GREEN FINANCING OF SUSTAINABLE DEVELOPMENT PROGRAMS THROUGH THE ROMANIAN BANKING SECTOR

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RESEARCH ARTICLE

Abstract
Recent climate change, in addition to being an environmental challenge, has also become an economic opportunity. The areas benefiting from this opportunity are diverse, ranging from electricity to energy efficiency, transport, agriculture, etc. The volume of financing aimed at mitigating the effects of climate change is growing and has profoundly transformed the banking sector's approach.
Green lending is an important banking product for financing green projects, which has become increasingly popular in recent years. More and more financial institutions are offering loans to customers on favorable terms, especially for entrepreneurs who are developing businesses focused on sustainability. These loans are often used to develop clean technologies, energy efficiency, and waste management.
It is particularly important that green projects receive funding not only through bank loans but also through other financing channels that have gained momentum internationally: non-bank financial institutions, green government bonds, and especially the capital market. Green government bonds will generate a significant volume of medium-term financing for green projects.

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INTRODUCTION

Green finance is a concept that has gained popularity recently as a key factor in the field of sustainable development. (Stănciulescu et al., 2025)

In the context of climate change and the global transition to a sustainable economy, green energy has become an essential element in economic and financial strategies. The banking system plays a central role in this process, as it mediates capital flows and can direct investments towards ecological and sustainable projects. In Romania, the integration of sustainability principles and green energy financing is increasingly visible, amid alignment with European Union policies on reducing carbon emissions and sustainable development.(https://www.educatiefinanciara)

Romanian banks contribute to this transition by developing green financial products, such as loans for the installation of photovoltaic panels, financing renewable energy projects or supporting companies that adopt sustainable practices. Banking institutions are also implementing internal policies to reduce their carbon footprint and adopting ESG standards, which are becoming increasingly important in assessing financial risks and performance.

The importance of the banking system's involvement is also highlighted by the high potential of the green energy market in Romania, estimated at over 30 billion euros by 2040, a large part of which can be supported by bank financing. Thus, banks are not only financial intermediaries, but also active actors in accelerating the transition to a green economy. (Sîrbulescu et all, 2018; https://www.capital.ro)

Therefore, analyzing the role of green energy in the Romanian banking system is essential for understanding how the financial sector contributes to sustainable development and achieving long-term climate goals.

The adoption of the Paris Agreement in 2015 placed green finance among the trending topics in the European Union, which specified in Article 2 the link between "financial flows" and investment projects promoting "reduced greenhouse gas emissions and climate-resilient development" (Nica, A. 2023)

In order to achieve ambitious climate objectives that have been established by the international agenda among those stimulating sustainable development, significant financial resources are needed. (Baicu & Oehler-Şincai, 2023)

Green finance is considered by the European Green Deal, an important development modality in the financial landscape (Siemionek-Ruskań et al., 2022)

MATERIAL AND METHOD

The crucial role that banks play in the development of the renewable energy sector is ensured by facilitating access to this category of capital for sustainable projects. Romanian banks have created a wide range of financial products for this sector, as well as green loans, sustainable bonds and structured financing. (Mitu, A., 2020)

Specialized green energy financing is provided by many banks in Romania that offer these financing products to companies (financing photovoltaic parks or energy efficiency), and individuals (for energy efficiency of the home and installation of photovoltaic panels).

The category of banks financing green energy (figure 1) includes: BRD – Groupe Société Générale, Banca Transilvania (BT), Banca Comercială Română (BCR), Raiffeisen Bank, ING Bank, UniCredit Bank.

The research methodology was based on analyzing the specialized literature, collecting data from the regulations in force, exploring the banking offers on their websites. (https://www.bnro.ro) The approach in the article is descriptive-analytical, focusing on presenting the main characteristics of this type of lending. The choice of methods aims to provide a complete picture of green energy financing.

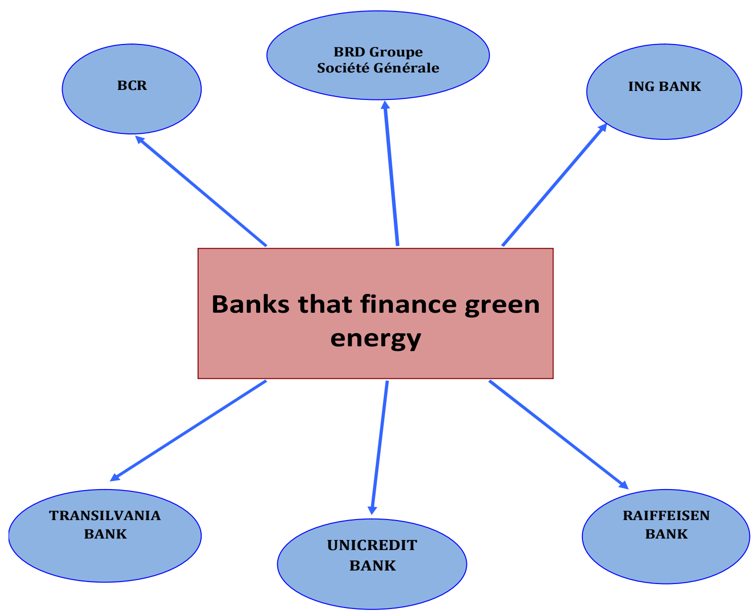

Figure 1. **Banks in Romania that finance green energy**

RESULTS AND DISCUSSION

Banks play a crucial role in the development of the renewable energy sector by facilitating access to capital for sustainable projects. They offer a wide range of financial instruments, including green loans, sustainable bonds and structured financing.

Banking institutions facilitate the energy transition by providing financial resources for renewable energy and energy efficiency projects. They offer various solutions, such as green loans, structured financing and sustainable investment products. (https://finante-banci.ro)

In Romania, Banca Transilvania stands out as one of the most involved financial institutions in financing green energy projects, significantly contributing to supporting the energy transition.

Financing renewable energy involves significant investments in technologies such as solar, wind energy or energy efficiency solutions. Banks facilitate these investments by granting green loans, issuing sustainable bonds and developing dedicated financial products.

Through such instruments, the banking sector contributes to:

• reducing the financial risks associated with green projects;

• stimulating technological innovation;

• increasing economic competitiveness;

• achieving climate objectives set at European level.

Banca Transilvania has integrated the principles of sustainable development into its business model, focusing on increasing the green financing portfolio and reducing the environmental impact.

The bank's strategy includes: promoting green loans for companies and individuals; supporting renewable energy projects; aligning with European standards on sustainable financing; developing partnerships with international financial institutions.

In recent years, the bank has recorded a significant increase in the volume of green loans granted, a large part of which is directed towards the renewable energy sector, especially photovoltaic projects.

A central element of Banca Transilvania's involvement is the development of financial products adapted to the needs of the energy transition.

Green loans are intended to finance projects with a positive impact on the environment, such as:

1. installation of photovoltaic panels;
2. development of solar parks;
3. implementation of energy efficiency systems;
4. acquisition of equipment with low energy consumption.

These loans offer advantages such as flexible repayment periods and conditions adapted to the investment life cycle.

Green leasing. In addition to classic loans, the bank offers leasing solutions for:

1. electric or hybrid vehicles;
2. energy-efficient industrial equipment.

This type of financing contributes to reducing emissions in the transport and industrial production sectors.

To support these initiatives, Banca Transilvania collaborates with international financial institutions such as:

• European Bank for Reconstruction and Development

• International Finance Corporation

These partnerships facilitate access to external funds and reduce the risks associated with green financing.

The involvement of the banking system in green energy financing generates multiple benefits.

From an economic point of view, this contributes to: reducing operating costs for companies; creating jobs in green sectors; increasing the competitiveness of the national economy.

From an environmental perspective, the impact is reflected in: reducing greenhouse gas emissions; increasing the share of renewable energy in the energy mix; more efficient use of natural resources.

In Romania, **Banca Comercială Română** (BCR) stands out as an important player in the field of sustainable financing, by developing dedicated products and engaging in renewable energy projects.

BCR, part of the Erste Group, has integrated sustainability into its development strategy, paying particular attention to financing projects with a positive impact on the environment.

BCR seeks to align with European Union policies on sustainable financing and actively supports the implementation of the European Green Deal.

Green loans. BCR provides financing for projects such as:

• development of photovoltaic and wind parks;

• modernization of buildings for energy efficiency;

• implementation of low-carbon technologies.

These loans are tailored to the specifics of the projects, offering flexibility in repayment and advantageous conditions for long-term investments.

Energy efficiency financing

The bank supports investments in reducing energy consumption through:

• thermal rehabilitation of buildings;

• modernization of industrial equipment;

• implementation of smart energy management solutions.

ING Bank has a well-defined strategy in the field of sustainability, being internationally recognized for its involvement in financing the energy transition.

A central element of ING's strategy is the alignment of the financing portfolio with the objectives of the Paris Agreement, by reducing exposure to polluting industries and increasing investments in renewable energy.

The main directions include:

1. financing renewable energy projects (solar, wind);
2. supporting clients in decarbonizing their activities;
3. integrating ESG criteria into lending processes;
4. developing sustainable financial products.

Globally, ING is one of the pioneers of the Terra Approach concept, a methodology through which the bank aligns its portfolio with climate trajectories.

ING Bank's activity in the field of green financing is based on a diversified range of products and instruments.

Green loans. The bank offers financing for:

-development of wind and photovoltaic parks;

-energy efficiency projects;

-sustainable infrastructure.

These loans are adapted to the needs of clients and the characteristics of the projects, including flexible repayment conditions.

Green bonds and sustainable financing. ING is an important player in the green bonds market, facilitating:

• issuance of sustainable bonds;

• attracting capital for projects with an environmental impact;

• diversification of financing sources.

BRD Groupe Société Générale, part of the Société Générale group, has integrated sustainability into its development strategy, aiming to increase financing with a positive impact on the environment.

The bank's strategic directions include: expanding the green loan portfolio; supporting companies in the energy transition process; integrating ESG criteria into risk analysis; aligning with European Union policies on sustainable financing.

BRD benefits from the expertise of the international group it is part of, which is actively involved in financing renewable energy projects globally.

BRD Groupe Société Générale offers a wide range of financial products designed to support investments in green energy and energy efficiency.

Green loans. The bank finances projects such as:

-photovoltaic and wind farms;

-modernization of energy infrastructure;

-investments in energy efficiency for buildings and industry.

These loans are tailored to the specifics of the projects and offer flexible financing conditions.

Financing for energy efficiency

BRD supports initiatives aimed at reducing energy consumption, including:

1. thermal rehabilitation of buildings;
2. modernization of industrial equipment;
3. implementation of energy-efficient technological solutions.

UniCredit Bank, part of the UniCredit Group, has integrated sustainability into its development strategy, focusing on financing the energy transition and supporting the green economy.

The bank's strategic directions include:

1. increasing the volume of green financing;
2. supporting companies in reducing their carbon footprint;
3. integrating ESG criteria into the lending process;
4. aligning with European Union policies on sustainability.

UniCredit promotes a responsible business model, in which financial performance is correlated with the impact on the environment and society.

UniCredit Bank offers a wide range of financial products and solutions designed to support investments in renewable energy and energy efficiency.

Green loans

The bank finances projects such as:

• photovoltaic and wind farms;

• sustainable energy infrastructure;

• energy efficiency building retrofits;

• implementation of low-emission technologies.

These loans are tailored to the needs of clients and project characteristics, offering flexible financing conditions.

UniCredit is involved in structured financing for large-scale projects, including:

• large-scale energy projects;

• green infrastructure;

• public-private partnerships.

Raiffeisen Bank

Through these instruments, the banking system:

1. facilitates access to capital for green investments;
2. reduces the risks associated with energy projects;
3. stimulates innovation and technological development;

4. contributes to achieving European climate goals.

Raiffeisen Bank, part of the Raiffeisen Bank International group, has integrated sustainability into its business strategy, focusing on financing the green economy and supporting clients in the energy transition process.

The bank's strategic directions include:

1. increasing the volume of green and sustainable financing;
2. supporting renewable energy projects;
3. integrating ESG criteria into the lending process;
4. developing innovative financial products for clients.

Raiffeisen aims to align with European climate objectives and actively contributes to the development of the sustainable financing market in Romania.

Raiffeisen Bank offers a diverse range of financial solutions to support investments in green energy and energy efficiency.

Green loans

The bank grants loans for:

-development of photovoltaic and wind farms;

-installation of renewable energy production systems;

-modernization of energy infrastructure;

-implementation of energy efficient technologies.

These loans are tailored to the specifics of the projects and offer flexible conditions, depending on the type of investment and the client profile.

Green mortgages

Raiffeisen also promotes products dedicated to individuals, such as loans for energy-efficient homes, which:

• encourage the purchase of homes with low energy consumption;

• contribute to reducing maintenance costs;

• support the development of the sustainable real estate sector.

Green bonds

A distinctive element of Raiffeisen Bank's activity is its involvement in the issuance of green bonds, through which the bank:

• attracts capital to finance sustainable projects;

• contributes to the development of the green capital market;

• diversifies financing sources.

Financing green energy in the Romanian banking system

Analysis of the main banks in Romania: Banca Transilvania, BCR, BRD Groupe Société Générale, ING, UniCredit Bank and Raiffeisen Bank

It is observed that the banking sector plays a central role in supporting the transition to a green economy. All of these institutions offer products and services dedicated to financing renewable energy, energy efficiency and the development of sustainable projects, with subtle differences in strategies and financing typology.

1. **Key Products and Offers** (figure2)

• Banca Transilvania and UniCredit Bank: stand out for a large number of loans for retail clients, especially within the GEFF program, for energy-efficient homes and green technologies. These loans allow the population to access sustainable investments, with adapted interest rates and conditions.

• BCR: leader in total financing volume, offering both corporate and green building loans. It is actively involved in infrastructure and renewable energy projects, having access to European funds and government support programs.

• BRD and UniCredit Bank: focused on large financing and syndicated projects, corporate and green real estate. By being involved in large projects, they contribute to the transformation of the energy sector and the development of sustainable infrastructure on an industrial scale.

• ING: offers corporate financing and high-value one-off projects, such as reforestation or green energy projects, also integrating capital market strategies.

• Raiffeisen Bank: combines corporate loans with green bonds and mortgages for efficient housing, developing both the retail market and the corporate segment. The bank is also actively involved in green bond issuances, attracting capital for sustainable projects

Bank	Loan product	Credit type	Minimum amount offered	Maximum amount offered	Guarantees and conditions
Banca Transilvania	Green credit – green energy	Investment loan	individually negotiated	up to 85% of the investment (photovoltaic park) / up to 90% (prosumer)	financed equipment, additional guarantees, own contribution; specific guarantees are established per project
BCR	Green energy credit – prosumers	Investment loan	individually negotiated	depending on the project and eligibility	mortgage on the purchased property, real estate guarantees according to the bank
BRD	Habitat Green / Expresso Green	Mortgage loan	45,000 lei	up to 85% of the investment value	mortgage, minimum down payment of 15–25%
ING Bank	Syndicated financing and GEFF products	Mortgage loan / green house	minimum €10,000	up to the market value of the collateral	guarantees and conditions negotiated depending on the project
UniCredit Bank	Green credit for photovoltaic panels (Term Loan Invest ESG)	Investment loan (SME)	€7,000	€100,000 without collateral	for ≤100,000 € – surety and pledge on the financed asset; for >100,000 € – mix of guarantees and possible external guarantees such as COSME/IMM
Raiffeisen Bank	Mortgage credit "Casa Ta Verde"	Investment loan / green loans	individually negotiated	over €100,000 with collateral	real estate mortgage, preferential interest

Figure 2 **Credit products offered by the Romanian banking system for green energy**
Sources: https://www.bancatransilvania.ro, https://www.brd.ro, https://www.bcr.ro, https://www.ing.ro, https://www.raiffeisen.ro/, https://www.unicredit.ro

2. Benefits of green financing

Green financing offered by these banks generates multiple benefits:

Economic

1. Stimulating investments in strategic and innovative sectors;
2. Creating jobs in the field of renewable energy and energy-efficient construction;
3. Increasing the competitiveness of companies and the sustainable real estate sector.

Social and environmental

1. Reducing greenhouse gas emissions;
2. Promoting the use of renewable energy and energy efficiency;
3. Increasing the population's access to energy-efficient housing;
4. Developing a sustainable culture in the economic sector.

Strategic for banks

1. Diversifying the portfolio and reducing long-term risks;
2. Aligning with the European Union's objectives regarding sustainable financing;
3. Strengthening the image of a responsible bank involved in green projects.

Bank	Eligible conditions	Application status	Environment and type of project
Banca Transilvania	-Legally registered companies -Approved renewable energy projects -Application according to the GEFF program	SMEs or corporates with stable, profitable balance sheets	Photovoltaic panels, wind turbines Energy efficient building retrofits
BCR	-Individuals: property owner/prospector -Companies: approved green energy project -Energy certificate required	Individuals with stable income Companies with clear financial statements	Green homes Solar panels, heat pumps Green buildings and infrastructure
BRD	- Application according to the Habitat Green product -Minimum 15–25% down payment -Green certified property (where applicable)	Individuals or corporates with adequate income/cash flow	Green homes Energy efficient real estate projects
ING Bank	-Application for approved corporate projects - Sustainable investment plan	SMEs or corporates with predictable cash flow	Green energy point projects Reforestation, renewable energy
UniCredit Bank	-Approved projects for green financing -Complete documentation and eligibility according to GEFF or consortium	Eligible SMEs, corporates or individuals	Energy efficient homes Large corporate projects (energy, infrastructure)
Raiffeisen Bank	-Individuals: energy certified property - SMEs: green energy eligible project - Complete file and compliance with ESG standards	Individuals with stable income and good credit SMEs with profitability and validated financial statements	Photovoltaic panels, heat pumps, energy efficiency projects -Green homes

Figure 3. **Eligible conditions depending on the applicant and the type of project**
Sources:https://www.bancatransilvania.ro, https://www.brd.ro, https://www.bcr.ro, https://www.ing.ro, https://www.raiffeisen.ro/, https://www.unicredit.ro

Eligible conditions depending on the applicant and the type of project are presented in Figure 3.

Banking institutions facilitate the energy transition by providing financial resources for renewable energy and energy efficiency projects. They offer various solutions, such as green loans, structured financing and sustainable investment products.

Through these instruments, the banking system:

1. supports the development of sustainable energy infrastructure;
2. reduces the financial risks associated with green projects;
3. stimulates innovation and the adoption of clean technologies;
4. contributes to the achievement of climate objectives assumed at European level

CONCLUSIONS

Overall, the Romanian banks analyzed play a complementary role: some focus on volume and retail (Banca Transilvania, UniCredit), others on large and corporate projects (BRD, ING), and others combine both approaches and involve capital markets (Raiffeisen, BCR).

Through these strategies, the banking sector supports the energy transition, facilitates access to green financing for various types of investors, and contributes to achieving climate goals at national and European level. In addition, this financing generates tangible economic, social, and environmental benefits, which underlines the importance of banks as pillars of sustainable development in Romania.

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