.	COHERENCE OF THE PROJECT PROGRESS WITH THE ENERGY STRATEGIES IN THE REGION	6
3.	REGIONAL FACTORS CONCERNING THE ENERGY THEME	9
3.1	ENERGY	9
3.1.1	<i>Availability of renewable energy at national, regional and local level</i>	9
3.1.2	<i>Regional energy market structure (e.g., energy production, electricity grids, transport of energy, energy delivery to customers, ownership and operation)</i>	12
3.2.	THE ENVIRONMENT	19
3.2.1.	<i>The air quality</i>	19
3.3.	INITIATIVES TOWARDS RENEWABLE RESOURCES USE FOR ENERGY AT COUNTY LEVEL	20
3.4.	DESCRIPTION OF CURRENT STATE OF ENERGY COMMUNITIES	21
4.	STAKEHOLDERS	21
5.	DRIVERS AND BARRIERS	23
5.1.	DRIVERS	23
5.2.	BARRIERS	24
6.	USERS INTERFACE	26
6.1	ONE-STOP SHOPS FOR ENERGY EFFICIENCY	26
7.	READINESS INDICATOR MODEL RESULTS (ANNEX 1)	27
8.	SURVEY RESULTS (ANNEX 2)	27



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1. General description of the Brasov County region and its demography

1.1 Land area by type

The county is located in the central part of Romania, in the South-Eastern part of Transylvania and it is crossed by the Olt River, the middle course. Situated within the Carpathian Arc, Brasov County, occupies most of the Brasov and Fagaras depressions.

The county lies at the conjunction of two large mountain chains the Oriental and the Meridional Carpathians, therefore adjoins with other 8 counties: Arges, Dambovita, Prahova, Buzau, Covasna, Harghita, Sibiu and Mures.

With a width of 5.363 km², representing 2,2% from the whole country, and a population density of 119 inhabitant/km², Brasov County is part of The Centre Development Region no.7, from the administrative point of view, along with Sibiu, Mures, Covasna, Harghita, Covasna and Alba Counties.

The County has a rugged relief, with higher altitudes from the North to the South. In the North are situated Fagaras and Brasov Depressions, separated by the shorter peaks of the Persani Mountains, and in the North-West is part of the Tarnavelor Plateau. In the South of the County lies the North Slope of Fagaras Mountain (with over 2000 m altitude), but also Bucegi Mountains, Piatra Craiului, Postavaru, Piatra Mare, Ciucas and Intorsura Buzaului Mountains. The massiveness of the area is diminished by the pronounced transversal bumps brought in the relief by several areas such as Bran-Rucar Corridor, Olt valley and Predeal, Predelus, Bratocea, and Tabla Butii Passes.

Brasov County possesses a very important position, a strategic one in terms of connectivity, accessibility, and mobility, due mainly to its location in the middle of the country. The connectivity between Brasov County and the rest of the country and other European Countries is ensured/provided by the European Roads: E60, E68, and E574, but also by National Roads such as DN 1, DN 13, DN 11, and DN73.

The density of the County's public roads is 30,6km/100 km² (2019), lower than the national average (36,2/100 km²).

From the total amount of the roads that cross the county, 495 km (30%) represent national roads, 661 km (41%) county roads, and 475 km (29%) communal roads.

Brasov County holds an important railway junction, facilitating the connection with all the regions of the country, with the highest density of railways from the Development Region Centre (62 km/1000 km²).

Despite the strategic positioning and importance of Brasov County, the only existent major transport infrastructure is Brasov International Airport (Ghimbav) opened for the public in June 2023 and operating nowadays under its' capacity. The rest of the major transport infrastructure like highways and express roads are still in the project phase or are only partially implemented



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The tourism industry holds a very important role within the economy of Brasov County. In the last decade or so Brasov County focused mainly on tourism, developing a strong strategy that ensured the county progressed into a very attractive tourist destination, focusing on the tourists' interests and market opportunities. As a result, Brasov County occupies the second place (after Constanta County) at national level in terms of number of tourists- numbers for the accommodation structures and units, and it is considered the most important and frequented area for mountain tourism, with a very diverse range of touristic objectives.



1.2 Population density (including population in urban areas/total)

According to the statistics from July 2024 (gathered by The National Statistical Institute and the County Directorate of Statistics), the population of Brasov County was of 642.046 inhabitants (by the place of residence). The county's population represents 2.95% of the total population from Romania, registering a slight increase in percentage compared to the numbers registered in January 2023, by 0.03%.

The urban area, which occupies 1.234 km² – 23% from the total surface of the county, registers a population of 455.211 inhabitants (70.9% from the total inhabitants), whereas 29.1% from the total county population, 186.835 people live in the rural area – on 4.129 km² (77% from the total county area).

In Brasov Municipality (which is the capital of Brasov County) lives the largest population of the County, 283.435 inhabitants, which represents 62,26% people out of the total urban population and nearly half, 44,15% from the total county population. This situation is due to the numerous development opportunities that exists within the municipality, in terms of education, jobs, state institution, health facilities, banks, shops, and recreational opportunities.



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During the last decade, the population from the rural area (the 149 villages from 48 communes) from Brasov County has increased with nearly 8%, while the number of inhabitants from cities and municipalities has decreased by almost 1%.

The increase registered in the numbers of the rural inhabitants, especially in the metropolitan area (the areas near Brasov- 17 communities which comprise now about ½ of the county), is connected to the following:

- Large investments in the main infrastructure (such as water, canal, roads, etc.) have been carried out in the rural area during the last couple of years;
- More affordable housing compared to the urban area, especially in the Brasov Metropolitan Area;
- Less pollution compared to the urban area;
- During the pandemic period there was a trend amongst the population to move from the overpopulated urban areas towards the peripheries, which mainly included the metropolitan rural areas.

1.3 Municipalities

At administrative-territorial level, Brasov County consists of 58 public administrations. Thus, Brasov County comprises:

- 4 municipalities: Brasov, Fagaras, Codlea and Sacele;
- 6 cities: Zarnesti, Rasnov, Rupea, Victoria, Predeal, and Ghimbav;
- 48 communes with 149 villages.

The administrative local public authorities are the Prefect Institution of Brasov, Brasov County Council, the municipal halls, city halls, and communal mayors' offices.

Brasov County has a polycentric system of development around its main cities: Brasov, Rupea, Fagaras; therefore, these areas are designed to bring major contributions to the decision making, to planning, executing programs and projects, and providing resources and services, etc.



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Fagaras and Rupea City can be defined as average urban centres, whereas Brasov City although it possesses the characteristics of an average urban centre, it has the attributes of a large urban centre. The areas covered by the three medium urban centres coincide with the three historical areas from Brasov County („Rupea Country”, „Fagaras Country”, and „Barsa Country”).

The metropolitan area is an administrative subregion that consists of the municipalities, cities, and communes near Brasov, and it was established in order to create new business opportunities,

housing and recreational developments, identifying the best investment opportunities, and coordinating environmental and infrastructure projects for a larger area surrounding Brasov City. The metropolitan area consists of 17 communities formed by municipalities, cities, and communes (the municipalities Braşov, Codlea, Sacele; the cities Ghimbav, Predeal, Rasnov, and Zarnesti and the communes: Cristian, Sânpetru, Hălchiu, Târlungeni, Prejmer, Hărman, Bod, Crizbav, Vulcan, Feldioara, and Budila) and it comprises about half of the total county area.

Braşov County has the highest degree of urbanization in the Centre Development Region No. 7, with a percentage of the urban population over 70%. Braşov is a major junction for communication and transport, ensuring the connection between the northern and southern regions of the country, as well as between the western and eastern regions. Braşov is also an important railway junction; the county has the highest density of railways in the region (62 km/1000 km² compared with the average of 43 km/1000 km²).

2. Coherence of the project PROGRESS with the energy strategies in the region

In order to exploit the potential of renewable energy resources and to achieve the targets undertaken in this industry, Romania has developed an appropriate legislative and institutional framework regarding the promotion and use of energy from renewable sources, in line with the community acquis.

Thus, Romania adopted in 2003, the "Strategy for the exploitation of renewable energy resources", approved by Government Decision (GD) no. 1535/2003. The provisions of Directive 2001/77/EC were transposed into national legislation by GD no. 443/2003 on the promotion of electricity production from renewable energy sources. GD no. 1892/2004, establishing the system for the promotion of electricity production from renewable energy sources, as amended by GD no. 958/2005, set forth the system of compulsory quotas, combined with the system for trading green certificates. This green certificate market initially operated under



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the rules established by the National Energy Regulatory Authority (ANRE) within the Order no. 22/2006 regarding the regulation regarding the green certificate market operation.

By Law no. 220/2008 and subsequent supplements, the Romanian Parliament established the system for promoting renewable energy production. The law establishes a system for promoting electricity production from renewable resources based on mandatory electricity quotas obligation combined with trading of green certificates.

On July 10th, 2012, the Romanian Parliament adopted Law No. 123 regarding Electricity and Natural Gas (Law no. 123/2012). This establishes the regulatory framework for the activities carried out for the electricity and thermal energy cogeneration sector, through optimal use of primary energy resources, aimed at achieving the targets of energy security, competitiveness and sustainable development under conditions of accessibility, availability and affordability, while also in compliance with safety, quality and environmental protection standards.

The renewable energy community concept is relatively new in Romania and although it is regulated by the Government Emergency Ordinance (GEO) no. 143/2021, there are still no norms, methodologies for REC development.

On November 29th, 2022, GEO no. 163 was adopted for the completion of the legal framework regarding the promotion of use renewable resources in energy production, as well as for the amendment and completion of certain regulatory enactments. The GEO states that "Romania shall ensure, collectively with the other Member States of the European Union, that the energy quota from renewable sources in the gross final energy consumption of the European Union will be at least 32 % by 2030". That transposed the regulations of the Renewable Energy Directive 2001/2018 (RED II), but without clearly mentioning how to operationalize the general principles of European legislation in this field.

A new revised form of this European directive (RED III) entered into force in November 2023 (RED III), with a first transposition deadline of July 1, 2024, and the total implementation deadline 21st May 2025. The most important provisions of the new Directive refer to increasing the share of energy from renewable sources in the European Union's total energy consumption to at least 42,50 % by 2030 and to the establishment of renewable energy communities.

Momentarily, there is a motivated notice from the European Commission (EC), which notifies the Romanian Ministry of Energy that EC has launched the second stage of an infringement procedure against Romania due to the failure of timely communicating the legislative changes taken for the implementation of the Third Energy Package (RED III). Therefore, since the beginning of the year the responsible authorities proposed a secondary legislation, thus completing and amending GEO no. 163/2022, that transposes the Third Energy package (RED III), which includes the energy market regulation for renewable energy production, but also provisions regarding the energy community's establishment. The consultation process with other entities ended on the 7th of February 2025, but due to political changes within the government, the legislation has not been yet enforced.

The National Energy Regulatory Authority (ANRE) has an important role in developing these implementing regulations. To avoid the infringement penalties, the legislation is supposed to be adopted and enforced during 2025.



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Since the legislation is still missing at national level, it is needless to point out that, at county level, the regulations have not been yet transposed in specific guidelines with a regional or local approach and impact. Since PROGRESS project aims to lay the foundations for establishing communities/other forms of citizen organization, it is consistent with an important policy from the National Integrated Energy and Climate Change Plan 2025 – 2030, which was updated in October 2024, that facilitates the establishment of energy communities. The main aim of the aforementioned plan consists in the development of legislative amendments that will accelerate the establishment of energy communities and energy autonomous villages. Thus, the electricity consumers, members of an energy community, would benefit from the renewable energy produced by this entity at lower prices and would contribute to the environmental protection. To this end, the Ministry of Energy has initiated a working group for the development of methodologies and procedures for enabling energy communities in Romania, inviting potential stakeholders such as consumers, non-governmental organizations, local communities, industry and the public sector. The Energy poverty section of the National Integrated Energy and Climate Change Plan 2025 – 2030 sets forth the objective 2, which establishes that Romania, must take specific measures to reduce energy poverty and protect vulnerable consumers, more precisely, two specific actions that encourage the promotion of energy communities:

Action 1: Establishing One-Stop Shops at local and county level to provide information and technical advice on energy efficiency of buildings and the use of renewable sources, towards several interested actors such as to energy consumers, prosumers, individuals, legal organizations, including energy communities, other potential beneficiaries of investments. The information and counselling relate to the investment programs financed by European funds and the state budget, as well as by other legally established sources.

Action 2: Developing energy autonomous villages by implementing community-specific solutions, in particular by using local resources. In this regard, the Ministry of Energy will allow not only electricity consumers but also local authorities to establish energy communities.

PROGRESS supports, as well, the implementation of Romania's Energy Strategy 2025 – 2035 and the perspective established at national level for 2050, since the overall objective of the project envisions the empowerment of the energy consumer, as a central actor in energy markets, able to manage his own consumption, produce his energy or be part of an energy community. This will lead to reduced energy bills and increased community resilience to power outages and other disruptions. The project also partly addresses the necessity to adapt the legislation as a crucial step to simplify and accelerate licensing processes and connection to the national grid, thus allowing local energy communities to efficiently develop and operate.

PROGRESS project is also consistent with the Sustainable Development Strategy of Braşov County 2021 – 2030, Strategic Direction 1. Improving environmental factors, energy efficiency, renewable energy, and changes, Specific Objective 1. Improving energy efficiency and reducing pollution:

Measure 1.1. Improving the energy efficiency of buildings

- Action: Investments in thermal insulation, waterproofing of buildings, intelligent systems for efficient energy management, heat recovery ventilation systems

Measure M.1.4. Promoting the use of renewable resources for heat and electricity production



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- Action: Investments in the use of renewable resources.

Thus, PROGRESS is promoting wider access of citizens to the production and use of renewable energy, encouraging them to take the necessary steps to transform them from energy consumers to prosumers, by involving other relevant stakeholders in the field.

3. Regional Factors concerning the energy theme

3.1 Energy

3.1.1 Availability of renewable energy at national, regional and local level

The European Union (EU) set forth an ambitious approach to the transition to renewable energy sources in order to reduce environmental impact and ensure the sustainability of energy resources. Renewable energy sources such as wind, hydro, geothermal, biomass, and solar, play a crucial role in achieving these goals.

According to the National Regulatory Authority for Energy and the National Energy Distributor system operator Transelectrica, currently the total installed energy production capacity at national level is of 20 GWh, out of which 13,1 GWh comes from renewable energy sources (including hydro, electric, nuclear, wind energy), which represents approximately 65% out of the total installed energy production capacity from Romania.

(<https://hotnews.ro/jumatate-din-electricitatea-pe-care-o-consuma-romania-este-din-surse-regenerabile-comparatie-cu-alte-patru-state-europene-1763311>).

According to the National Energy Regulatory Authority, in 2023 the installed capacity of all power generation units in Romania is 18,309 MW (megawatts), or 18.3 GW (gigawatts).

Most of this power is installed in units that produce energy using water (hydropower plants). Thus, at the end of 2022, 36% of the power installed in Romania's power generation capacity was represented by hydropower plants (around 6,600 MW).

Wind farms (with an installed capacity of over 3,000 MW) were on the second place with 17%, and power plants generating electricity by burning coal and hydrocarbons were on the third place with 15% each (around 3,000 MW). ~~It must be admitted that~~ The latter often reverse their positions in the ranking.

Next in line the photovoltaic parks (8%, about 1,500 MG) and the nuclear power plant at Cernavodă (8% of the installed power in Romania, with 1,400 MG).

Units using biomass, biogas, waste or ground heat (geothermal energy) to produce electricity each account for less than 1% of the total.

Production type	Value in the year 2022
Biogas	21,36
Biomass	106,27
Residual heat	4,10
Coal	2.812,20
Waste	6,03
Wind	3.026,91
Geothermal	0,05
Hydro	6.642,60
Hydrocarbons	2.823,71
Nuclear	1.413,00
Solar	1.522,23
Total (MW)	18.378,45



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The largest regional electricity supplier Electrica Furnizare S.A. has published the Label of electricity supplied to final customers in a competitive regime in 2023, showing that during the reference year the supplier's primary source of electricity was composed as follows: conventional source – 52.43% out of which 20.91% produced from nuclear sources and renewable sources – 47.57%, out of which hydroelectric 31.77%; wind 9.18%; biomass 1.21%; solar 5.41%, other renewable resources 0.01%.

The same Label of electricity for 2023 shows that the total amount of energy from all the energy suppliers on the Romanian market the sources of energy came from: conventional source- 48.56% and renewable resources - 51.44%, out of which hydroelectric-32.16%, wind -15.43%, biomass -0.83%. solar-3.01%, other renewable resources -0.01%.

The numbers from 2024 differ slightly to those registered in 2023. According to the Eurostat data, for the year 2024, over 50% of the net electricity production comes from renewable sources. Therefore, Romania is situated amongst the countries with a 50-60% average electric production from renewable resources, above the average at the EU level – 47.4%, with an increase of 2.6% compared to the data from 2023, according to Eurostat statistics.

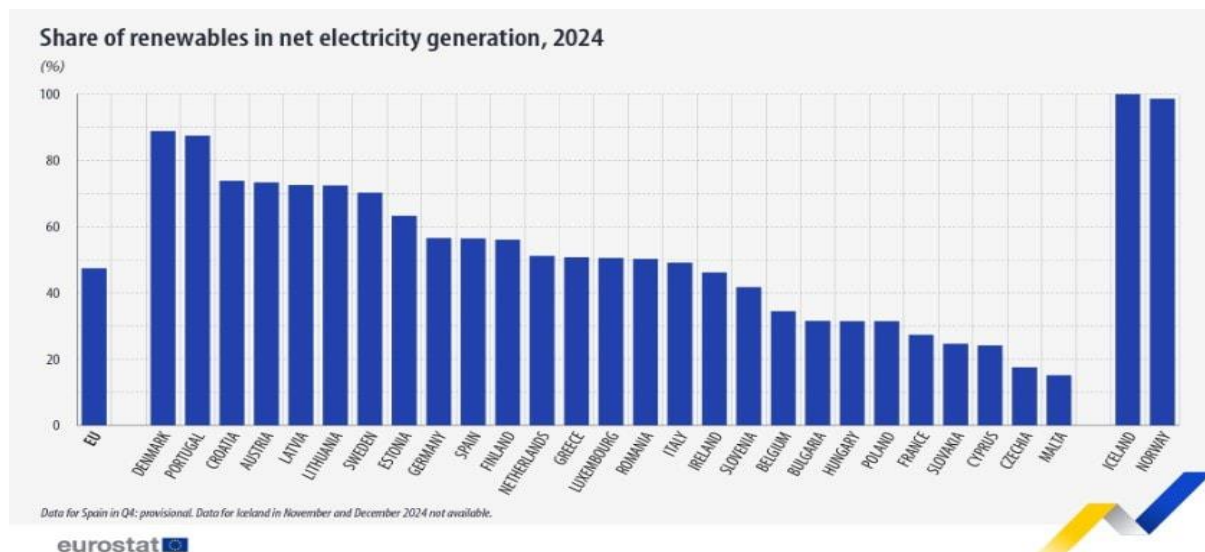


Figure: Eurostat 2024, Share of renewables in net electricity generation, 2024

The energy balance in Romania for 2024 shows that the energy consumption increased by over 1.8% compared to 2023, but the imports have increased with over 5.2% to cover the necessity, because the internal electricity production has decreased by 9.1% compared to 2023. The low energy production was registered in the powerplant of coal and gas with 3.1%, though it still represents the main energy source at national level, with 26.4% out of the total energy production.

The hydro energy production has also significantly decreased in 2024 by 23.1% due to the severe drought from last year, as a matter of fact this represents the main reason for the energy imbalance.



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It is important to mention, though, that the wind and hydro energy production were responsible for two-thirds of the total energy production from renewable sources (39.1% and 29.9%). One third of the total energy production comes from solar energy (22.4%), other renewable energy sources (8.1%), and only 0.5% comes from geothermal energy. (AGERPRES - redactor: Mihaela Dicu, editor: Andreea Marinescu, editor online: Gabriela Badea).

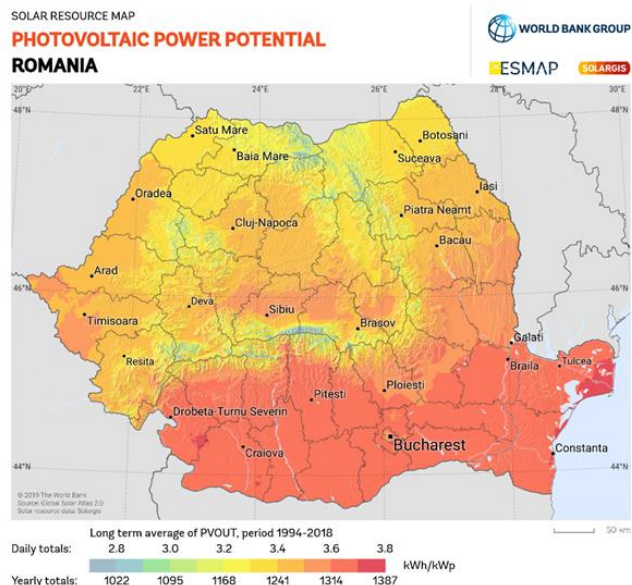
Smartcityblog mentions, with reference to the National Meteorological Administration, that Romania's energy ability is distributed zonally, as follows:

- Danube Delta - solar energy potential;
- Dobrogea - solar and wind energy potential;
- Moldova - micro-hydro, wind, and biomass potential;
- Carpathian Mountains - high biomass and micro-hydro potential;
- Transylvania - high potential for micro-hydro;
- Campia de Vest (Western Lowlands) - opportunities for geothermal energy;
- Subcarpathian area - potential for biomass and micro-hydro;
- Campia Romana (Romanian Lowlands) - biomass, geothermal, and solar energy potential.

In terms of the geographical distribution of plant biomass resources with available energy potential, Brasov County, together with Covasna and Harghita counties, which are part of the Central Region, are the poorest in terms of agricultural resources.

According to the National Energy Transmission System Operator Transelectrica, almost all wind power capacity is concentrated in two counties, Tulcea and Constanța. In this respect, Brasov County in the depression (valley) has no potential due to its geographical position.

Nor is the hydrological potential at the capacity of past years. Therefore, several micro-hydropower plants in Brasov, built on streams in the 1980s, are no longer operational because of low water flow, and some hydropower plants built along the Olt River, the largest river flowing through the county, are operating at half capacity or less.



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Figure 1: Photovoltaic potential. Romania. Data source: HYPERLINK

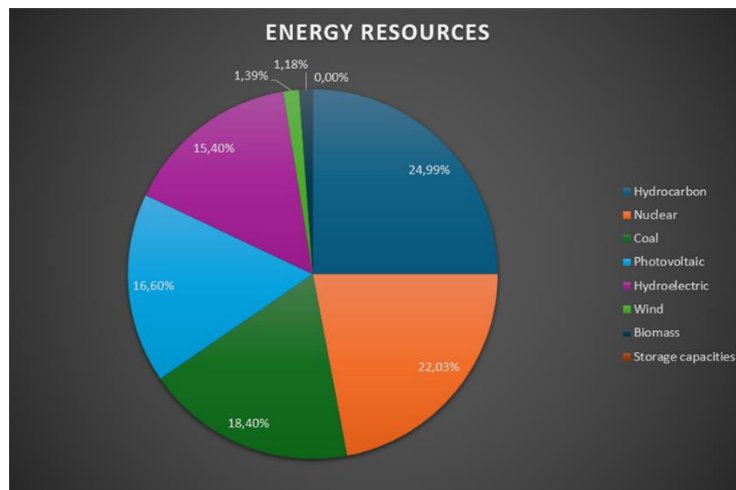
"C:\Users\DELL\AppData\Local\Microsoft\Windows\NetCache\Content.Outlook\C9B12H8C\Global Solar Atlas" [Global Solar Atlas](#)

However, Romania has good solar coverage Figure 1, with 210 sunny days per year and an annual solar energy flux between 1,000 kWh/m²/year and 1,300 kWh/m²/year, compared to other European countries. According to the Solargis map - "Photovoltaic Energy Potential", Romania is divided into three main sunshine areas. The red zone, with about 1,387 kWh/sqm/year, corresponds to Oltenia, Muntenia, Dobrogea, and southern Moldova. The yellow zone, 1,168-1,241 kWh/sqm/year, covers the Carpathian and sub-Carpathian regions of Muntenia, the whole of Transylvania, the middle and northern part of Moldavia, Banat, and the blue zone, 1,095-1,168 kWh/sqm/year, covers the mountain regions. Brasov County is located within the yellow zone, which allows it to attract interest in developing photovoltaic systems.

3.1.2 Regional energy market structure (e.g., energy production, electricity grids, transport of energy, energy delivery to customers, ownership and operation)

a. Energy Producers

The energy producers are the companies that produce electric energy, either from conventional sources (like coal, gas, nuclear energy, etc.) or renewable sources (such as hydro, wind, solar, biomass, etc.). Transelectrica is the authority that measures daily the amount of energy produced and energy consumed. For instance:



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	percent	capacity
Hydrocarbon	0,2499	1561 MW
Nuclear	0,2203	1376 MW
Coal	0,184	1149 MW
Photovoltaic	0,166	1037 MW
Hydroelectric	0,154	962 MW
Wind	0,0139	87 MW
Biomass	0,0118	74 MW
Storage capacities	0	0 MW

Electric energy production in Romania, according to the type of generation, for one day 22.02.2025.

Credit: transelectrica.ro (<https://www.transelectrica.ro/web/tel/sistemul-energetic-national>)

Romania's largest electricity producers use water, coal, hydrocarbon, and nuclear power as a primary source. Together, they cover more than 80% of electricity needs. None of the major electricity producers are located in Brasov County or in Romania's Central Development Region.

To the region and therefore the county, electricity is transported by the Operator Transelectrica and distributed by the company Distribuție Energie Electrică Romania. Both companies are joint-stock companies where the Romanian state owns the majority of shares. As is also the case with the largest producers:

- Hidroelectrica - is 80.06% owned by the Romanian State through the Ministry of Energy and 19.94% owned by Fondul Proprietatea;
- Complexul Energetic Oltenia - The main shareholders are the Ministry of Energy (77%) and Fondul Proprietatea (21.5%);
- National Company "Nuclearelectrica" SA - The State, through the Ministry of Energy, holds 82.49% of Nuclearelectrica shares. Other shareholders hold 17.50%

b. Energy transporters

At national level the energy transport is carried by Transelectrica SA, a key company for the Romanian energetic system, managing the high voltage network.



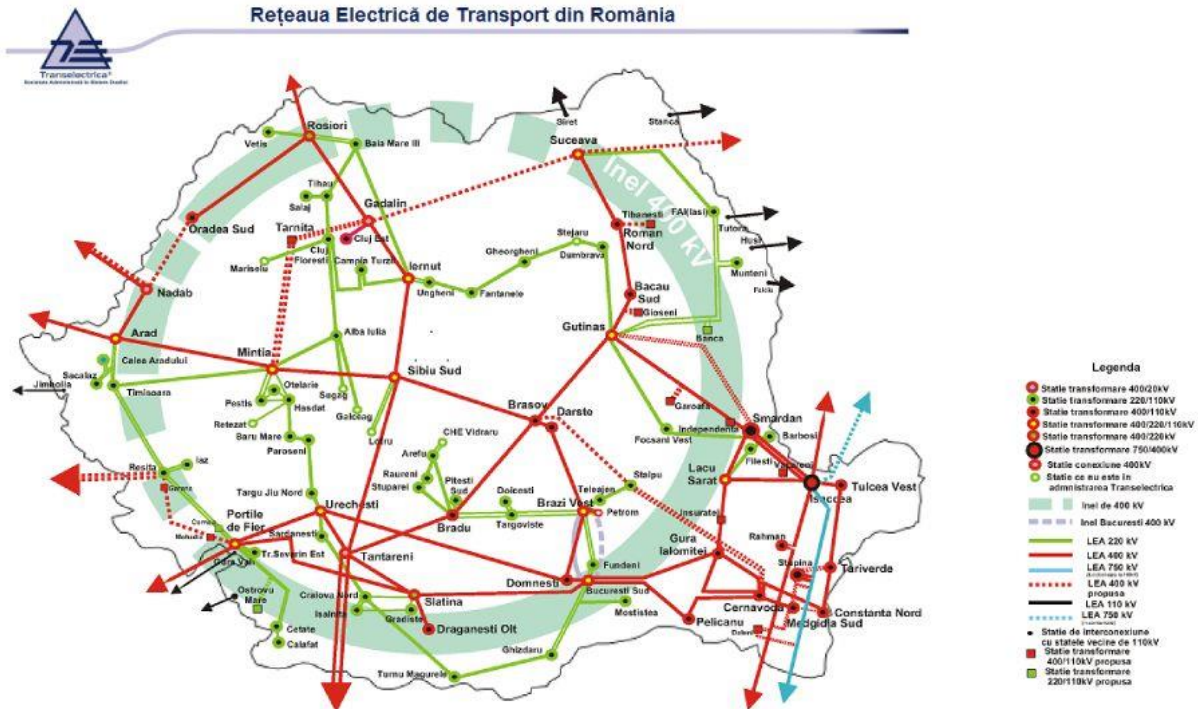
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Map of the national transportation energy grid according to the National Energy Transporter system operator Transelectrica (www.transelectrica.ro)

Transelectrica SA administers the electricity transport system and ensures the exchange of electricity amongst the Central and Eastern European countries as a member of ENTSO (The European Network for Transport and Electric Energy System Operator).

Transelectrica SA is responsible for the electric energy transport, through the Romanian Electricity Network for Transport, through 85 electric stations, 8931.6 km of aerial electric lines, 218 main transformation units with 37,794 MVA, operating the system, network, and market, securing the safety of the National Electro-energetic System. Furthermore, the company establishes the main connection between the demand and the offer for electricity, permanently balancing energy production with energy demand.

The Electric Energy and Natural Gas Market Operator from Romania (OPCOM) is a subsidiary of Transelectrica SA, and it's the company that manages the energy market, and appoints where the producers and suppliers sell and buy energy, green certificates, and establishes how to set the prices for energy. On **OPCOM**, producers trade their share of energy and buy the energy for their clients.

c. The distribution operators



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The distribution operators hold in concession the local and regional electric energy network, the low, medium, and high voltage infrastructure, such as the poles, the aerial and subterranean cables, transformers, the energy meters from the consumption places, and telecontrol systems.

There are four large distributors: Delgaz Grid, Distribuție Energie Electrică România (Electrica Group), Distribuție Energie Oltenia, and E-distribuție, which supply electricity in 8 distribution areas, such as:

1. **Delgaz Grid** (part of the **E.ON România Group**) operates in Suceava, Botoșani, Neamț, Iași, Bacău and Vaslui counties.
2. **Distribuție Energie Oltenia** (part of **Electrica Group**) operates the networks from Dolj, Argeș, Olt, Gorj, Vâlcea, Mehedinți and Teleorman counties.
3. **Electric Banat Network** (part of **PPC Group**) – previously known as E-Distribuție Banat, covers Timiș, Arad, Hunedoara, and Caraș-Severin counties.
4. **Electric Dobrogea Network** (part of **PPC Group**), previously known as E-Distribuție Banat, covers Constanța, Tulcea, Călărași, and Ialomița counties.
5. **Electric Muntenia Network** (part of **PPC group**), previously known as E-Distribuție Muntenia, ensures the electric energy in Bucharest, Ilfov, and Giurgiu counties.
6. **Electric Energy Distribution Romania Transilvania Nord** (part of **Electrica Group**) covers Cluj, Bihor, Maramureș, Satu Mare, Bistrița-Năsăud, and Sălaj counties.
7. **Electric Energy Distribution Romania Transilvania Sud** (part of **Electrica Group**) covers Alba, Brașov, Covasna, Harghita, Mureș, and Sibiu counties.
8. **Electric Energy Distribution Romania Muntenia Nord** (part of **Electrica Group**) covers Brăila, Buzău, Dâmbovița, Galați, Prahova, and Vrancea counties.

The **8 distributors hold the monopoly for the electric energy distribution in the designated areas, which are allocated geographically**; therefore, the consumers cannot change the distributor.

The distribution operators have exclusive management rights over the electricity network in their operating area.

d. Energy suppliers

The energy suppliers are the companies that sign energy contracts with the final clients, either individuals or companies.

The energy market liberalization from 2020 offers consumers the possibility to freely choose the supplier and the offer that best suits their profile as a consumer.

Currently, ANRE has approved 74 relevant electricity suppliers and producers at national level, some of them produce the energy through their power plants, among the suppliers, there are also the 4 electricity distribution companies. At the same time, 5 Last Resort Suppliers have been approved, out of which 4 of them operate in Brașov County, in case a supply agreement is terminated and the final customer risks not having a guaranteed supply of electricity.

Electricity suppliers and producers



15

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No.	Name of the company	Contact
1.	A6 Impex S.R.L. – renewable energy supplier – Cluj	www.a6impex.ro
2.	Alegfurnizorul Consulting S.R.L. – renewable energy supplier - Bucharest	www.alegfurnizorul.ro
3.	Alro S.A. – energy supplier – Slatina	www.alro.ro/telefoane-furnizare-distributie
4.	Anchor Grup S.A. – energy supplier -Slatina	www.alro.ro/telefoane-furnizare-distributie
5.	Axpo Energy Romania S.R.L. – renewable energy supplier –wind – Bucharest	www.axpo.com/ro/ro/despre-noi.html
6.	CEZ Vanzare SA* - renewable energy supplier – Oltenia	www.cez.ro
7.	Cooperativadeenergie Furnizare S.R.L.- renewable energy supplier - Bucharest	www.cooperativadeenergie.ro
8.	Cotroceni Park S.A. - energy supplier- Bucharest	www.afienergy.ro
9.	Crest Energy S.R.L. - energy and natural gas supplier - independent - Bucharest	www.crestenergy.ro
10.	Dacia Energy Solutions S.R.L. – renewable energy - photovoltaic and wind sources – Bucharest	www.des-ro.eu
11.	E.ON Energie Romania S.A.*- energy and natural gas supplier – conventional and renewable energy sources – Bucharest	www.eon-energie-romania.ro
12.	EFT Furnizare S.R.L. – conventional energy supplier - Bucharest	www.eft-furnizare.net
13.	Egger Romania S.R.L. – energy supplier biomass cogeneration - Suceava	www.egger.com
14.	Electric Planners S.R.L.- electric energy and natural gas supplier - Bucharest	www.electricplanners.ro
15.	Electrica Furnizare S.A.*- electric energy and natural gas supplier, producer, and distributor – national	www.electrifurnizare.ro
16.	Electrificare CFR S.R.L. – energy supplier – Bucharest	www.electrificarecfr.ro
17.	Electrocarbon S.A. – energy supplier – Ilfov	www.electrocarbon.ro
18.	Electromagnetica S.A.- renewable energy – Bucharest	www.electromagnetica.ro
19.	Electroutilaj S.A. – energy supplier and electric equipment supplier – Campina	www.electroutilaj.ro
20.	Elsid S.A. – energy supplier – Ilfov	www.elsid.ro
21.	ENEL Energie Muntenia S.A.* - renewable energy – wind - Bucharest	www.enel.ro/content/enel-ro/enel-muntenia/ro.html
22.	ENEL Energie S.A.* - renewable energy - wind-Bucharest	www.enel.ro/enel-energie/ro.html
23.	Energy Core Development S.R.L.- renewable energy – wind -Bucharest	www.energycore.ro
24.	Energy Distribution Services S.R.L. – energy supplier	www.energydistribution.ro
25.	Energy Grid S.R.L. – energy supplier	www.egfurnizare.ro
26.	Energy Trade Activ S.R.L. – energy supplier- Bucharest	www.energytradeactiv.ro
27.	Engie Romania S.A. – energy and natural gas supplier - National	www.engie.ro
28.	Entrex Services S.R.L. - energy and natural gas supplier – Bucharest	www.entrex.ro
29.	Getica 95 COM S.R.L.- energy and natural gas supplier - Bucharest	www.getica95.ro
30.	Grenerg S.R.L., renewable energy supplier and producer – Satu Mare	www.electricnetgroup.com
31.	Hermes Energy International S.R.L.- energy supplier - Prahova	www.hermesenergy.ro
32.	ICCO Energ S.R.L. – energy supplier- Brasov	www.icco.ro
33.	ICPE Electrocond Technologies S.A.- energy and natural gas supplier - Bucharest	www.icpeelectrocond.ro
34.	Industrial Energy S.A. – energy and natural gas supplier – Bucharest	www.industrialenergy.ro
35.	Liberty Galati S.A. – renewable energy supplier– Galati	https://libertysteelgroup.com/ro/
36.	Luxten Lighting Company S.A.- renewable energy supplier – Bucharest	www.luxten.com



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No.	Name of the company	Contact
37.	Mazarine Energy Romania S.R.L.- energy supplier - Bucharest	www.mazarine-energy.com/operations-romania/
38.	MET Romania Energy S.R.L.- renewable energy photovoltaic supplier - Bucharest	www.ro2.met.com
39.	MVM Future Energy Technology S.R.L., renewable energy hydro supplier – Cluj-Napoca	www.mvmenergy.ro
40.	Next Energy Partners S.R.L. – renewable energy supplier, wind and natural gas – Bucharest	www.nextenergy.ro
41.	Nova Power & Gas S.R.L. – renewable energy hydro, wind, solar, biomass supplier– Cluj Napoca	www.vreaulanova.ro
42.	Photovoltaic Green Project S.R.L. – renewable energy, solar supplier -Bucharest	www.pgp-energy.ro
43.	Plenerg SRL- energy supplier – Bucharest	www.plenerg.ro
44.	QMB Energ S.R.L. – energy supplier – Timisoara	www.qmbenerg.com
45.	RCS&RDS S.A.- energy supplier – National	www.digiromania.ro
46.	RES Energy Solutions S.A.- renewable energy supplier	www.res-co.com
47.	Restart Energy One S.R.L- renewable energy supplier–solar- Bucharest	www.restartenergy.ro
48.	Romelectro București S.A.- renewable energy supplier – wind, hydro – Bucharest	www.romelectro.ro
49.	Tinmar Energy S.A.- energy and natural gas supplier- Bucharest	www.tinmar.ro
50.	Transenergo Com S.A.- renewable energy – hydro and solar supplier -Ilfov	www.transenergo.ro
51.	Transenergo Microhidro S.R.L., renewable energy supplier– hydro-Ilfov	www.transenergo.ro
52.	Uzinsider General Contractor S.A.- renewable energy supplier- Bucharest	www.uzinsider.ro
53.	Veolia Energie Romania S.A.- renewable energy supplier- Bucharest	www.veolia.ro
54.	Werk Energy S.R.L. – renewable energy supplier -solar -Bucharest	https://www.werkenergy.ro/
55.	Alive Capital S.A.- renewable energy producer and supplier -solar, wind - Bucharest	www.alivecapital.ro
56.	C.E. Oltenia S.A.- renewable energy supplier -hydro - Oltenia	www.ceoltenia.ro
57.	C.E.T. Arad S.A. – energy producer -Arad	www.cetarad.ro
58.	East Wind Farm S.R.L.-renewable energy producer -wind- Bucharest	www.eastwind.ro
59.	Electricom S.A.- renewable energy producer-solar -Bucharest	www.electricom.ro
60.	Energy Tech Entera SRL- renewable energy producer and supplier -wind -Brasov	www.entera.ro
61.	Enex S.R.L. – renewable energy producer and supplier -wind -national	www.enexenergy.ro
62.	EOL Energy S.R.L.- renewable energy producer and supplier -wind - Satu Mare	www.eol-energy.com
63.	Ewind S.R.L., renewable energy producer and supplier -wind -Bucuresti	https://ewind-furnizare.ro/
64.	EYE Mall S.A. - renewable energy producer and supplier -solar-Bucuresti	www.eyemall.ro
65.	Green Vision Seven S.R.L.- renewable energy producer and supplier -solar-Ucea de sus-Brasov	www.gv7.ro
66.	Modern Calor S.A. – energy producer- Botosani	www.moderncalor.ro
67.	Monsson Trading S.R.L.- energy and natural gas producer- Constanta and Bucharest	https://www.monssontrading.eu/ro/
68.	OMV Petrom S.A. – energy producer – national	www.omvpetrom.com/ro
69.	Petrotel-Lukoil S.A. - energy producer -Ploiesti	www.petrotel.lukoil.com/ro/
70.	Renovation Trading S.R.L.- renewable energy producer and supplier -Bucharest	www.renovatotrading.ro

17



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No.	Name of the company	Contact
71.	S.P.E.E.H. Hidroelectrica S.A. – renewable energy producer - hydro -Bucharest	www.hidroelectrica.ro
72.	SNGN Romgaz S.A. – energy producer and supplier from natural gas – Medias	www.romgaz.ro
73.	Solprim S.R.L. - renewable energy producer -solar – Bucharest	www.solprim.ro
74.	Verbund Wind Power Romania S.R.L. -renewable energy producer -solar, wind, hydro -National	www.verbund.com

* Nominated as Last Resort Suppliers according to the existing regulations

A brief analysis of the list above shows that over 55% of the companies that are authorised at national level to produce and supply energy are using renewable energy resources, either from solar, wind, and hydro resources. Of the 20 authorized energy producers, 70% are using renewable energy resources to produce electricity.

Therefore, electricity from wind, hydro, and photovoltaic modules is considered a clean solution that may bring us closer to energy efficiency at national level. In this respect, the solar energy area is the most targeted area for investment in green energy generation. This aspect is also reflected in the draft Energy Strategy of Romania 2020-2030, forecasting 2050, which foresees significant increases in electricity production from solar sources from 1,624 MWh in 2023 to 7,357 MWh in 2030.

At the beginning of 2024, the net installed power of the photovoltaic power plants in Romania was of 1.624 MWh (excluding the prosumers), thus registering a significant increase compared to 1.185 MWh in 2023.

As of the latest data, Romania has over 880 large-scale photovoltaic (PV) projects. The future projects are at various stages of development, with many in the early stages.

Regarding the situation in Brasov County, we must mention, as well, that there are 178 companies, which have listed as scope of business the NACE code 3511 - Electricity production, thus becoming small producers at local level.

Brasov County is among the top of the Autonomous Communities with the largest solar energy parks in Romania:

1. CEF Ucea de Sus 1, Brasov County - 28 MW (Green Vision Seven SRL).
2. CEF Ucea de Sus 2, Brasov County - 18 MW:
The Ucea de Sus 1 and Ucea de Sus 2 solar parks together cover an area of 122 hectares. The parks have been connected to the grid of the Transilvania Sud Electricity Distribution Company since December 2013. According to a report issued by the company that owns the two solar parks in Brasov County, in 2021, they supplied 81 GWh.
3. CEF Hoghiz, Brasov County - 15.6 MW (VIS Solaris 2011 SRL).

➤ In February 2025, the prosumer situation at national level was as follows:

- Total number of prosumers: 208,866
- Total individual prosumers: 1849,32
- Total private entities prosumers: 23,934
- Total electrical power installed with PV: 2,509.77 MWh
- Total electrical power installed with PV individual prosumers [MWh]: 1,161.27
- Electrical power installed with PV private entities prosumers [MWh]: 1,348.49

➤ For Brasov in February 2025, there were 5,077 prosumers with an installed power from PVs of 60.09 MWh.



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Until 2030, the renewable energy produced in Romania is estimated to reach 55,8% from the total amount of energy produced, according to the Energy Ministry.

In 2030, the estimated amount of renewable energy sources used to produce electricity is envisioned as follows:

- 37% wind energy
- 35% hydro energy
- 23,5% solar energy

The estimate shows that until 2030, more than 4.9 GWh capacity in PV power plants will be installed and brought into use (on the ground as well as on rooftops), as well as 4.6 GWh capacity in wind plants will be developed.

3.2. The environment

3.2.1. The air quality

The measurements carried out between 2008-2019 by the monitoring stations for air quality from Brasov County, showed a tendency to maintain high levels of concentration of NO₂, way above the allowed upper limit.

Brasov Municipality registers high concentration levels in the emissions of NO₂ and PM₁₀, mainly related to the large number of cars (which increased with over 59% in the last ten years) that contribute to traffic pollution, but also the increase in the number of housing facilities in the detriment of the green areas throughout the city. Fagaras and Victoria cities are also considered highly polluted areas, mainly because of the former or still functional industrial platforms.

Brasov County has been affected by the continuous increase of the urban phenomenon (higher numbers of inhabitants and housing developments), which contributed to a higher level of pollution (with the highest urbanism level from the Centre Development Region -73% in 2018).

As for the level of greenhouse gas emissions registered for the companies from Brasov County, the measurements show the levels increased by 9% in 2018 compared to 2013.

Brasov County Council established through *The Brasov County Strategy for Sustainable Development 2021-2030* several goals for 2030 such as reducing by 30% of the greenhouse gas emissions compared with the numbers registered in 2018.

In 2021, the European Commission advised Romania to take all the necessary steps to decrease the level of pollution in five Romanian cities - Bucharest, Cluj, Iasi, Brasov, Timisoara, in this particular order, because these cities registered the highest level of pollution in the country (Brasov being the 4-th most polluted city in Romania). The Commission stated that if no steps were to be taken towards decreasing the level of polluting emissions in the ambient atmosphere in these 5 cities, then it would act by enforcing an infringement procedure against Romania.

Although during the last couple of years, there have been constant efforts and a slight progress towards decreasing of anthropogenic (human-caused) emissions of air pollutants, the air quality in Brasov still constitutes an issue for the public health, therefore Brasov Municipality became the management area for air quality with the main focus to reduce NO₂ and PM₁₀ concentration levels from the ambient air. To diminish the emissions of NO₂ and PM₁₀, Brasov City Hall, set forth several projects that should contribute to improve the air quality by decreasing of anthropogenic (human-caused) emissions of air pollutants like: increasing the number of electric vehicles for the public transport in Brasov Municipality and Metropolitan transport; developing the bike routes and bicycle infrastructures within the city and between Brasov surrounding areas; developing bike sharing stations; creating the railway network for the metropolitan

19



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24_006

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train; improving the infrastructure for charging stations for electric cars; setting up park's and green spaces; park & ride areas; developing eco-islands for waste management and a photovoltaic park; as well as focusing on using renewable resources for energy and heating production.

The numbers registered at county and local level show high levels of CO₂, NO₂, and PM₁₀ emissions:

- Local emissions of CO₂ registered in 2022 - 564439 tCO₂ emissions/year, and 1,84711 tCO₂/MWh/year (data from 2020 provided by Brasov Municipality) - CO produced by electric energy, gas, central heating system, diesel, petrol, biofuel diesel, and petrol
- Local emission of NO₂ registered in 2022- max concentration/hour value=130 µg/m³, whereas the average concentration in NO_x/year -86,64 µg/m³ - 2022 in Brasov Municipality
- Emission of PM₁₀ registered in 2022- at county level - Number of days in the year- 21 days/year in 2022 with values over 50µg/m³ (medium values/day); the average parameters/year - 24,76 µg/m³ - with a maximum concentration/hour of 130,1 µg/m³ - in 2022; Brasov Municipality also registered in 2022- 53 days with higher concentration than the legal limitations.

3.3. Initiatives towards renewable resources use for energy at county level

Although there were some investments (mostly by private investors) in renewable energy in several places in Brasov County, for example, Feldioara, Codlea, Harman, Halchiu, Ucea, Vistea, photovoltaic parks were created, it is imperative to carry on with developing other initiatives for the use of renewable resources at county level (especially for solar energy). There are several authorities and institutions, public authorities (mayor's offices) which are in the process of implementing projects, with or without European funding, that focus on developing photovoltaic parks, with enough power to cover their public facilities' energy demand, such as:

a) the initiative carried out by one of the villages in the county, specifically Bod village/commune, with funds from the Modernising fund from the Energy Ministry, is currently equipping, developing and operating a photovoltaic park **400** KW, with the purpose to cover all the electricity costs for public schools, school campus, community centre, as well as for public lighting.

b) another initiative carried out by one of the cities in the county, specifically Zarnesti City, with funds from the Modernising fund from the Energy Ministry, is currently equipping, developing and operating a photovoltaic park **400** KW, with the purpose to cover all the electricity costs for public schools, school campus, community centre, as well as for public lighting.

c) another initiative carried out by one of the villages in the county, specifically Vama Buzaului Commune, with funds from the Modernising fund from the Energy Ministry, is currently equipping, developing and operating a photovoltaic park 294KW, with the purpose to cover all the electricity costs for public institutions, as well as for public lighting.

d) another initiative carried out by one of the communes in the county, specifically by Sercaia Commune, with funds from the Large Infrastructure Operational Programme, is currently in the process of equipping, developing and operating a photovoltaic park **17 MW** with the purpose to cover all the electricity costs for public institutions, as well as for public lighting

e) another initiative carried out by one of the municipalities in the county, specifically by Fagaras Municipality, with funds from the Modernising fund from the Energy Ministry, is currently equipping, developing and operating a

20



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photovoltaic park **2000** KW, with the purpose to cover all the electricity costs for public institutions, as well as for public lighting

f) as for Brasov Municipality, it has already implemented a project focused on the installation of a photovoltaic park with a capacity of 20 MW and is currently in the process of getting the licences as a renewable energy producer and supplier. This green electricity plant will provide 90% of the energy needed for schools, public buildings, and public lighting. Brasov City has other initiatives that aim to complete the direction promoted by the municipality thus far, towards renewable resources used for energy for autonomy and diminishing the energy costs for public institution, and such a project, financed by the Large Infrastructure Operational Programme, is related to installing PV systems on the rooftops of public buildings from the municipality, to produce electricity for self-consumption.

3.4. Description of current state of Energy Communities

In Romania, the energy communities' approach is rather new and innovative for the energy sector and involves groups of citizens, local businesses, or institutions working together to produce, consume, or manage energy in a collective manner. Currently, no energy communities are established in the country and in the county, for the matter, although there is a regulatory framework allowing this activity.

Several initiatives come close to the concept of an energy community, but still lack the formal organization, such as:

- The Energy Cooperative (<https://cooperativadeenergie.ro>), which is a European cooperative from Bucharest, established in July 2022, which currently has 956 members. The cooperative is also 100% owner of a company that is licensed as a renewable energy supplier, which currently has 412 consumers and 2 GWh supplied.
- The "In Between Neighbours" Association (<https://intrevecini.ro/>) that focuses on building sustainable communities - one of their initiatives was "Molidului, 21" from Brasov, where the neighbours from that condominium installed PV panels on the building, sharing the energy for the common spaces and establishing a cooperation with a courier company – an easy box was installed near the building - thus supplying the surplus of the energy produced and generating incomes for the community.

In this respect, the current focus of the energy actors is aimed at facilitating the production of electricity through the installation of photovoltaic panels, including in domestic conditions on the roof of households, but also on ensuring the appropriate storage capacity, that could contribute to balancing the production with the consumption of energy and avoid overcharging/overpowering the energy grid.

Although not organised as an energy community, Brasov municipality has become the first city in the country where all the institutions subordinated to the city hall are powered exclusively by renewable sources, becoming thus the promoter of renewable resources use for energy production. The municipality has signed a contract with the main electricity supplier to this end. According to the operator, 98.78% of the certified ECO green energy is produced by hydroelectric power and 1.22% by biomass plants. In order to strengthen this position, Brasov city has already implemented a project focused on the installation of a photovoltaic park with a capacity of 20 MW and is currently in the process of getting licences as a renewable energy producer and supplier. This green electricity plant will provide 90% of the energy needed for schools, public buildings, and public lighting.

4. Stakeholders



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Organization	Involvement	Key or non-key stakeholder
Consiliul Județean Brașov / Brașov County Council	County authority – the county strategy also includes renewable energy use promotion	key
Municipiul Brașov/Brașov City Hall	Several renewable energy infrastructure projects have been implemented and/or are in implementation (to support energy consumption by public institutions)	key
Comuna Vama Buzăului/Vama Buzăului village	Approved project on renewable energy – construction of Photovoltaic (PV) Powerplant	non-key
Comuna Prejmer/Prejmer village	Land concession for the construction of a Photovoltaic (PV) Powerplant connected to the national energy system (SEN)	non-key
Comuna Feldioara/Feldioara village	Approved projects on renewable energy	non-key
Comuna Bod/Bod village	Approved project on renewable energy – construction of a PV Powerplant to ensure the energy consumption for public buildings and public lighting	non-key
Autoritatea Națională de Reglementare în domeniul Energiei (ANRE) / National Energy Regulatory Authority	ANRE is an autonomous public institution in Romania that applies the regulatory system that contributes to the functioning of the energy sector and the markets for electricity, heat, and natural gas in conditions of efficiency, competition, transparency, and consumer protection, including the rules for the renewable energy sector. ANRE is also the authority responsible for the renewable energy communities' regulation development and enforcement.	key
Sucursala de Distribuție a Energiei Electrice Brașov / Brașov Energy Distribution Branch	Regional key electricity distributor	non-key
Transelectrica – Sucursala Teritorială de Transport Sibiu / Transelectrica – Sibiu territorial transport	Regional key company for the Romanian the energy transport system, managing the high voltage network.	non-key
Agenția pentru Protecția Mediului Brașov / Brașov Environmental Protection Agency	Brașov Environmental Protection Agency is a local public institution, subordinated to the National Environmental Protection Agency, whose objective is to implement public policies and legislation in the field of environmental protection, including those concerning renewable resources use.	non-key
Universitatea Transilvania din Brașov / Transilvania University of Brașov	It is a public higher education institution that offers studies (Bachelor's/Master's degrees) in renewable energy resources use, and it is also active in promoting and implementing renewable energy measures.	non-key
Agenția pentru Managementul Energiei și Protecția Mediului (ABMEE) / Agency for Energy Management and Environmental Protection	ABMEE is the local energy management agency from Brașov Municipality, aiming to support energy efficiency, renewable energy resources use, and sustainable development at local level.	non-key
Asociația Orașe Energie în România (OER) / Energy Cities in Romania	OER brings together 30 local authorities involved in the energy transition process towards climate-neutral communities.	non-key
Cooperativa de energie / Energy Cooperative from Bucharest	Energy Cooperative from Bucharest is the first green energy cooperative in Romania, dedicated to providing 100% renewable energy to those interested, but also building a sustainable future as the	non-key



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Organization	Involvement	Key or non-key stakeholder
	citizens play an active role, encouraging them to become both consumers and investors in green energy.	
Asociatia "ÎntreVecini" / Association "In Between Neighbours"	"In Between Neighbours" Association is an NGO, whose purpose is to increase the quality of life for the citizens, by building sustainable communities through community projects development, including those in the field of renewable energy.	non-key
WWF Romania / WWF (World Wide Fund for Nature) Romania	WWF Romania is an NGO established in 2006, as part of the Danube-Carpathians Program, to contribute to the conservation of natural areas in the Carpathian Mountains and along the Danube. The projects of the association have evolved towards the transition to the green economy and renewable resources.	non-key
Greenpeace Romania / Greenpeace Romania	Greenpeace Romania was founded in 2007 and advocates for changes in attitudes and behaviours of citizens towards protecting and conserving the environment, and promoting peace. Its main directions consist of promoting the use of renewable energy sources and fostering energy communities.	non-key
Cluster Green Energy / Green Energy Cluster	The Green Energy Clusters' mission is to connect entrepreneurs, research organizations, universities, and public administration to strengthen cooperation, stimulate innovation, and spread knowledge in the field of biomass/bioenergy.	non-key

5. DRIVERS AND BARRIERS

5.1. Drivers

The main drivers identified within the project for the use of renewable energy sources, as well as for setting up renewable energy communities (RECs) are:

- Extensive information available for Energy Communities (EC), such as guidelines, templates, national/regional websites, and/or the existence of One-Stop Shop (OSS) approach for facilitating information and promoting the establishment of EC could encourage such an initiative. Within Brasov Agency for Sustainable Development (BASD) it was created the OSS for Energy Efficiency at Brasov County level according to the Brasov County Council Decision no. 294/30.07.2024. OSS represents an ample opportunity to extend its role to also address, promote, and support the establishment of renewable energy communities (RECs) and citizen energy communities (CECs), once the secondary legislation that transposes the Third Energy Package (RED III) is enforced.
- Existence of EC already operational in neighbouring regions, such as Energy Cooperative and Association In Between Neighbours, could be inspiring models for other people to get involved in EC establishment.
- The potential benefits brought by EC establishment, such as reducing electricity bills, reducing energy insecurity and energy poverty, establishing trust and social cohesion within a community, combating

23



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climate change, and preserving natural resources, could encourage citizens to participate in such initiatives.

- The funding opportunities (such as Romanian National Recovery and Resilience Plan – PNRR, Green House Photovoltaic Program) for PV Panels, energy storage batteries, heat pumps instalments, energy efficiency in buildings for citizens, with a special focus on vulnerable energy consumers and citizens facing energy poverty, private companies and public institutions could create a generous pool from where you can select potential members interested in setting up ECs. Various legislative incentives/subsidies for EC establishment available, could also be an important driver in such an initiative.
- Tax reliefs related to the activities in the field of energy production, distribution, and other areas of EC activities could be enforced once the legislation is implemented and promoted.

At national level, Romania has implemented and continues to implement several programmes (financial incentives) to support the use and promotion of renewable energy resources. The most important are:

- The "Casa Verde" programme in Romania initially started in 2008. This programme was implemented to support energy efficiency projects and the use of renewable energy sources in individual households. Over time, the programme has gone through several changes, including changes in the types of eligible projects and the funding provided. It is important to note that the Green House programme has periodically been suspended and resumed or undergone significant changes depending on government policy and availability of funds.
- PNRR 2024 – 2026, RePower EU:
 - ✚ I4 – Grant scheme that provides vouchers to accelerate the use of energy from renewable sources by households, consisting of 10.000 euros for both photovoltaic panel installation and energy storage batteries;
 - ✚ I7 - Grant scheme that provides vouchers to improve energy efficiency of households, consisting of 20.200 euros for both thermal rehabilitation of the buildings, PV installation, and preparation of documents.

5.2. Barriers

The main barriers to establishing ECs are:

- ✚ Legislative aspects
 - Legal framework still not clearly developed at national level regarding the implementation of European legislation - the Third Energy Package (RED III), which includes provisions regarding the Energy Communities, as well as the involvement of local authorities in the process.
 - Lack of licensing process for Energy Communities;
 - Lack of legislation concerning the connection of EC to the national grid and energy sharing between citizens.

Government Emergency Ordinance (GEO) no. 163/2022 establishes the legal framework for energy communities' performance, but this legal framework is incomplete, stating only general rules for developing

24



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energy communities, while the secondary legislation that should ensure the procedure and methodology for REC establishment is still missing.

Momentarily, there is a motivated notice from the European Commission, which notifies the Romanian Ministry of Energy that the European Commission launched the second stage of an infringement procedure against Romania due to the failure of timely communicating the legislative changes taken for the implementation of the Third Energy Package (RED III). As a result, the Romanian authorities, at the beginning of the year, proposed the secondary legislation that is supposed to transpose the Third Energy Package (RED III), which also includes provisions regarding the Energy Communities' establishment. However, the legislation is not yet enforced, the consultation process with other entities ended in February 2025, and is currently in the process of approval from other ministries. To avoid the infringement penalties, the legislation is supposed to be adopted and enforced by the end of 2025.

Behavioural/organizational aspects

- Resistance of citizens to associate, reluctance towards common ownership;
- Limited understanding regarding renewable energy communities and difficulties in accepting and acknowledging the importance and benefits of these new concepts for citizens/public institutions/private companies;
- Lack of interest from public authorities in establishing energy communities;
- Absence/not yet identified potential players meeting the current regulations for ECs establishment.

The idea of being a member of any cooperative has a negative connotation at the national level because of the communist era in Romania (1947 – 1989).

One of the challenges the potential members of EC are facing is the limited understanding of the new EC concept and how it functions.

Although there is no secondary legislation for ECs establishment yet, there are several initiatives within the region and neighbouring regions for EC establishment, which function as CEC and REC, but they still lack the formal organization, such as the Energy Cooperative from Bucharest, the Association InBetween Neighbours.

Financial aspects

- Lack of funding for EC establishment or for EC subsidies/incentives through national and local support programs;
- Lack of tax reliefs related to the activities in the field of energy production, distribution, and other areas of EC activities.

There are several funding opportunities (such as Romanian National Recovery and Resilience Plan – PNRR, Green House Photovoltaic Program) for PV panels, energy storage batteries, heat pumps installations, energy efficiency in buildings for citizens, with a special focus on vulnerable energy consumers and citizens facing energy poverty, private companies and public institutions, but not for initial investment necessary for EC establishment.

Technical aspects



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- Lack of adequate information – juridical or technical ones for the general population, SMEs, and public institutions;
- Lack of awareness and capacity building/information dissemination/specific information for ECs establishment and functioning.

There are One-Stop Shops in the region, but those are focused more on energy efficiency, rather than on energy communities.

6. Users interface

There are several functional organizations, such as Greenpeace, The Energy Cooperative from Bucharest, which focus on raising awareness regarding Energy Communities. Their promoting activities include several options: publishing articles on this topic, participating in events where renewable energy communities are discussed, organizing training and workshops on ECs.

However, there are no national or regional websites that offer official information on ECs yet.

6.1 One-Stop Shops for Energy Efficiency

Under Government Emergency Ordinance no. 92/2024 regarding the establishment of a national network of OSS, 42 OSS for energy efficiency have been established at national level, one OSS for each county in the second semester of 2024. Their main purpose is to facilitate access to information and technical advice in the field of energy efficiency in buildings, as well as the use of renewable energy resources for citizens, local authorities, SMEs, energy communities, with a special focus on vulnerable energy consumers and citizens facing energy poverty.

Within the Brasov Agency for Sustainable Development, a One-Stop Shop for Energy Efficiency at the Brasov County level was established, according to Brasov County Council Decision no. 294/30.07.2024.

Main activities of OSS currently include:

- Providing information about funding programs from European funds, the state budget, or other legally established sources, legislation on energy efficiency and renewable energy, various types of renovation, relevant costs, and categories of specialists needed, as well as steps for developing an energy renovation project or installing renewable energy sources.
- Assisting in the process of transitioning from potential beneficiaries to consumers and prosumers.
- Implementing investments I4 and I7 of C16 REPowerEU from the Romanian National Recovery and Resilience Plan – PNRR 2024–2026, by providing information about grants for vulnerable groups and the general population, verifying documentation from vulnerable energy consumers for eligibility, conducting on-site checks—especially for vulnerable energy consumers—on a sample basis:
 - ✚ I4 – Grant scheme providing vouchers of €10,000 to accelerate household use of energy from renewable sources, including photovoltaic panel installation and energy storage batteries.

26



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- ✚ 17 - Grant scheme offering vouchers of €20,200 to improve household energy efficiency, covering thermal rehabilitation of buildings, photovoltaic installation, and document preparation.
 - Cooperation with public institutions/other relevant institutions to simplify the process of approvals and prioritizing projects supported by this initiative.

The OSS also represents an ample opportunity to extend its role to also address, promote, and support the establishment of renewable energy communities and citizen energy communities once the secondary legislation that transposes the Third Energy Package (RED III) is enforced.

7. Readiness indicator model results (Annex 1)

8. Survey Results (Annex 2)



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ANNEX 1

on the basis of a decision by the German Bundestag

Category	Maturity Parameters / Indicators	DRIVERS	BARRIERS	Read. Indicator n.	Description	Indicator			When red: not ready yet When yellow or green: provide details to justify
1. Legislative									
1. Legislative	Regulations	Legislation operative	Several aspects of legislation still not clear	1.1	Status of legislation regarding renewable energy production by Energy Communities (EC) is still not				Momentarily, there is a motivated notification from the European Commission, which informs the Romanian Ministry Energy that EC launched the second stage of an infringement procedure for Romania due to the failure of timely communicating the legislative changes taken for the implementation of the Third Energy PACK (RED III) which consists in fully transposing the two directives that establish the package.-one concerning common rules for the internal market in gas (2009/73/EC), one concerning common rules for the internal market in electricity 2009/72/EC). Therefore, since the beginning of the year the responsible authorities proposed a secondary legislation that transposes the Third Energy package (RED III), which includes provisions regarding the Energy communities establishment, however the legislation is not yet enforced, the consultation process with other entities ended in February 2025. In order to avoid the infringement penalties, the legislation is supposed to be adopted and enforced during 2025.
1. Legislative	Regulations	Licensing process in place and speedy	Licensing process lacking, still not existent at national and regional level	1.2	Licensing process is due to be developed after the legislation is adopted and enforced				Momentarily, there is a motivated notification from the European Commission, which informs the Romanian Ministry Energy that EC launched the second stage of an infringement procedure for Romania due to the failure of timely communicating the legislative changes taken for the implementation of the Third Energy PACK (RED III) which consists in fully transposing the two directives that establish the package.-one concerning common rules for the internal market in gas (2009/73/EC), one concerning common rules for the internal market in electricity 2009/72/EC). Therefore, since the beginning of the year the responsible authorities proposed a secondary legislation that transposes the Third Energy package (RED III), which includes provisions regarding the Energy communities establishment, however the legislation is not yet enforced, the consultation process with other entities ended in February 2025. In order to avoid the infringement penalties, the legislation is supposed to be adopted and enforced during 2025.
1. Legislative	Service provision: type of services offered by a EC	Grid connection facilitated	Grid connection barrier	1.3	EC connection to the energy grid is not possible at this particular moment. The legislation concerning the connection to the national grid and energy exchange between citizens is still lacking.				

1. Legislative	Regulations	Legislative incentives to EC establishment available	Legislative incentives to EC establishment absent	1.4	Public financial contribution to initial investment costs is lacking. Although there are several funding opportunities for PV, storage batteries, heat pumps, etc instalment for citizens and private companies, there is lack of funding for EC establishment or for EC subsidies.			
1. Legislative	Regulations	Involvement of Municipalities	Involvement of Municipalities NO	1.5	Participation of municipalities in energy communities thus facilitating access to EC for "normal" citizens is not yet stipulated in the legislation and thus not yet possible			As stated above, since the beginning of the year the responsible authorities proposed a secondary legislation that transposes the Third Energy package (RED III), which includes provisions regarding the Energy communities establishment, however the legislation is not yet enforced, the consultation process with other entities ended in February 2025. The secondary legislation also contains provisions related to the involvement of public institutions, including municipalities. In order to avoid the infringement penalties, the legislation is supposed to be adopted and enforced during 2025.
2. Behavioural / Organisational								
2. Behavioural / Organisational	EC structure complexity	Existence of EC already operational in neighbouring regions	Finding the adequate energy community	2.1	EC not yet fully legally operational in neighbouring regions			Although there is no secondary legislation for EC establishment yet, there are several initiatives within the region and neighbouring regions for EC establishment, that function like CEC's and Rec's without being legally established: such as the Energy Cooperative from Bucharest, Association Between Neighbours, etc.
2. Behavioural / Organisational	Identification of EC network	Extensive information available on network area of EC location	Extensive information needed on network area of EC location but not yet available	2.2	Adequate information not yet available			
2. Behavioural / Organisational	Administrative processes	Existence of a one-stop-shop approach for administrative tasks	Non-existence of a one-stop-shop approach for administrative tasks	2.3	n. of one-stop-shops in the area (at list 42 OSS are established at national level- one OSS/for each county			There are ONE STOP SHOPS in the region but those are focused on energy efficiency, not energy communities. However, the OSS represent an ample opportunity to extend their role to also addressing, assisting and supporting REC and CEC establishment. Therefore, once the secondary legislation is enforced, then we can expand the role of the existing ONE STOP SHOPS towards promoting the establishment of EC, either CEC or REC.
2. Behavioural / Organisational	EC establishment guidelines	Guidelines, templates etc. already available	Lack of templates for statutes or typical articles of association in a EC creation	2.4	n. of guidelines/templates/articles of association doc			
2. Behavioural / Organisational	Communication	Awareness and capacity building / Information dissemination completed/ongoing/planned	Lack of awareness and capacity building / Information dissemination	2.5	Central point/website for information on EC: in place / planned			There are several initiatives that focus on raising the awareness regarding Energy Communities from several NGO's and public entities, such as Greenpeace, Energy Cooperative, etc. However, there are no national/regional websites that offer information on EC yet.

2. Behavioural / Organisational	Regulations: Grid connection	Speedy and clear processes	Lengthy processes	2.6	duration of grid connection process (n° of days),				
2. Behavioural / Organisational	Market conditions	Grid connection – EC possible in all distribution grids due to a Distributor System Operator (DSO) intervention already in place	Grid connection barrier – EC not possible in all distribution grids due to a necessary (but not mandatory) Distributor System Operator (DSO) intervention	2.7	n. of grid connections activated/planned-lack of capacity of the major national grid for coping with the energy produced by solar and wind technology				
2. Behavioural / Organisational	Dynamic allocation of energy within the community	Possibility of involving companies and dynamic contracts	Lack of possibility of involving companies and dynamic contracts	2.8	Arrangements in place for private individuals joining forces with companies,				
2. Behavioural / Organisational									
3. Economic									
3. Economic	Complexity and understanding of EC concept – How to start?	Process completed/in progress	Not yet started	3.1	n. of EC already in operation/planned in the region				As stated at the legislation category, since the beginning of the year the responsible authorities proposed a secondary legislation that transposes the Third Energy package (RED III), which also includes provisions regarding the Energy communities establishment. However, momentarily the legislation is not yet enforced, the consultation process with other entities ended in February 2025. In order to avoid the infringement penalties, the legislation is supposed to be adopted and enforced during 2025. The secondary legislation contains the methodology on how to start, how to organize and operate a Energy Community. Therefore, although is no yet enstated, all these informations exist in a planning stage.
3. Economic	Finding the adequate energy community	Presence of potential players meeting the current regulations for EC establishment	Absence/not yet identified potential players meeting the current regulations for EC establishment	3.2					There are initiatives of private entities such as cooperatives and associations that meet the conditions stipulated for EC establishment, however, since the secondary legislation is not yet enforced, the initiatives are only in the initialization phase.
3. Economic	Information on network area of EC location	Information acquired/available	Information not yet available/not acquired	3.3					
3. Economic	One-stop-shop approach for administrative tasks	Operational	Not yet in place	3.4	n. of one-stop shops operational/planned				There are ONE STOP SHOPS in the region but those are focused on energy efficiency, not energy communities. However, the OSS represent an ample opportunity to extend their role to also addressing, assisting and supporting REC and CEC establishment. Therefore, once the secondary legislation is enforced, than we can expand the role of the existing ONE STOP SHOPS towards promoting the establishment of EC, either CEC or REC.
3. Economic	Financing	Financing available as well as financing entities willing to take on risks	Lack of financing; absence of financing entities willing to take on risks	3.5					
3. Economic	Remuneration for excess production	Remuneration schemes in place	Absence or limited remuneration schemes	3.6	yes/planned/no				

3. Economic	Grid connection for energy sharing	Clear procedural requirements for DSOs to facilitate energy sharing	Grid connection barrier – Lengthy processes	3.7	yes/planned/ <u>no</u> -lack of capacity of the major national grid for coping with the energy produced by solar and wind technology and energy sharing among private individuals not yet in place				The legislation that transposes the Third Energy package (RED III), which includes provisions regarding the Energy communities establishment, but also the grid access and connection is not yet enforced, the consultation process with other entities ended in February 2025.
3. Economic	Energy agencies and Energy Communities: a new path for energy decentralization	Established/in progress	Absent	3.8	yes/planned/ <u>no</u>				
3. Economic	Peer-To-Peer Trading	Contract with pre-determined conditions governing the automated execution and settlement of the	No legal framework for peer-to-peer trading (and especially for smart contracts) is currently available	3.9	yes/planned/ <u>no</u>				
3. Economic	Tax reliefs/burdens related to the activities in the field of energy production, distribution, and	Reliefs	Burdens	3.3	Reliefs/ tax burdens (f.e. VAT or other excised duties) recoverable: yes/planned/ <u>no</u>				
4. Operation scope and environment.									
4. Operation scope and environment. Other features	Sustainable environmental conditions	Reduced local emission	Excess local emissions	4.1	(see details by opening the window on the left)				
4. Operation scope and environment. Other features	Sustainable environmental conditions	Reduced local emission	Excess local emissions	4.1.a	Above limit emissions : CO				564439 tCO2 emissions/year, and 1,84711 tCO2/MWh/year (data's from 2020 provided by Brasov Municipality) - CO produced by electric energy, gas, central heating system, diesel, petrol, biofuel diesel and petrol
4. Operation scope and environment. Other features	Sustainable environmental conditions	Reduced local emission	Excess local emissions	4.1.b	Above limit emissions : NO2				max concentration/hour value=130 µg/m3 the average concentration in Nox/year -86,64 µg/m3- 2022 in Brasov Municipality
4. Operation scope and environment. Other features	Sustainable environmental conditions	Reduced local emission	Excess local emissions	4.1.a	Above limit emissions : PM10				N° of days in the year- 21 days/year in 2022 with values over 50µg/m3 (medium values/day) the average parameters/year - 24,76 µg/m3 - with a maximum concentration/hour of 130,1 µg/m3 - in 2022 , in Brasov Municipality - 53 days with higher concentration than the legal limitations
4. Operation scope and environment. Other features	Sustainable environmental conditions	Reduced local emission	Excess local emissions	4.1.b	Above limit emissions : NMVOC				N° of days in the year = 24 max the average parameters/year - 41,42 µg/m3 - 2022 - in Brasov Municipality

<p>4. Operation scope and environment. Other features</p>	<p>Sustainable energy sources</p>	<p>Renewable energy potential</p>	<p>Renewable energy limitation</p>	<p>4.2</p>	<p>renewable resources in general</p>				<p>The potential in the field of green energy production in Romania, is 65% biomass, 17% wind energy, 12% solar energy, 4% hydropower plants and 2% voltaic and geothermal;According to the National Regulatory Authority for Energy and the National Energy Distributor system operator Transelectrica, currently the total installed energy production capacity at national level is of 20 GWh, out of which 13,1 GWh comes from renewable energy sources (including hydro, electric, nuclear, wind energy),which represents approximately 65% out of the total installed energy production capacity from Romania. Most of this power is installed in units that produce energy using water (hydropower plants). Thus, at the end of 2022, 36% of the power installed in Romania's power generation capacity was represented by hydropower plants (around 6,600 MW). Wind farms (with an installed capacity of over 3,000 MW) were on the second place with 17%, and power plants generating electricity by burning coal and hydrocarbons were on the third place with 15% each (around 3,000 MW). It must be admitted that the latter often reverse their positions in the ranking. Next in line the photovoltaic parks (8%, about 1,500 MG) and the nuclear power plant at Cernavodă (8% of the installed power in Romania, with 1,400 MG). Units using biomass, biogas, waste or ground heat (geothermal energy) to produce electricity each account for less than 1% of the total.P39</p>
<p>4. Operation scope and environment. Other features</p>	<p>Sustainable energy sources</p>	<p>Renewable energy potential</p>	<p>Renewable energy limitation</p>	<p>4.2.1</p>	<p>Solar</p>				<p>In February 2025,5077 prosumers at Brasov County level registered, with an installed power 60,09 MW, compared to the total number of 208866 prosumers st national levek with a total installed power of 2509,77 MW. out of which 184932 prosumers citizens (with 1161,27MW installed) and 23934 private entities (with 1348,49 MW installed)</p>
<p>4. Operation scope and environment. Other features</p>	<p>Sustainable energy sources</p>	<p>Renewable energy potential</p>	<p>Renewable energy limitation</p>	<p>4.2.2</p>	<p>Wind</p>				<p>The geographic position of Brasov County is not favourable for energy production through wind</p>
<p>4. Operation scope and environment. Other features</p>	<p>Sustainable energy sources</p>	<p>Renewable energy potential</p>	<p>Renewable energy limitation</p>	<p>4.2.3</p>	<p>Biomass</p>				<p>The agriculture production is not favourable for providing resources for biomass</p>
<p>4. Operation scope and environment. Other features</p>	<p>Sustainable energy sources</p>	<p>Renewable energy potential</p>	<p>Renewable energy limitation</p>	<p>4.2.4</p>	<p>Water</p>				<p>Although he geographic position of Brasov County is not favourable for energy production through water there are several mycrohydro plants along the rivers of Brasov County. However, due to the prolonged periods of draught most of these hydroplants had to be closed.</p>
<p>4. Operation scope and environment. Other features</p>	<p>Sustainable energy sources</p>	<p>Renewable energy potential</p>	<p>Renewable energy limitation</p>	<p>4.2.5</p>	<p>Geo-thermal</p>				<p>The geographic position of Brasov County is not favourable for energy production through geo thermal resources</p>



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Survey Results – Annex 2



Methodology Overview

Purpose of the survey:

to assess the level of awareness and perception of citizens in Brasov County regarding the need to use sustainable energy, and their willingness to transform from energy consumers into prosumers

A **hybrid approach** was used to gather data.
Data was collected via Online **CAWI** (Computer-Assisted Web Interviewing) and **CATI** (Computer-Assisted Telephone Interviewing) methods
Data collection period: March 11th and 13th, 2025.
Sample size: **309 respondents**,
Margin of error of $\pm 5.57\%$.

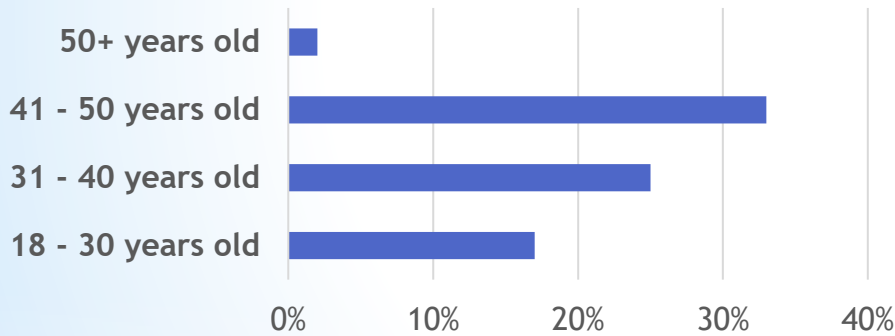
24 questions, divided into 5 Sections:

- General Data,
- Energy Expenses and Consumption,
- Energy Efficiency and Consumption Habits,
- Energy Communities and Renewable Sources,
- Incentives and Interest in Change.

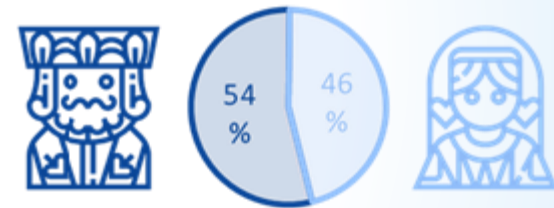


Socio-demographic Profile

Total (No. 309) The Age



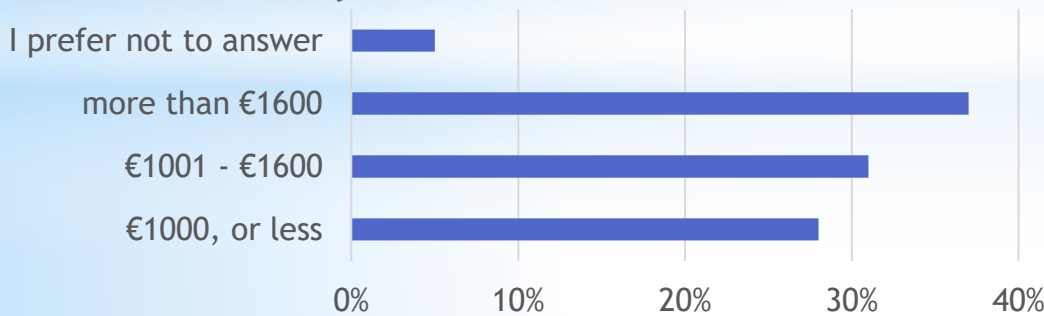
Total (No. 309) The Gender



Total (No. 309) What is the highest level of education you have completed?



What was your household income last month?



Total (No. 309) Where do you live?





Section 1 - General Data

Apartment Living Predominates: The majority (63%) of respondents reside in apartment buildings.

Gas Heating is Widespread: Gas is the primary heating source for 71% of respondents, whether through individual or collective systems.

Wood Heat Favored in Detached Homes: Among those who prefer wood heating, 97% live in detached homes.

Larger Rural Households: Rural areas show a higher prevalence of households with 5+ people (15% vs. 6% overall).

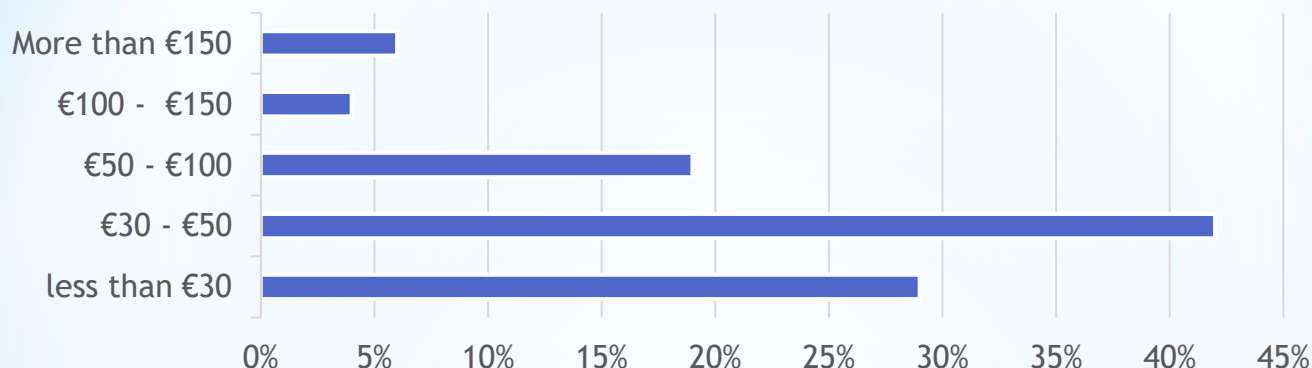
3-Person Households Common Among 41-50 Age Group: 3-person households are more representative in the 41-50 age group (43% vs. 31% overall).

Key Takeaway: These demographic insights are crucial for developing tailored strategies to promote and implement renewable energy communities, supporting the transition from traditional consumers to engaged prosumers.



Section 2 - Energy Expenses and Consumption

What is your average monthly electricity expenditure?



Young people show a tendency towards higher spending, ranging from 50 to 100 euros, accounting for 38%, compared to the overall rate of 19%. Respondents spending between 50 and 100 euros have a stronger preference for heating homes with electricity (34% versus the total average of 19%).

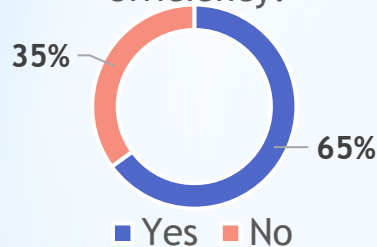
Gas expenses analysis: In rural areas, a significantly higher percentage of people (24% compared to 13% overall) have monthly bills exceeding **150 euros**. Heating bills for apartments are generally lower than those for individual houses.

The number of people in a household directly affects the monthly gas bill. It is important to approach these conclusions cautiously, given the small sample sizes for certain categories (individual households and households with 5 or more people).

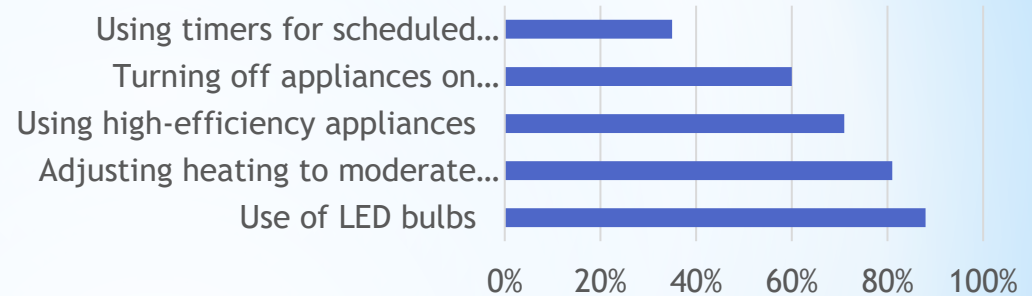


Section 3 - Efficiency and Consumption Habits

Are you aware of practices to improve home energy efficiency?



Which of the following energy-saving practices do you regularly adopt? *(Select all that apply)*



Behavior of Respondents Aged 41-50

- 96% use LED bulbs, compared to 88% overall.
- 82% report increased use of energy-efficient appliances (vs. 71% overall).

Energy Saving Behaviors Among Electric Heating Users

- 76% turn off appliances in standby mode, compared to 60% overall.
- 53% use timers for scheduled appliance shutdowns, versus 35% overall.

Perceptions of Energy-Saving Actions

- Respondents aged 41-50: 50% believe these actions would significantly reduce electricity or heating bills, compared to 30% overall.
- Respondents over 50: Only 18% think these measures would have a very big impact, below the overall average of 30%.



Section 4: Energy Communities and Renewable Sources

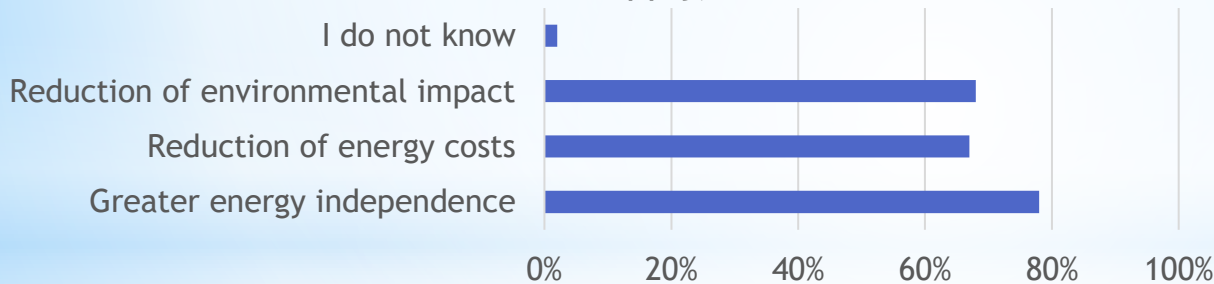
Knowledge and Information Channels Among Young Adults (18 - 30)

- 17% are familiar with Renewable Energy Communities.

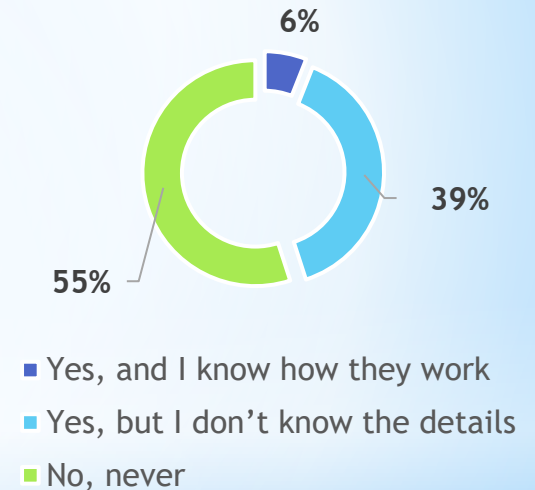
Main Information Sources:

- Internet: 67%
- Television: 43%
- Social Media: 35%

What benefits do you think a REC can offer? *(Select all that apply)*



Have you ever heard of REC?



64% of respondents expressed interest in receiving more information about REC.

70% of respondents who have heard of REC are unsure if such communities operate effectively in their local area, lowering the total to only **16%** who are aware of their existence.

Among the **22 respondents** providing detailed information, there was significant variation in the community names identified, with **27% not knowing the exact name**.

Approximately **33%** of respondents would install solar panels immediately, **48%** would need incentives, and **16% are not interested**.



Section 5 - Incentives and Interest in Change

- **Young Adults & Electric Heating Users Lead the Way:** 18-30 year-olds (49%) and those heating with electricity (48%) are significantly more likely to pursue immediate solar panel installation (vs. 33% overall).
- **Investment Focus: Up to 1,000 €:** 42% of respondents are willing to invest up to this amount, but interest drops significantly among those over 50 (26% vs. 42% overall).
- **Higher Income, Higher Investment:** Households with higher incomes (over 1.600 €) show a greater willingness to invest between 1,000 € and 5,000 € (31% vs. 21% overall).
- **Incentives: Awareness is Limited:** While partially known, 51% lack full details on energy efficiency incentives, particularly among younger demographics.
- **Untapped Potential:** Recognized benefits like energy cost reduction signal strong interest, but access to comprehensive information and available funding remains a challenge.
- **Targeted Programs Needed:** Investment willingness varies by age and income, highlighting the need for tailored programs.
- **Incentives Matter Most to These Groups:** Those aged 31-40 (66%) and three-person households (60%) are significantly more likely to believe incentives are necessary (vs. 48% overall).



Recommended actions

Empowering Through Education: Providing targeted workshops, training, and practical energy-saving guides.

Catalyzing Community Action: Launching pilot Renewable Energy Communities (RECs) in high-potential rural and urban areas, forging strong partnerships with local authorities, energy operators, and professional organizations to provide crucial technical and financial support, and creating dynamic online forums to facilitate citizen engagement, knowledge sharing, and the development of innovative solutions.

Unlocking Financial Opportunities: Creating a user-friendly brochure detailing available incentives and access; hosting meetings to clarify incentive details.

Driving Housing Efficiency: Promoting investments in efficient homes.

Expanding Solar Power: Encouraging the installation of photovoltaic panels.

Catalyzing Community Action: Launching pilot Renewable Energy Communities (RECs) in high-potential rural and urban areas, forging strong partnerships with local authorities, energy operators, and professional organizations to provide crucial technical and financial support, and creating dynamic online forums to facilitate citizen engagement, knowledge sharing, and the development of innovative solutions.