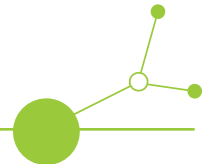


D.3.1.1 Baseline on financing models and instruments, potentials, and policy frameworks in partner countries



Version 1
05/2023





Contents

A. INTRODUCTION	2
B. COUNTRY OVERVIEWS	3
1. Poland	3
1.1. General overview of the financial sector	3
1.2. Public support schemes	9
1.3. Fiscal policies	13
1.4. Green and climate bonds	14
1.5. Green loans	21
1.6. Energy service companies (ESCO) and Public-private partnership	25
1.7. Citizen-led initiatives	30
1.7.1. Crowdfunding	30
1.7.2. Energy cooperatives	33
1.7.3. Energy communities	35
LIST OF FIGURES	36



A. Introduction

The central Europe region faces a very uneven energy transition due to unbalanced economic development, distribution of technology and finance flows. Buildings, both public and private, account for 43% of the final energy consumption in EU and have been singled out in the European Green Deal as key drivers of energy transition. Energy efficiency investments must more than double to achieve the EU's new climate and energy targets, and this is increasingly urgent to deliver anticipated progress by 2030. The financing of the transition towards climate-neutral buildings remains a key challenge for which the EU is expecting member states to involve private investors to a much bigger extent than before. Therefore, the purpose of this document is to assess the overall state of policies and financial markets in five central European countries for the building sector. A stronger emphasis in this baseline assessment has been placed on the innovative financing models that involve private investors and citizens. The results of this study will be presented to key stakeholders during roundtable sessions as part of the development of the market gap analysis for the introduction of innovative financing models.



B. Country overviews

1. Poland

1.1. General overview of the financial sector

Credit institutions play a primary role in the financial system, both in Poland and in other countries in the region, constituting 75% to 81% of the assets of their financial systems.

At the end of 2022, the assets of institutions comprising the Polish financial system amounted to 3.6 trillion PLN, representing a 2.6% increase compared to the previous year. The growth in assets was primarily driven by the increased value of assets in the banking sector. The assets of factoring and leasing companies, as well as loan companies, also experienced significant growth. However, the assets of investment and pension funds declined during the same period.

Table 1: Assets of Financial Institutions in Poland in the Years 2017-2022 (in billion PLN)

	2017	2018	2019	2020	2021	2022
Financial Institutions Supervised by KNF*						
Commercial Banks	1,603.4	1,704.6	1,790.0	2,117.2	2,320.2	2,475.3
Cooperative Banks	173.4	182.1	201.8	221.2	236.1	240.0
Cooperative Savings and Credit Unions	10.2	9.6	9.4	9.5	10.0	10.1
Insurance Companies	198.4	191.8	193.0	203.6	197.1	183.6
Investment Funds	302.8	293.4	304.6	302.2	323.4	283.0
Open Pension Funds	179.5	157.3	154.8	148.6	188.0	156.3
Brokerage Houses	6.8	6.6	6.6	9.9	14.3	12.2
Total	2,474.5	2,545.4	2,660.5	3,012.2	3,289.1	3,360.5
Other Financial Institutions						
Leasing Companies	122.4	140.9	148.3	140.2	161.5	175.0
Factoring Companies	20.4	25.1	28.0	28.8	35.6	39.8
Loan Companies	11.0	10.3	13.9	12.6	13.1	14.4
Total	153.8	176.3	190.2	181.6	210.2	229.2
Grand Total	2,628.3	2,721.7	2,850.7	3,193.8	3,499.3	3,589.7

*KNF - Financial Supervision Commission

Source: Rozwój systemu finansowego w Polsce w 2022 r., Narodowy Bank Polski

At the end of 2022, operational activities in Poland were carried out by 62 commercial banks, including 34 branches of credit institutions. Additionally, there were 496 cooperative banks and 2 associating banks operating in the domestic market. The number of investment funds noticeably decreased as well.



In 2022, the money market for short-term debt instruments was the largest segment of the short-term debt market. The average annual value of these circulating instruments slightly decreased compared to 2021, reaching 198 billion PLN. The significance of the market for short-term corporate debt remained limited, with these financial instruments being primarily issued by leasing and factoring companies belonging to large banking groups. In 2022, similar to the previous year, the Ministry of Finance did not offer treasury bonds.

Table 2 Number of Financial Institutions in Poland in the Years 2015-2022

	2015	2016	2017	2018	2019	2020	2021	2022
Commercial Banks	63	61	61	61	60	64	65	62
Associating Banks	2	2	2	2	2	2	2	2
Cooperative Banks	560	558	553	549	538	530	511	496
Cooperative Savings and Credit Unions	48	40	34	30	25	23	22	19
Insurance Companies	57	60	61	60	58	59	55	55
Investment Funds	812	929	905	878	813	737	706	672
Open Pension Funds	12	12	11	10	10	10	10	9
Brokerage Houses	52	46	44	40	38	37	36	33

Source: Rozwój systemu finansowego w Polsce w 2022 r., Narodowy Bank Polski

In 2022, the capitalization of the Polish stock market decreased by 15.1% to 1,128.7 billion PLN at the end of the year. This decline was primarily attributed to the decrease in stock prices, partly due to increased market uncertainty following Russia's aggression against Ukraine and a deteriorating macroeconomic environment. During the analyzed period, the broad market index WIG decreased by 17.1%, while the WIG20 index fell by almost 21.0%. Despite a decrease in the number of listed companies, the Warsaw Stock Exchange (GPW) maintained its position as a regional leader.

The Polish government bond market was the largest in Central and Eastern Europe and ranked eighth in the European Union. Simultaneously, it represented the largest and most liquid segment of the domestic long-term debt market. Among the purchasers of government bonds, domestic banks were dominant, although their share in the buyer structure slightly decreased to just under 41% at the end of 2022.

In the non-government long-term debt market, bonds guaranteed by the State Treasury, such as those issued by BGK (Bank Gospodarstwa Krajowego) and PFR (Polski Fundusz Rozwoju), continued to dominate. These bonds were mainly purchased by domestic banks. The significant increase in market uncertainty following Russia's aggression in Ukraine and the deterioration of the macroeconomic environment contributed to a substantial decrease in the value of new corporate bond issuances. Markets for long-term corporate bonds and municipal bonds were characterized by minimal liquidity, with a significant portion still maintaining non-market characteristics.



Financial institutions:

- The banking sector was the largest component of the financial system in Poland at the end of 2022. The value of assets held by commercial and cooperative banks accounted for approximately 76% of the financial system's assets.
- The reflection of the universal operating model of most banks was the structure of the balance sheet of the banking sector, where transactions with non-financial entities predominated, along with the dominant share of interest income in banking operations. In the assets, as in previous years, the largest position was occupied by loans to the non-financial sector (42%)—particularly loans to households (28%). The higher interest rates in conditions of increased inflation and concerns of customers about the economic situation negatively impacted the demand for household loans. The only category of loans that increased in value throughout the year was loans for businesses. Treasury securities and those guaranteed by the State Treasury were the second-highest in terms of asset value (20%).
- The main source of financing for the activities of domestic banks was deposits from the non-financial sector (60%). Higher interest rates on deposits contributed to a reversal of previous trends and increased interest from households and businesses in fixed-term deposits. Despite the implementation of the MREL requirement, which can be partially met with debt instruments, only a small part of the balance sheet total of the banking sector constituted financing in the form of debt issuance (2.2%). Both debt from issuance and the amount of funds obtained from the foreign financial sector decreased again in 2022.
- Profits and profitability indicators of the sector improved in 2022, but they remained lower than the long-term average. The improvement was primarily driven by interest income, which, in conditions of relatively high interest rates, was significantly higher than the previous year. Similar to 2021, however, the potential for profit improvement in the sector was limited by substantial provisions for legal risks associated with portfolios of foreign-currency-denominated housing loans. The financial results of the banking sector were also burdened by high one-time costs related to supporting borrowers (so-called credit holidays) and the establishment of the Commercial Banks Protection System by the largest banks. Despite the improvement in profitability, banks achieved, on average, lower returns on capital than other financial institutions and non-financial enterprises operating in Poland.
- Cooperative banks remain a significant provider of financial services, especially in the realm of financial services for local communities. Due to consolidation processes, the number of these banks has decreased to 496. Only 10 banks remained outside institutional protection systems. The financial performance of the sector showed a marked improvement, reaching approximately 3.2 billion PLN. The quality of the loan portfolio of cooperative banks did not undergo significant changes and still remained lower than in the commercial banking sector (especially in the area of loans for businesses). The substantial improvement in the profitability of cooperative banks positively impacted their ability to internally build Tier 1 capital through retained earnings, resulting in strengthened capital adequacy.
- The size of assets in the cooperative savings and credit union sector (SKOK) has been gradually increasing for several years; however, the scale of their operations in 2022 still remained relatively small. The number of active unions decreased to 19 as a result of consolidation processes, further contributing to an increased level of sectoral concentration. Thanks to high



interest income, the unions achieved positive financial results, maintaining simultaneously low cost efficiency and incurring costs related to credit risk. The capital situation of the unions varied, showing a slight improvement. Despite this, the solvency ratio for the entire sector at the end of 2022 fell below the statutory minimum.

- The year 2022 marked the period of the largest decline in the net assets of investment funds (by 12.5%) since the onset of the global financial crisis. This decline was primarily driven by a significant outflow of funds from investors (-28.7 billion PLN), which occurred partly due to the war in Ukraine. By the end of December, the balance sheet total of the sector, net of liabilities, reached a value of 283 billion PLN. Operating conditions proved to be most challenging for open-end funds (especially for bond funds), which experienced the largest outflow of funds. The main source of their negative performance was the loss from the sale of long-term securities and stocks. These entities were forced to sell portfolio components due to the need to meet increased redemption requests. None of the types of investment funds achieved positive returns in nominal terms during the analyzed period. On the other hand, closed-end funds achieved a positive result, largely driven by exchange rate differences.
- In 2022, both the number of alternative investment companies and the assets managed by these entities increased. As of the end of December, 396 alternative investment companies were in operation, managing assets valued at 9.6 billion PLN. This represented an increase of 1.4 billion PLN compared to the previous year. The value of private equity investments conducted in Poland (managed by alternative investment companies and entities) was more than twice as small as in 2021. This decline could be a result of increased caution among foreign investors due to the war in Ukraine, as well as a consequence of unfavorable valuations in the stock markets.
- In 2022, the net assets of open pension funds (OFE) decreased by 31.6 billion PLN to 156.3 billion PLN. This decline was a result of significant losses on the investments made by these entities. In 2022, pension funds actively invested in capital markets.
- In 2022, the value of assets accumulated within voluntary retirement savings increased by 12.2%, reaching 51.9 billion PLN (PPE - 19.1 billion PLN, IKE - 14.1 billion PLN, IKZE - 6.6 billion PLN, PPK - 12.0 billion PLN). Asset growth was observed in all forms, with Private Pension Plans (PPK) showing the highest growth rate at 56.5%.
- In 2022, the assets of the insurance sector decreased by 13.5 billion PLN, reaching 186.3 billion PLN at the end of the year. The decline was primarily observed in the non-life insurance companies (by almost 12%). The main factor influencing the lower value of insurance sector assets was the increase in interest rates, which reduced the value of debt instruments held by insurance companies. In 2022, the insurance sector had high surpluses above the capital requirements. At the end of December 2022, the coverage of the solvency capital requirement with eligible own funds was 269% in non-life insurance (section I) and 228% in life insurance (section II), with the overall solvency of the national sector being 241%. Consequently, this level fell below the average for EEA countries (257%).
- In 2022, the value of financing provided by leasing companies amounted to 88.1 billion PLN, only 0.1 billion PLN more than in 2021. Lease agreements accounted for 87% of this financing, while loans made up the remaining 13%. Leasing was primarily used for the acquisition of transportation assets, while loans were mainly utilized for the purchase of machinery and



equipment. Leasing companies generated a net profit of 1.7 billion PLN in 2022. The primary source of financing for their operations remained bank loans.

- In 2022, entities providing factoring services purchased receivables amounting to 476.9 billion PLN, which is a 20% increase compared to 2021. These receivables covered 23.9 mln invoices acquired from 25.5 thousand companies. Entities providing factoring services included banks and companies from banking capital groups, whose market share was approximately 87%. The activities of Polish factors were primarily conducted in the domestic market, often in the form of full-service factoring.
- According to data from the Central Statistical Office (GUS), in 2022, loan companies provided loans totaling PLN 17.1 billion, representing an increase of nearly 24% compared to the previous year. From this amount, PLN 9.1 billion consisted of agreements made with individuals. In contrast, the value of loans and credits granted by banks in collaboration with credit intermediaries amounted to PLN 33 billion, which was 39% lower than in 2021. The most important products offered to households by these intermediaries were mortgage loans as well as personal loans and cash loans.
- National brokerage entities primarily conducted their activities on regulated markets and alternative trading systems organized by the Warsaw Stock Exchange (GPW) and BondSpot. In 2022, the conditions for conducting this business deteriorated—slowing economic growth and a sharp increase in commodity prices resulted in significant volatility in stock prices. Additionally, there was a reduced interest in organizing initial public offerings (IPOs) and issuing debt securities.
- In 2022, there was a revival in the debt market. Debt collection companies took on the servicing of 9.7 mln receivables with a nominal value of 41.0 billion PLN. Consumer receivables dominated the structure of receivables acquired for servicing.

Public finances

Public finances are facing considerable challenges. The EU Commission's projections indicate a rise in the budget deficit, expected to escalate from 3.7% of GDP in 2022 to 5.0% of GDP in 2023. This increase is attributed to the anticipated growth in total defence spending, coupled with the ongoing financial burden of energy support measures. While there is an expectation of reduced expenditures on aid to displaced persons from Ukraine—despite having been the highest in the EU in 2022—the withdrawal of most energy support measures is assumed. It's noteworthy that the personal income tax reform, known as the 'Polish Deal,' implemented in 2022, has resulted in a permanent reduction in government revenues. Looking ahead to 2024, the forecast predicts a decline in the deficit to 3.7% of GDP. The public debt-to-GDP ratio is projected to stay below 60%, with a moderate increase anticipated until 2024.

Challenges persist in ensuring the sustainability, efficiency, and transparency of public finances. The decision to maintain an exceptionally low retirement age, particularly for women and specific professional groups, poses a significant risk given the rapidly aging population. This choice may lead to either an escalation in old-age poverty or substantial future increases in public spending on pensions, potentially exerting pressure on the long-term sustainability of government finances. While improvements in tax compliance have contributed to enhanced government revenues in



recent years, there remains substantial room for enhancing the effectiveness of public spending across social benefits, public investment, and public procurement.

The existing framework for independent fiscal oversight and the medium-term budgetary framework is constrained, limiting their effectiveness. Additionally, recent budgetary practices that heavily rely on off-budget funds not only diminish transparency but also undermine the role of the parliament in fiscal decision-making. Addressing these issues is crucial for ensuring the resilience and accountability of the public financial system over the medium-to-long term.

According to data verified by Eurostat, the deficit of the sector of government and local institutions in Poland increased from 1.8% of GDP in 2021 to 3.7% in 2022. Meanwhile, the debt of the sector of government and local institutions decreased from 53.6% of GDP at the end of 2021 to 49.1% at the end of 2022.

The balance of the government and local institution sector was influenced by fiscal measures aimed at mitigating the economic and social impacts of rising energy prices. In 2022, such fiscal measures, reducing revenues, included lowered value-added tax rates and excise taxes on energy and fuels. Fiscal measures increasing expenditures included cash benefits, a price limit on household electricity, and assistance to businesses related to gas costs. The Commission estimates that the net budgetary costs of these measures amounted to 1.9% of GDP in 2022.

There is a variety of financial support for projects related to the thermal modernisation of houses out of which particular significance in financing energy investments is attributed to the Operational Program Infrastructure and Environment (POIiŚ).

It is estimated that the implemented policy has contributed to improving energy efficiency (both in terms of the energy intensity of the national economy and energy savings) and should be continued. Actions in this area will be based on investments in businesses, district heating, and the final use of energy (thermomodernization in construction, fuel efficiency in transportation, and rational energy use by end-users). Regarding businesses, a significant focus will be on reducing electricity, heat, and hot water losses. Changes affecting the energy efficiency of buildings will also contribute to the implementation of new technologies in construction and installation engineering. Additionally, the development of competitive fuel, energy, and energy services markets will contribute to improving energy efficiency. Efforts in creating more energy-efficient buildings aim to increase innovation, implement new technologies in construction and installation engineering, reduce energy intensity, generate new job opportunities, and consequently enhance the competitiveness of the economy and the well-being of citizens.



Table 3 Estimation of resources allocated from POIiŚ programmes

Priority Axis/Type of Project	2007-2013 (EUR mln)	2014-2020 (EUR mln)
Renewable Energy (OZE)	361.61	150.00
Energy Efficiency in Buildings	106.97	486.54
Energy Efficiency in Enterprises	0.00	78.11
District Heating Networks	166.06	559.20
High-Efficiency Cogeneration	46.66	200.88
Power Grid Infrastructure	342.42	573.67
Gas Infrastructure	591.73	750.00

Source: Ministry of Climate

As a result of funding in the energy sector, among other things, over 2,500 km of gas pipeline networks were constructed, nearly 560 facilities underwent thermal modernization, and approximately 920 MW of installed electric power capacity was built.

In the context of national funds, special attention is given to the activities and resources provided by the National Fund for Environmental Protection and Water Management and its regional branches. These initiatives supported the improvement of energy efficiency, the development of low-emission energy sources, systemic heating, low-emission transportation, environmental education, and other broadly defined green investments. The support is both repayable and non-repayable.

Furthermore, it is worth noting the earmarked funds. The Fund for Thermomodernization and Renovations, managed by the Bank Gospodarstwa Krajowego, supports thermomodernization projects for various entities, ranging from individuals and housing communities to local government units.

1.2. Public support schemes

Poland has initiated the execution of initiatives funded by the updated EU budget covering the period 2021-2027. Approval has been secured for all cohesion policy programs during this new programming phase, marking the end of an extensive and challenging preparation process.

Energy efficiency related support is channelled through the national Operational Programme Infrastructure and Environment (OPIE) and 16 regional Operational Programmes (OPs), totalling an estimated EUR 2.6 billion. OPIE allocates over EUR 1 billion to energy efficiency projects in large enterprises, public buildings, and multi-apartment buildings. The 16 regional OPs have dedicated EUR 1.5 billion to energy efficiency, with EUR 826 mln specifically allocated to the residential sector.

In the 2014-2020 period, Poland contributed EUR 2.8 billion of its ESIF (about 4% of its budget) to financial instruments, involving ERDF and ESF.

Support for energy efficiency measures is provided to the residential sector, public buildings, SMEs, and, to a limited extent, large enterprises. The support is delivered through one national



OP and all 16 regional OPs, but there are substantial differences in eligibility criteria and measures between regional OPs.

Under OPIE, a repayable assistance scheme managed by NFOŚiGW targets energy efficiency in large enterprises. The scheme includes both a repayable and a non-repayable part, dependent on achieved energy savings (5% to 15% of eligible expenditure). However, the scheme has seen limited interest due to the complexity of calculations for the non-repayable part. The initial allocation of EUR 150 mln has been reduced to EUR 78 mln.

For energy efficiency in multi-apartment buildings, a national repayable assistance scheme is implemented by NFOŚiGW. Originally focused on buildings in capital cities and areas covered by integrated territorial development, it combines repayable and non-repayable elements, depending on energy savings achieved (25% to 45%). The scheme was less successful than expected, leading to an extension of eligibility to the entire country, resulting in overlap with regional OPs and reduced allocations from EUR 225 mln to EUR 83 mln.

In OP Smart Growth, the guarantee instrument Biznesmax supports innovative investments as well as investments in energy efficiency, renewable energy, and the circular economy. The instrument, reported under TO3 (SME competitiveness) rather than TO4 (low carbon economy), includes an interest rate subsidy. PNB Paribas Polska, one of the financial intermediaries, combines Biznesmax with project development support from ELENA to offer a comprehensive package of services (energy audits, preparation of technical documentation, technical advice, and advice related to available grants) to enterprises for undertaking energy efficiency and renewable energy investments.

In regional OPs, EUR 204 mln, representing 13% of the total allocation, is dedicated to financial instruments for energy efficiency. These financial instruments are implemented by BGK or EIB, acting as fund of funds managers, with numerous financial intermediaries operating under fund of funds. These intermediaries include national commercial banks and local agencies, debt funds, or foundations.

Three financial instruments dedicated to energy efficiency are highlighted: (i) a financial instrument operating in the multi-apartment building sector in Pomerania, Mazovia, and Kujawsko-Pomorskie; (ii) a financial instrument operating in the SME sector in Lower Silesia; and (iii) Private Finance for Energy Efficiency in Poland, which finances multi-apartment buildings through a one-stop-shop approach¹.

Owners or managers of multi-family buildings, etc. can apply for subsidies from national funds under the following programmes:

The "Czyste powietrze" (Clean Air) programme

The programme makes it possible to obtain financial support both for replacing an obsolete heat source with a modern one that meets the highest standards and for comprehensive thermo-modernisation of a building. Co-financing covers, among others, insulation of the building envelope, purchase and replacement of window and door frames, installation or modernisation of central heating and hot water systems, purchase and installation of a photovoltaic micro-installation, mechanical ventilation with heat recovery, as well as design documentation and an

¹ fi-compass, The potential for investment in energy efficiency through financial instruments in the European Union



energy audit. The maximum level of co-financing is 100% of eligible costs, reaching up to PLN 136.2 thousand.

The "Ciepłe mieszkanie (Warm Housing)" programme

The programme offers funding for heat source replacement and thermal modernisation in multi-family buildings. Support includes, among other things, replacement of windows and doors, installation of mechanical ventilation with heat recovery in the dwelling and preparation of project documentation for these measures. The maximum level of co-financing is 90% of eligible costs, up to a maximum of PLN 37,5 thousand per dwelling (or 95% of eligible costs, up to a maximum of PLN 39.9 thousand per dwelling in the case of buildings located in towns on the list of the most polluted municipalities).

The "Mój prąd (My Electricity)" programme

The programme enables individuals to obtain funding for the purchase and installation of photovoltaic micro-installations with a capacity of between 2 kW and 10 kW, heat storage facilities, electricity storage facilities with a capacity of at least 2 kWh and HEMS/EMS energy management systems. The maximum level of co-financing is 50% of eligible costs and the amount of support can be as high as PLN 31 thousand.

The "Moje Ciepło (My Heat)" programme

The programme provides support for owners of new energy efficient homes by offering funding for air, water and ground source heat pumps. The pumps can be used to heat the home or to provide domestic hot water at the same time. Funding can be up to 30% or 45% of eligible costs, limited to a maximum of PLN 21 thousand per co-funded investment.

The Thermomodernisation relief

Regardless of the main support programmes, taxpayers can benefit from a thermal modernisation allowance effective from 1 January 2019. This relief allows the deduction from the taxable base of expenses for construction materials, equipment and services related to the implementation of a thermal modernisation project in a single-family residential building. In the case of a building under construction, the thermal modernisation relief cannot be applied. The expenditure limit is PLN 53 thousand, with VAT invoices being the proof of expenditure incurred.

TERMO programme

The TERMO programme offers support for thermomodernisations, renovations and RES installations in multi-family buildings. Instruments financed by the Thermomodernization and Renovation Fund (FTiR) and instruments financed by the development programme (National Rehabilitation and Resilience Plan, KPO) are available.

FTiR-financed instruments:

- Thermal modernisation bonus: Support for the repayment of part of the loan taken out for thermal modernisation, the bonus is 26% of the investment cost (31% if thermal modernisation is combined with a RES investment).
- Renovation bonus: Support for the repayment of part of a loan taken out for renovation, the bonus is 25% of the project cost.



- MZG (municipal housing stock) bonus: Support for municipalities carrying out thermal modernisation or renovation in the municipal housing stock, the premium is 50% (or 60% under certain conditions).
- Compensation bonus: Mechanism to compensate owners of buildings with accommodation resulting from the regulated rent system.

Instruments financed under the KPO (National Reconstruction Plan):

- Thermomodernisation grant: Option to increase the thermomodernisation bonus by 10% of the net cost in the case of deep thermomodernisation of a multifamily building.
- MZG Grant: An option that increases the MZG bonus, eligible if certain conditions are met.
- RES Grant: Support for investors implementing projects related to the purchase, installation, construction or modernisation of renewable energy source installations.

STOP SMOG programme

The 'Stop Smog' programme supports the replacement or removal of heat sources and thermal modernisation in single-family buildings. It also includes works related to connecting buildings to a district heating or gas network, accessing energy from RES installations and reducing energy demand for heating and heating water. The programme is implemented by municipalities and may also be administered by counties, inter-municipal or metropolitan associations in the Silesian Voivodeship. Funding may amount to 70% of the implementation costs, not exceeding an average of PLN 53 thousand per building or dwelling.

Technical support for preparation of projects and one-stop shops for project developers (from information to turnkey solutions) is available through following mechanisms:

Energy Advise (Doradztwo Energetyczne)

There is a government programme called Energy Advise (Doradztwo Energetyczne), which operates from a nationwide network of professional Energy Advisors. They provide advisory services throughout Poland, providing free information and consultation on low carbon economy, energy efficiency and renewable energy sources. To date, the program has provided nearly 90 thousand consultations, given more than 255 thousand advice services, and conducted nearly 3 thousand education and training activities.

InvestEU Advisory Center

A center providing substantive support to potential investment promoters in each policy segment. It facilitates the creation of cooperation platforms for the peer-to-peer exchange of data, know-how and best practices to support the list of projects in the pipeline and the development of specific sectors. The InvestEU Center is a continuation of the European Center for Investment Advice (ECDI) under the Investment Plan for Europe.

InvestEU Consulting Center provides consulting support in:

- identifying, preparing, developing, structuring, procuring and implementing investment projects,



- enhancing the capacity of project promoters and financial intermediaries to implement financing and investment operations.

This support can cover any stage of the life cycle of a supported entity's project or financing. The InvestEU Advisory Center will cooperate with and benefit from the expertise of national development banks and national development institutions. The purpose of this cooperation is to facilitate advisory support at the local level and to ensure the effectiveness, synergy and actual availability of support throughout the Union.

In addition, technical support can be sought by contacting private consulting companies. Some examples of such companies might be the Polish Chamber of Energy Auditors (PIAE) or ABZ.

1.3. Fiscal policies

The current shape of the Polish tax law has been influenced by:

- The reform of the Polish system initiated in 1989 in connection with the economic changes in Poland.
- The process of harmonizing Polish tax law with EU law in the field of indirect and direct taxes.

In Article 84 of the Constitution of the Republic of Poland, which has been in force since October 17, 1997, and was adopted on April 2, 1997, it is stated that: "Everyone is obliged to bear public burdens and contributions, including taxes, as determined by law." The legal basis for imposing tax obligations is regulated by Article 217, which includes:

- Imposing taxes and other public levies.
- Determining:
 - o Taxable entities,
 - o Taxable objects,
 - o Tax rates,
 - o Principles of granting tax reliefs and exemptions,
 - o Categories of entities exempt from taxes.

This can only be done through legislation. This is a very important provision that significantly limits discretion in imposing taxes.

Tax laws define both the general principles of applying tax law and the structures of individual taxes.

Regulations are issued by authorities specified in the Constitution, based on a detailed authorization contained in the law and for its implementation.

Local government bodies and local government administration authorities, within the framework of authorizations contained in the law, establish acts of local law applicable in their areas of operation. The bodies that establish local law are:

- The municipal council at the lowest level,
- The county council at the county level,
- The regional assembly for the largest territorial unit of the country.



The income of local government units consists of their own revenues, general subsidies, and targeted subsidies from the state budget. The sources of income for these units are determined by law, and local government units themselves have the right to determine the amount of local taxes and fees within the scope also specified by law.

Local government units cannot decide on the introduction or abolition of tax obligations. Such competences belong exclusively to the parliament. Only municipalities have their own income, meaning that only they can issue acts of local law in the area of taxes.

The Tax Ordinance (Journal of Laws 1997 No. 137, item 926, Act of August 29, 1997 Tax Ordinance) regulates the general tax law. Its provisions apply to:

- Taxes, fees, and non-tax budgetary obligations of the state budget and budgets of local government units, for which tax authorities are authorized to establish or determine,
- Stamp duty and fees mentioned in the provisions on local taxes and fees,
- Matters within the scope of tax law other than those mentioned above, falling within the competence of tax authority.

1.4. Green and climate bonds

Within Poland, all descriptions and criteria for bonds (green bonds as well) are contained in [Journal of Laws of 2015, item 238, Act of January 15, 2015 on Bonds], according to which a bond is a security issued in a series, in which the issuer states that he is a debtor to the owner of the bond, hereinafter referred to as the "bondholder," and undertakes to the bondholder to perform a specific performance.

Enterprises most commonly issue corporate bonds to finance their general business activities, while local government entities issue municipal bonds to fund budget deficits (cf. Article 89 of the Public Finance Act). The statutory classification of types of bonds essentially completely disregards the purpose of the issuance. The purpose of bond issuance is not restricted by Polish law. Therefore, there are no legal-regulatory obstacles to issuing green bonds in Poland.

The Capital Market Development Strategy (CDMS) adopted by the Council of Ministers on October 1, 2019, aligns with Poland's economic development strategy. The CMDS is the first detailed and comprehensive development plan for the Polish capital market, covering the years 2019-2023, with the goal of significantly enhancing the competitiveness of this market. The CMDS also encompasses the area of sustainable financing, thereby aligning with strategic, global, and European initiatives for sustainable development.

Poland was the first country in the world to issue green bonds worth 750 mln euros in 2016. Since then, four such issuances have taken place, and other countries have benefited from Poland's experiences².

According to the provisions of Polish law issues associated with the broadly understood environmental protection are primarily carried out by municipalities. According to Article 7 of the Act of March 8, 1990, on Local Government (Journal of Laws 2021, 1372 consolidated text), the municipality's own tasks include, among others, issues related to spatial order, real estate management, environmental and nature protection, water management; water supply and

² <https://assets.kpmg.com>



water management, sewage systems, municipal sewage disposal and treatment, cleanliness and order, sanitary facilities, landfills and municipal waste disposal, electricity and heat supply, and gas supply; telecommunications activities; local public transportation; municipal housing construction; municipal greenery and tree planting; maintenance of municipal facilities and public utility facilities, as well as administrative facilities.

These areas correspond to the goals of issuing green bonds, particularly investments related to renewable energy, energy efficiency, pollution prevention and control, protection of terrestrial and aquatic biological diversity, ecological transportation, sustainable water and sewage management, adaptation to climate change, and green construction.

Investment plans and development strategies of Polish enterprises indicate a significant growth potential for the green bonds market among corporate issuers. Key sectors in this context include primarily energy, construction and transportation.

Despite continued growth in the number of green corporate bonds issued, at the end of 2021 there were only 10 issuers of these securities on the Polish market and they issued bonds worth EUR 1.337 billion. Worldwide, however, the issues were as high as USD 338.5 billion³, which shows how small a percentage Polish bonds are. What this boils down to is that Poland "lagging behind" relative to other countries in terms of green bond development may have its roots in this very statistic. Based on KPMG's report⁴, it is easy to present all the previously mentioned Polish issuers:

³ <https://www.climatebonds.net/market/data/>

⁴ <https://assets.kpmg.com/content/dam/kpmg/pl/pdf/2021/12/pl-Raport-KPMG-na-zleczenie-MF-Perspektywy-rozwoju-rynku-zielonych-obligacji-w-Polsce.pdf>



Table 4 Polish issuers of green corporate bonds

issuer	issuer`s sector	date of issue	volume	purpose of the issue	third-party verification
FINANCIAL SECTOR					
PKN Orlen S.A	OIL&GAS	December 2020, March 2021	2 bn. PLN	Sustainability-linked bonds - the coupon level depends on the the level of ESG rating given to the concern by MSCI	NO
PKN Orlen S.A	OIL&GAS	May 2021	500M EUR	Development of low-carbon transportation infrastructure, Renewable energy sources (on- and offshore wind, photovoltaics)	YES Second Party Opinion CBI Certification
Tauron Polska Energia S.A.	Energy	October 2020	1 bn. PLN	Sustainability-linked bonds - KPIs for reducing CO2 emissions and increasing the share of RES in the energy mix	NO
Globe Trade Centre S.A.	Construction	December 2020	40 bn. HUF	Green construction, energy-efficient construction (by green/energy efficiency certificates)	YES Second Party Opinion
R. Power S.A.	Energy (RES)	June 2021	150M PLN	Photovoltaic infrastructure development projects	NO, declared compliance with GBP
Columbus Energy S.A.	Energy (RES)	December 2020	75M PLN	Photovoltaic infrastructure development projects	YES Second Party Opinion
Cyfrowy Polsat S.A.	ICT	February 2020	1 bn. PLN	Modernization of telecommunications infrastructure (improving energy efficiency)	YES Second Party Opinion
FAMUR	Manufacturer of machinery and equipment	November 2021	400M PLN	Modernization of telecommunications infrastructure (improving energy efficiency)	YES Second Party Opinion
NON-FINANCIAL SECTOR					
mBank S.A.	Universal banking	September 2021	500M EUR	Refinancing a portion of the retail loan portfolio mortgages, financing buildings with high energy efficiency	YES Second Party Opinion CBI Certification
PKO Hipoteczny S.A.	Mortgage banking	June 2019, December 2019	500M PLN	Financing of mortgages secured by green buildings	YES Second Party Opinion CBI Certification
ING Bank Hipoteczny S.A.	Mortgage banking	October 2019	400M PLN	Financing of mortgages secured by green buildings	YES Second Party Opinion CBI Certification
mBank Hipoteczny S.A.	Mortgage banking	No issues (yet)	N/A	Financing of mortgages secured by green buildings (according to the criteria of the EU Taxonomy)	YES Second Party Opinion

Source: <https://assets.kpmg.com/content/dam/kpmg/pl/pdf/2021/12/pl-Raport-KPMG-na-zlecenie-MF-Perspektywy-rozwoju-rynku-zielonych-obligacji-w-Polsce.pdf>

Corporate bonds do not play a significant role as a source of financing for Polish companies, which mainly rely on loans and other bank support. Moreover, the organised corporate bond market is dominated by large energy companies and banks.



In the context of the increasing importance of corporate decarbonisation plans for obtaining sustainable financing, it is recommended to promote education among companies. In this regard, tax credits for costs related to energy audits or carbon footprint calculations are also proposed, as well as making the granting of public funds conditional on the applicant's adoption and implementation of a decarbonisation plan.⁵

Green municipal bonds

The market for green municipal bonds is hardly present in Poland. To date, there have been only two issues in the country and these were cities:

- Łódź (PLN 50 mln)
- Grudziądz (PLN 62.3 mln).

In the context of bond issuance as a form of financing, both for local government units and banks, municipal bonds, which function almost like the equivalent of a bank loan, are the most common choice, but are not listed on the organised market.

Poland lacks specific local standards, guidelines, or definitions governing the issuance of green bonds. Instead, these bonds adhere primarily to standard regulations outlined in the Polish Act on Bonds, the Act on Trading in Financial Instruments, and the Act on Public Offering, among others.

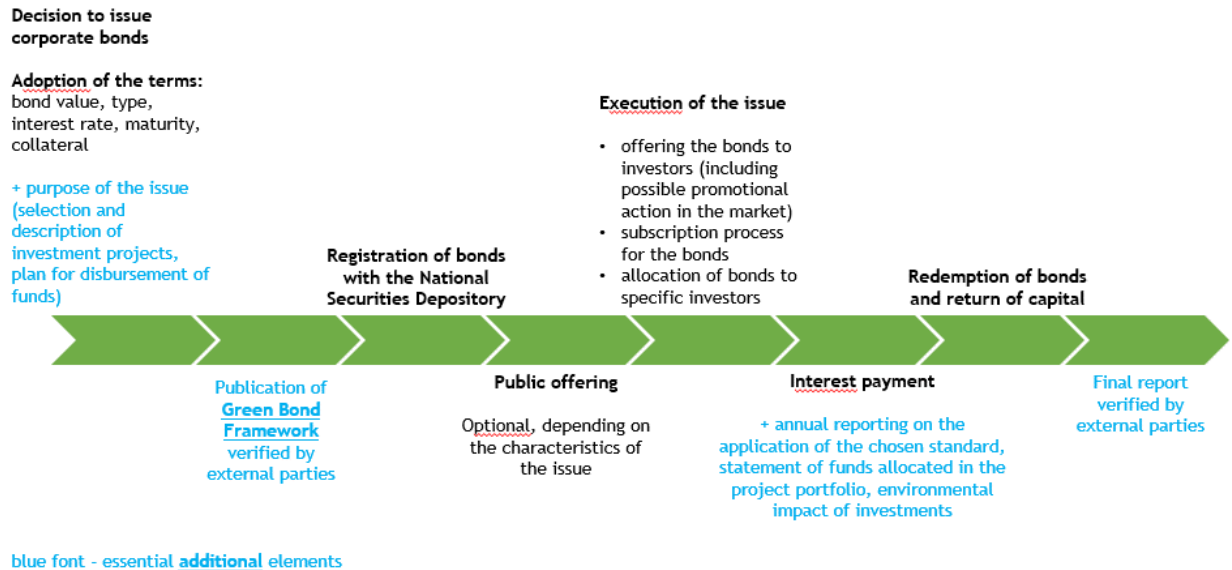
Basically, each bond issuance may include a distinct objective, which is an optional component. However, if utilized, it obligates the issuer to allocate the raised funds for a specific purpose. In the context of green bonds, this purpose can specifically involve investment in environmentally friendly projects.

The following figure shows an example of a bond issuance scheme in Poland using corporate bonds as an example:

⁵ <https://instrat.pl/wp-content/uploads/2023/06/Instrat-Policy-Note-01-2023-Zielone-obligacje.-Perspektywy-wsparcia-rozwoju-rynku-w-Polsce.pdf>



Figure 1 Sample scheme for issuing Polish green bonds:



Source: cowprawiepiszczy.com

One important thing on the chart that should be mentioned is the Green Bond Framework, part of new EU Green Bond Standard (EU GBS). This is a document that an issuer must publish, which is supposed to include 4 main criteria based on the Green Bond Principles (GBP), that are important to investors and other potential bond stakeholders. These are:

Table 5 GBP principles

	Principle	Rule description
1	Use of funds	Projects should have clear environmental benefits that have been assessed and evaluated in detail by the issuer
2	Project Evaluation and Selection Process	Investors should be communicated the objectives pursued in relation to environmental sustainability, the process that allowed projects to be classified as green, the criteria for classifying and disqualifying projects, as well as the risks in implementing them
3	Management of funds	It is recommended that an external entity, such as an auditor, verify the allocation of green bond funds through an internal method
4	Reporting	On a cycle of at least one year, a list of projects to which the funds raised have been allocated should be presented along with a description of the projects and their expected environmental impact, as well as an indication of the amount allocated. In addition, qualitative indicators should be provided, as well as quantitative ones if possible, for such data as reduction/elimination of greenhouse gas emissions, number of people who gained access to clean energy, reduction in water consumption, for example.



Source: study from <https://econjournals.sgh.waw.pl/KNoP/article/view/2912/2586> based on: Green Bond Principles Voluntary Process Guidelines for Issuing Green Bonds, ICMA, June 2021.

However, the above text does not provide information on other standards that a green bond might use. These include Climate Bond Standard (CBS by Climate Bonds Initiative) and the EU Green Bond Standard (EU GBS).

- Availability of standardized documentation for issuing and monitoring of green/climate bonds, inclusion of socioeconomic impacts in evaluation and KPIs

From the available information, it cannot be assumed that a standardised documentation for issuing and monitoring green bonds is available in Poland. Likewise, it is hard to find information on the inclusion of socioeconomic impacts in evaluation and KPIs. Everything seems to depend on the type of bond, the purpose of the issue and other factors, which means that each issue can differ in many aspects from the others.

- Market volume/number of Green and Climate bond emissions in the past 3-5 years (if information is available)

In 2016, Poland became a progenitor on the issue of Green Treasury Bonds⁶ by issuing the first such debt securities for EUR 750 mln. Shortly thereafter, other countries followed suit by expanding their green securities markets. Contrary to predictions and the potential that the Polish market offered, the green bond market failed to develop significantly, and other countries quickly overtook Poland in this sector.

To get a good understanding of the subject, it is worth starting with an overview of what the only bonds issued by Polish government looked like:

⁶ <https://www.gov.pl/web/finanse/raport-perspektywy-rozwoju-rynku-zielonych-obligacji-w-polsce>



Table 6 Polish government green bonds

Issue characteristics	First issue	Second issue	Third issue	
issue date	20.12.2016	07.02.2018	28.02.2019	
maturity date (in years)	5	8	10	30
annual coupon (in%)	0,5	1,125	1	2
yield (in %)	0,634	1,153	1,057	2,071
issue amount	0,75 bn. EUR	1 bn. EUR	1,5 bn. EUR	0,5 bn. EUR
demand from investors	1,5 bn. EUR	3,25 bn. EUR	3,5 bn. EUR	1,3 bn. EUR
consortium managers	HSBC, HP Morgan, PKO BP	BNP Paribas, Citi, Global Markets Limited, Commerzbank, Aktiengesellschaft, PKO BP, Societe Generale	Citi, ING, J.P. Morgan, PKO BP, Santander, Societe Generale	
areas	Clean transportation, sustainable agriculture, renewable energy			

Source: Zielone obligacje jako sposób finansowania zadań publicznych - Anna Laskowska, 2019, <http://economic-research.pl/Journals/index.php/cxy/article/view/1624>

The values of Polish treasury issues grew from issue to issue at a very affordable rate. In addition, investor demand for them grew even faster, but further such bonds never appeared. Such an unexpected move was most likely the reason why, despite being one of the forerunners of green securities, Poland was overtaken by other countries anyway.

Apart from the green corporate and municipal bonds mentioned earlier in the document, there are no sources that speak of other issues in Poland.

From the available sources, it is not possible to conclude unequivocally that support mechanisms for green bond issuers exist in Poland. However, ICMA has developed unofficial methods that can help the issuer during the green bond issuance process:

- obtaining an independent external opinion (second-party opinion)-preferably an institution with environmental/social/sustainability expertise,
- verification - independent verification based on a defined set of criteria, usually relating to environment-related business processes,
- certification - by meeting certain green bond standards,
- scoring/rating - e.g. from research centres or rating agencies⁷.

⁷ <https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Translations/2018/Polish-Guidelines-External-Reviews2018-06.pdf>



1.5. Green loans

One of the most important green loans was that for the energy PPP project, which borrowed 490 mln PLN from the Polish Development Fund (PFR) and the European Investment Bank (EIB) in 2021.

The rest of the funds for the project were supplemented by commercial lenders - mBank, Erste Bank, Kommunal Kredit and Bank Pekao. The money will be received by Dobra Energia, which is building the Thermal Waste Conversion Plant, where all of the financing was secured by the Meridiam Infrastructure Fund.

Currently in Poland, there are no universally applicable legal regulations defining green bonds and green loans and establishing specific requirements for the content of the documentation of these instruments. Market participants therefore rely on international standards created on the basis of best market practice or (less frequently) recognised market precedents. A standard dedicated to loans is the Green Loan Principles created by, inter alia, the Loan Market Association. In general, there are some characteristic points to keep in the back of your mind when dealing with green loans:

- obligation to allocate funds to finance or refinancing of a green project
- obtaining an independent external opinion or certificate
- management of funds raised through a bond or loan
- reporting on use of funds raised from a bond or loan
- verification of reports.

Below, there are key players of the Polish market and their range of offers:

Bank Ochrony Środowiska S.A. (BOŚ Bank)



BOŚ Bank is one of the most important institutions for small/medium businesses and individuals when it comes to green loans in Poland. It offers a wide range of eco-friendly loans and services, and almost all of its activities are aimed at protecting the environment. In 2021 European Investment Bank (EIB) has lent up to about PLN 350 mln to finance small and medium-sized companies. The projects that will qualify for this financing should be related to energy efficiency of buildings in cities and villages.

Credit Agricole Bank Polska S.A.



Credit Agricole is another bank engaged in lending mainly to medium and small businesses. The bank offers green investment loans for RES projects, machinery and equipment to reduce



electricity consumption, machinery and vehicles, and real estate (including, for example, thermal modernization).

Bank Millennium



Bank Millennium, as one of the largest banks in Poland, is also involved in green loans. It has created special loans for companies to subsidize photovoltaic projects, adding them to its overall green loan portfolio. Green Economy Financing Facility (GEFF) granted a loan to Millennium Leasing Sp. z o.o. in the amount of PLN 300 mln, the funds of which were to be used for loans to small and large enterprises investing in RES products.

Santander Bank Polska S.A.



Santander Bank Polska is actively involved in providing green services. Their offerings include:

- ECO cash loans for the purchase of ECO equipment and products,
- Green leases for the purchase of, for example, photovoltaic installations or hybrid and electric vehicles
- Green loans for improving the energy efficiency of buildings.

Santander Consumer Bank has received funding of PLN 350 mln from the European Bank for Reconstruction and Development (EBRD). The funds will be lent to private owners to replace boilers, put up solar panels and for other pro-environmental investments

Bank Pekao S.A.



Bank Pekao is one of the leading institutions supporting the development of green banking. It offers an eco-credit for building a house that meets certain environmentally beneficial rules. In addition, they provide loans specifically for the installation of photovoltaic panels and loans for micro, small and medium-sized companies wishing to reduce the cost of the energy they consume.

In an international consortium of banks, Bank Pekao, as one of the three main lenders, signed a loan agreement with PGE Polska Grupa Energetyczna for PLN 2,33 billion. The company will use the funds raised from this loan to reduce emissions and increase electricity production from renewable sources.

mBank



mBank is actively involved in the fight for a better environment. Aside from treasury bonds, it has also begun to provide eco-credits and finance RES-related investments.

In 2022, mBank provided eco-credits worth PLN 314 mln and allocated PLN 637 mln to finance renewable energy farms.

You can also read from their website that they reduced greenhouse gas emissions by 1/3 y/y and that all the electricity mBank purchased came from RES.

BNP PARIBAS



BNP PARIBAS

Bank BNP Paribas is one of the major institutions that provide green loans in Poland. The bank is putting a lot of resources into sustainable investments, including green loans, of which they already have many. One of the most important and recent is an SSL green loan of a total of PLN 120 mln for the companies FFiL Sniezka and Sniezka TOC. The funds are to be earmarked for reducing greenhouse gas emissions produced during production and expanding the offer with eco goods. In addition, thanks to the loan, the construction of an in-house photovoltaic installation is to begin, which will significantly reduce the energy demand of the Sniezka group.

PKO Bank Polski



Bank Polski

PKO Bank Polski co-finances the expansion of the SK HI-Tech Battery Materials Poland Sp. z o.o., which produces separators used in the production of lithium-ion batteries for electric cars. The total loan amount is USD 300 mln, of which PKO Bank Polski's share is USD 50 mln. This is PKO Bank Polski's strong support for the new technology sector and another green financing in line with the bank's ESG strategy.

Together with other entities of the group, the bank supports the development of the economy by financing investments in new technologies, energy-saving projects and modernization of technological lines. They influence customer attitudes by demonstrating their participation in financing pro-ecological projects such as the construction of waste incineration plants, sewage treatment plants and power generation systems using modern, pro-ecological technologies. The group continues to expand its product offer to support the environmental protection:

- Green mortgage jointly offered by PKO Bank Polski and PKO Bank Hipoteczny
- A loan for the thermal modernization of multi-family housing at PKO Bank Polski
- The "PKO Environment and Social Responsibility Global" investment fund offered by PKO TFI



- A lease or a loan for financing of photovoltaic devices for enterprises at PKO Leasing
- Eco-loan for the purchase and installation of photovoltaic panels by individuals at PKO Bank Polski
- Transactions on the CO2 emission rights market - Commodity Swap and Forward at PKO Bank Polski
- These instruments are intended for the corporate customers who are obliged to redeem such rights under the EU ETS regulations. The customers may hedge against changes in prices of the emission rights.
- BIZNESMAX guarantees with BGK for corporate customers in the offer of PKO Bank Polski
- The bank launched the BIZNESMAX guarantees in cooperation with BGK to secure loans for pro-environmental projects, such as circular economy, electromobility or renewable energy.
- Green covered bonds issued by PKO Bank Hipoteczny, whose first issue in Poland took place in 2019
- The PKO Renewable Energy fund - “fizan” launched in 2021 by PKO TFI with the participation of PKO Bank Polski

Polski Fundusz Rozwoju (PFR)



PFR Green Hub is a strategic program of the Polish Development Fund (PFR), the aim of which is to implement Poland's energy transformation.

PFR Green Hub is a strategic program of the Polish Development Fund, the aim of which is to support Poland's energy transformation through investments in renewable energy projects - on market terms and without crowding out private capital. PFR wants to integrate institutions, local governments and companies operating on the energy market in order to jointly strive to develop the Polish value chain and improve the quality of life of Poles.

There are no standardized mechanisms and methods for project valuation and monitoring in Poland.

From the information available, it is not possible to conclude that some dedicated mechanisms or services are able to assist in the process of obtaining green loans, and each institution has distinct requirements that must be met in order to qualify for funding. However, there is also a government programme called Doradztwo Energetyczne (Energy Advise), which operates from a nationwide network of professional Energy Advisors. They provide advisory services throughout Poland, providing free information and consultation on low carbon economy, energy efficiency and renewable energy sources. It does not focus on green loans, but at the moment it may be the only programme open to the general public that can provide any kind of answers and technical support to people interested in this sector.⁸

⁸ <https://www.gov.pl/web/klimat/doradztwo-energetyczne>



1.6. Energy service companies (ESCO) and Public-private partnership

ESCO

An ESCO under Polish law is an energy service provider that provides comprehensive energy services and modernisation to the end-user of energy. Within the framework of an EPC contract, the service provider undertakes to achieve and maintain a certain energy effect for several years. The ESCO provides so-called guaranteed energy savings and assumes a certain amount of financial risk. The legal bases for the implementation of EPC Projects are listed below.

1. Act on Energy Efficiency (Ustawa o Efektywności Energetycznej): This is the main law that governs energy efficiency projects, including ESCO projects. ESCO must adhere to the provisions and regulations outlined in this law.
2. Public Procurement Law (Ustawa o Prawie Zamówień Publicznych): ESCO projects are subject to public procurement procedures, and ESCO must comply with the regulations and procedures outlined in this law.
3. Public-Private Partnership Law - PPP law (Ustawa o Partnerstwie Publiczno-Prywatnym): ESCO projects may involve public-private partnerships, and ESCO must comply with the regulations and provisions outlined in this law.
4. Energy Performance Contracting Code of Conduct - a set of values and principles considered to be the most important for the successful, professional and transparent implementation of projects in European countries.⁹

PPP

The Ministry of Funds and Regional Policy, in accordance with the Government's strategy and the PPP Act, acts as the Central PPP Unit. This means that it carries out tasks at the national level which include :

- coordination of the state administration's activities in the subject of PPP,
- monitoring PPP enterprises,
- analyses in the area of PPP
- legislative activities in the PPP area
- organizing training, workshops and other initiatives in the field of PPP,
- providing substantive support to public entities preparing and implementing PPP projects
- preparing and implementing and providing opinion on PPP projects,
- drafting guidelines, standards and model documents supporting the development of the PPP formula.

⁹ <https://www.gov.pl/web/klimat/wytyczne-do-umow-o-poprawe-efektywnosci-energetycznej-epc>



The Government's policy on the development of public-private partnerships until 2030 (Policy PPP 2030) is a public policy within the meaning of Article 5(7b) of the Act of December 6, 2006 on the principles of conducting development policy (Journal of Laws of 2023, item 1259, as amended).

The PPP Policy 2030 will be a document implemented primarily by the government administration, with the leading role of the Central PPP Unit. This will maintain a stable institutional structure and ensure government coordination of PPP development activities.

A mid-term evaluation of the document's implementation will be carried out in 2027. It will cover the period from 2023 to 2026, and its results will be used for a possible update of the document. In addition, a summary evaluation of the document's implementation will take place after 2030.

The PPP 2030 policy will be correlated with the activities specified in the medium-term strategy development of the country. At the time of the development of the PPP Policy 2030, it is the Strategy for Responsible Development (SOR) - the document identifies the Government's policy on public-private partnerships (PPPs) as one of the so-called strategic projects, which fits into Specific Objective I of the SOR: Sustainable economic growth based increasingly on knowledge, data and organizational excellence, area: Capital for development. According to the SOR, the implementation of this project is expected to include activities leading to an increase in the efficiency of public spending in the provision of high-quality services and infrastructure, as well as an increase in the involvement of capital, expertise and experience of the private sector in public projects, thanks to the creation of a better climate for public investment using the PPP mechanism, to which the activities programmed in the PPP Policy 2030 correspond.

The legal basis for the implementation of PPP projects in Poland will continue to be mainly the legal acts on PPP, concessions for works or services and public procurement. Also, energy efficiency improvement contracts (EPC contracts) are a special type of PPP contracts falling within the subject scope of the PPP Act.

PPP Policy 2030 will primarily benefit the public, in the form of increasing the quantity and quality of public services. The document includes measures dedicated to public entities - as initiators of PPP enterprises.

However, it should be noted that the effects of actions taken under the PPP Policy 2030 will benefit also other entities. This is because the actions will respond to the needs and demands for the development of the PPP market made by all participants in the PPP market.¹⁰

ESCO

The ESCO market in Poland is still in its early stages of development, with many entities lacking sufficient knowledge about this investment model. The ESCO formula, which involves engaging an energy service company (ESCO) to support energy-industry project development, is not a new concept in Poland. However, there is a low level of interest in this solution, and the lack of knowledge alone cannot explain this phenomenon.

The value of the global ESCO market was estimated at USD 28.6 billion in 2017, with the European ESCO market reaching USD 2.7 billion in 2015. In Poland, the ESCO market experienced slow growth from 2015 to 2018, with 20 registered energy service providers in 2020. The ESCO formula is

¹⁰ <https://www.ppp.gov.pl/file.php?i=przegladarka-plikow/Polityka-PPP-2030-17-11-2022.pdf>



particularly preferred in the thermo-modernization of public utility and residential buildings, as well as in the reduction of low emissions and energy-saving outdoor lighting.

To address the low level of interest in the ESCO formula, it is crucial to educate local government units and enterprises on energy efficiency. This will help generate interest in more complex ESCO implementation solutions that have not yet been explored. Additionally, it is important to consider the risk involved in the ESCO formula, which primarily falls on the energy service company. This raises doubts about whether energy service companies will be willing to invest the necessary equity to develop this challenging market.

PPP

Energy efficiency has been a favourite of public entities in Poland, with 25 PPP contracts already signed to date (2022). The City of Koszalin took this path with a sizable project to modernize 32 buildings at an estimated cost of PLN 45 mln. Further PPP initiatives in this sector are to be expected following the recent amendment of the Energy Efficiency Act, adopted on April 20, 2021, which opens the way for wider use of PPPs in pursuit of improved energy performance.

The construction of the Outer Harbor in the Port of Gdynia would be the first PPP project of this scale in the Polish maritime sector, ranking among the most interesting PPP projects currently under consideration in Europe. The private partner will need to shoulder the demand risk, meaning that its earnings will come from users of the newly developed infrastructure.

In the first quarter of 2023, only one public-private partnership (PPP) agreement was concluded in Poland, and two proceedings were announced, confirming the marginal role of PPPs in the implementation of public tasks. A report by the Ministry of Funds and Regional Policy indicates that at the end of the quarter, the number of partnership agreements concluded was 176, covering both ongoing and completed projects.

The dynamics of PPP contracting has declined over the past three years, and the Ministry of Funds and Regional Policy considers this a result of the impact of factors such as the pandemic, the war in Ukraine and high inflation. Although inflation should encourage projects, experts note that there is a complex problem hindering the development of PPPs.

Since 2009, 644 PPP-related proceedings have been initiated, but only less than 28% of them have been completed with a contract. Experts emphasize that PPPs are effective where they add value, the private partner's know-how is required, as well as for specialized technologies or high quality of services provided. The Ministry's report, for the first quarter of 2023, gives an example of one PPP agreement worth PLN 3.32 mln for the acquisition, development and processing of biogas into electricity in Sobuczyn (Silesia Province). Information was also added about another PPP agreement concluded in Q3 2022, for the construction and maintenance of local roads in Walcz, worth PLN 19.5 mln, which is in the process of financial closing.¹¹

European Funds:

Based on the Operational Programme Infrastructure and Environment 2014-2020 (POIiŚ), it can be learnt that in the energy efficiency sector in large enterprises, ESCOs will provide investment

¹¹<https://www.portalsamorzadowy.pl/finanse/wybor-ppp-tylko-w-ostatecznosci-takie-podejscie-hamuje-rozwoj-rynku,460865.html>



financing using a soft loan and a partial subsidy from EU funds, depending on the energy savings achieved.

Project Bonds - a wide array of bond products that are categorised by their repayment source being limited to the cash flows of a particular project. Project bonds are generally issued by a special purpose vehicle to finance or refinance either the whole or part of a project.¹²

The "Marguerite" Fund - The Marguerite Fund (2020 European Fund for Energy, Climate Change and Infrastructure) is a pan-European equity fund that acts as a catalyst for key investments in renewables, energy and transport. It is the first fund of its kind launched by Europe's leading public financial institutions following an initiative endorsed during the second half of 2008 by The Economic and Financial Affairs Council (ECOFIN) and The European Council as part of the European Economic Recovery Plan (EERP). It combines a market-based principle of return to investors with the pursuit of public policy objectives. Launched in 2010, with the backing of six major European financial institutions (namely the EIB, Caisse des Dépôts et Consignations, Cassa Depositi e Prestiti, Instituto de Crédito Oficial, Kreditanstalt für Wiederaufbau, PKO Bank Polski), it makes capital-intensive infrastructure investments.

Bank Gospodarstwa Krajowego (BGK)- is an actively supporting the financing of projects implemented under public-private partnerships (PPPs). Its experts are involved in providing knowledge and experience regarding the requirements necessary for a project to obtain bank financing. They are ready to participate in discussions with the contracting authority at the initial stage of project structuring, which includes laying out the project on the public side.

Examples of sectors in which PPP projects are being implemented by BGK include roads, streetcar lines, revitalization projects, thermal rehabilitation of buildings, waste management, district heating, water and sewage, health care, sports, recreation and others.

Financing is available to private partners (entrepreneurs) and representatives of public entities (e.g., local governments, municipal companies), as defined in the Public-Private Partnership Act of December 19, 2008.¹³

"Developing ESCO for Local Governments"

"Developing ESCO for Local Governments" - a project co-funded by the European Union through the Climate-KIC initiative, which is a public-private association established by the European Institute of Technology (EIT), a unit of the European Commission. The aim of Climate-KIC is to support the development of innovations to mitigate climate change, including by European cities. The 'ESCO Development for Local Governments' project aims to provide support from the National Agency for Energy Efficiency (NAPE) in the preparation and implementation of a deep energy retrofit project for public buildings in a public-private partnership. It uses an energy efficiency

¹²<https://www.nortonrosefulbright.com/en/knowledge/publications/8f77f86f/project-bonds-and-energy-transition-a-proven-financing-solution>

¹³ <https://www.paih.gov.pl/wp-content/uploads/0/116901/116912.pdf>



improvement mechanism, leading to partial repayment of the investment from energy cost savings (ESCO).

Working with interested local authorities, NAPE offers participation in free training courses and subsidised costs for the legal, economic and technical advice required to prepare a public procurement in the public-private partnership model. This includes pre-feasibility studies and ends with the selection of the private partner. The condition for benefiting from the funds of the Climate-KIC initiative is to bring the project to the stage of proceedings for the selection of a private partner.

The outcomes of the project include:

- Development and dissemination of standard model documents such as the energy performance contract, the ToR (Terms of Reference), and a guide for investors.
- Development of software to facilitate investment decisions by municipalities, including for verification and accounting of energy performance resulting from contracts between municipalities and ESCOs.
- Introduce new financial support instruments tailored to the specificities of projects implemented under Energy Performance Contracting.
- Conduct training, workshops and pilot counselling for interested municipalities.¹⁴

Renovation with a guarantee of EPC (Energy Performance Contract) savings plus

“Renovation with a guarantee of EPC (Energy Performance Contract) savings plus“, was created on the basis of the international FinEERGo-Dom project, led by the National Energy Conservation Agency (KAPE). This programme is a joint initiative of the National Fund for Environmental Protection and Water Management (NFOŚiGW) and the National Energy Conservation Agency (KAPE). The NFOŚiGW's new proposal is a comprehensive system of support for investments in the ESCO model. This includes not only the provision of financing for the building owner's own contribution, but also the development of a model EPC contract with Guaranteed Energy Efficiency (GOE). The programme allows the building owner to receive professional energy advice and offers the option of a debt buy-back (or other alternative form of financing) from the ESCO company.

The recipient of the programme can be

- the owner or manager of a local authority building,
- a cooperative or
- a housing association.

The parties to the energy efficiency contract are the programme beneficiary and the company implementing the investment in the ESCO model. The programme also includes an option to buy back the receivables from the ESCO company upon confirmation that the energy effect guaranteed by the EPC contract has been achieved.¹⁵

¹⁴ <https://www.ippp.pl/aktualnosc/projekt-rozwoj-esco-dla-samorzadow-szansa-na-czyste-powietrze-i-oszczednosci-energetyczne>

¹⁵ <https://www.teraz-srodowisko.pl/aktualnosci/Dotacje-na-termomodernizacje-budynkow-wielorodzinnych-w-modelu-ESCO-NFOŚiGW-12740.html>



1.7. Citizen-led initiatives

1.7.1. Crowdfunding

In November 2021, Poland introduced the ECSP Regulation, which set out the requirements to be met in order to provide crowdfunding (crowdfunding is a type of crowdfunding in which capital is raised in exchange for securities) services. These were contained in the Act of 7 July 2022 on crowdfunding for business ventures and assistance to borrowers, which entered into force on 29 July 2022. Thanks to the Act, a rule has been introduced whereby authorisations for equity crowdfunding services will be issued by the KNF - Financial Supervision Commission. The KNF has gained the right to control the intermediary's activities and has been granted preventive and punitive measures for violations of the Act and the ECSP Regulation. These include fines or orders to suspend or dismiss members of the bodies responsible for violations.

Investors will gain protection and more certainty in their investments thanks to the introduction of the aforementioned law. A distinction between experienced and inexperienced investors has been introduced on the basis of a knowledge test and a simulation of the capacity to bear losses. The former will guarantee a reflection period of four days, allowing the investor to withdraw from the venture without any consequences. In addition, a person interested in investing should receive a collection of key investment information and marketing information. Everything should be clear and presented in a concise form.

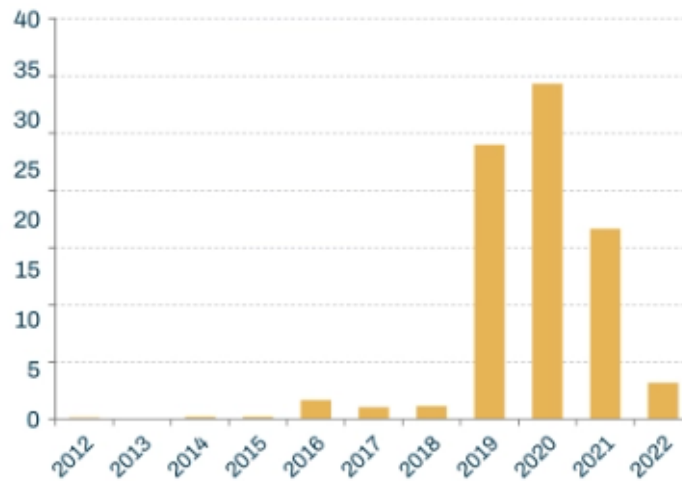
The new rules have raised the limit for project owners on crowdfunding platforms from EUR 1 mln to EUR 5 mln.¹⁶

In 2022, 47 issues of crowdfunding securities took place, with a total value of 25 mln PLN. 2022 was a tough year for the crowdfunding sector and the Polish economy as a whole. All due to the war in Ukraine and high inflation and interest rates. During this period, there was a drop in active investors of 80%. In 2021, there were 19 thousand of them, and in 2022 the number dropped to just 3.5 thousand. Dr Artur Trzebinski of ZPF (association of financial enterprises) said that investors were opting for the more secure bond market and bank deposits. This has translated into a decline in the number of funds in which all the funding needed has been obtained. In 2021 it was over 60% and in 2022 only 33%. The average capital raised according to the ZPF did not exceed PLN 585 thousand, additionally the largest amount of financing was PLN 2,5 mln, and the smallest amount was only PLN 1,500.

¹⁶ <https://ksiegowosc.infor.pl/obrot-gospodarczy/finanse-i-inwestycje/5557246,Finansowanie-spolecznościowe-crowdfunding-nowe-przepisy-od-29-lipca-2022-r.html>

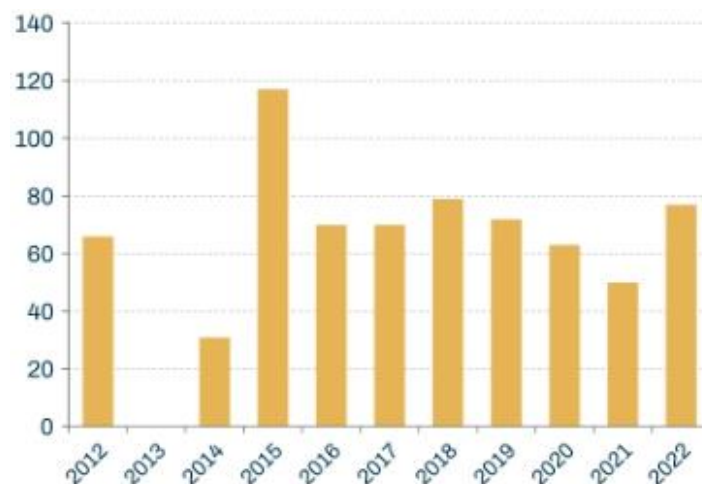


Figure 2 Number of investors in Poland (in thousands)



Source: Equity crowdfunding 3.0, 2022, ZPF report

Figure 3 Length of the campaign (in days)



Source: Equity crowdfunding 3.0, 2022, ZPF report

The above graphs show the number of investors in Poland over the years and the length of campaigns conducted to obtain funding. The largest number of interested investors appeared in 2020 and reached 33 thousand, with an average campaign duration of just over 60 days, and in 2022, 3.5 thousand investors had an average campaign duration of 77 days. Despite such a drop in interest, companies are not giving up and are introducing a policy of paying dividends. The 11 companies that promoted themselves in 2022 decided to introduce the possibility of paying out a share of the profits generated as early as 2024.

In 2022, 46 companies decided to raise capital through a crowdfunding issue, which was almost half as many as in the previous year. Of these companies, one had already conducted its fifth issue, six its second, and the rest were their first issues.



The largest number of companies represented the food-related industry, with nine entities, accounting for a 19% share. This was followed by companies in the craft liquor industry (six entities, 13%) and the gaming and mobile app industries, with five entities each (11%). Other industries had between 1 and 3 companies.

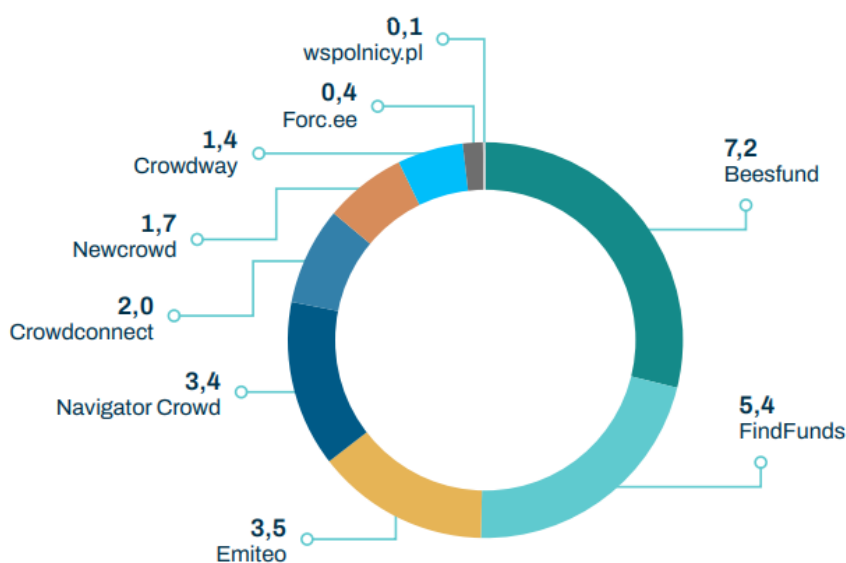
Craft liquor companies raised the most funds, with a total of 6 issues for PLN 4.8 mln. In comparison, the previous year saw 5 campaigns for a total of PLN 11 mln. The gaming industry, as well as mobile applications, e-commerce and IT services, took second and third place, winning PLN 4.4 mln (5 campaigns) and PLN 3.7 mln (5 campaigns), respectively. In the previous year, the podium looked different, with gaming companies in first place, followed by the cannabis industry, and mobile apps, e-commerce and IT services in third place.

The change in dominant industries is not surprising, as entire industries are influenced by specific, recognizable companies. The exception is the gaming industry, which remains at the top thanks to the general interest in companies in this field.

There were 10 active crowdfunding platforms in 2022, and they were: Beesfund, Crowdconnect, Crowdway, Emiteo, Find Funds, Forc.ee, Navigator Crowd, Newcrowd, SkyAnts and wspolnicy.pl. The largest number of issues was carried out by Beesfund, which organized 19 campaigns. Crowdway worked with 7 companies, and Find Funds worked with 6 entities. Emiteo, Navigator Crowd and Forc.ee ended the year with 3 campaigns each.

Two new crowdfunding platforms were launched during 2022: SkyAnts and Newcrowd. SkyAnts runs on the application of SkyCash, the company that owns the portal. Newcrowd, on the other hand, launched with two campaigns ported from the emissions.com platform. Despite the plans, the MyInvest platform had its launch postponed until 2023.

Figure 4 The issue value of crowdfunding platforms



Source: <https://zpf.pl/crowdfunding-udzialowy-w-polsce-raport-2022/>



In 2022, companies cooperating with the Beesfund platform raised the most capital, reaching PLN 7.2 mln. Slightly less, PLN 5.4 mln, was raised by companies cooperating with Find Funds. In turn, Emiteo and Navigator Crowd raised PLN 3.5 mln and PLN 3.4 mln, respectively. Campaigns on the Crowdconnect platform raised more than PLN 2 mln, Newcrowd raised PLN 1.6 mln, and Crowdway raised PLN 1.3 mln. Forc.ee and wspolnicy.pl platforms close the list with amounts of PLN 0.4 mln and PLN 0.05 mln, respectively. Data on capital raising by the SkyAnts platform was not made available.¹⁷

From the available information, it is not possible to conclude that CF platforms in Poland deal with project valuations. However, crowdfunding providers are obliged to provide the KNF with detailed information on their activities, financial situation and any events that may affect their crowdfunding activities or financial situation. If certain information requires it, the regulations allow for the obligation to submit the relevant documents. This information will be provided through both immediate and scheduled reports, with specific details and submission deadlines set out in the forthcoming regulation.¹⁸

It is not possible to ascertain from available sources whether project developers are monitoring and reporting any impacts.

Apart from the KNF, which conducts monitoring activities over crowdinvesting, there are no other institutions in Poland dedicated to providing support and assistance to investors and project owners. The scope of the KNF boils down to issuing permits for crowdinvesting services, monitoring the activities of crowdfunding platforms and maintaining a registry of entities.

1.7.2. Energy cooperatives

Energy cooperatives are voluntary associations of energy consumers and producers, who jointly declare and implement the goals of building energy independence. Thanks to this we can achieve additional benefits together.

The concept of an energy cooperative was introduced into Polish legislation in 2019 through an amendment to the Act on Renewable Energy Sources. As defined by this legal framework, an energy cooperative is a cooperative in accordance with the stipulations of the Cooperative Law and the Act on farmers' cooperatives (in the context of agricultural cooperatives). Its primary focus is on generating electricity, heat, or biogas exclusively for the internal consumption of the energy cooperative and its members.

Energy cooperatives have specific characteristics and regulations in Poland. They can be established in rural or urban-rural communes or in a maximum of three adjacent communes. Their operations are confined to the area covered by a single distribution system operator supplying electricity to cooperative members. The cooperative's operational area is determined by the connection points of its members to the distribution network, which operates within low and medium voltage networks. Energy cooperatives can have a membership ranging from three to 999 individuals or entities. The primary activities of these cooperatives involve the production of electricity, with a capacity not exceeding 10 MW, covering at least 70% (in next years it will be 40%) of their own needs and their members' needs annually. Additionally, they may engage in heat

¹⁷ <https://zpf.pl/crowdfunding-udzialowy-w-polsce-raport-2022/>

¹⁸ <https://millercanfield.pl/ustawa-o-finansowaniu-spolecznosciowym-dla-przedsiwziec-gospodarczych/?lang=en>



production with a maximum thermal power of 30 MW and biogas production with an annual capacity not exceeding 40 mln m³. Additionally, these cooperatives can only be established by natural or legal persons.¹⁹

On 1st October 2023, an amendment to the Renewable Energy Sources Act came into force, which introduced certain facilitations for the establishment of energy cooperatives.

The amendment introduces significant changes to the law on energy cooperatives, primarily by eliminating the limitation on the number of members to 1,000 people. In addition, energy cooperatives are given preferential connection conditions, and the energy company transmitting or distributing electricity cannot refuse connection conditions for a renewable energy source installation that will generate energy within the cooperative. The definition of cooperatives has also been extended to include biomethane generators.

Until recently, there were only two such entities in the register kept by KOWR (National Support Centre for Agriculture), located in the Mazowieckie and Śląskie provinces. In the first months of this year, four new entities were added (in October there were 20 of them). This development is the result of the RENALDO programme, which aims to establish experimental energy cooperatives in selected municipalities in the Podlaskie and Kujawsko-Pomorskie voivodeships. The programme, which had run until the end of March this year, was initiated at the request of the Ministry of Agriculture and Rural Development and was funded entirely by the European Union and the German Federal Ministry for Economic Affairs and Climate Protection.²⁰

Energy cooperatives have existed in their current form for two years, but there is still a lack of widespread awareness of them, both among individual consumers, entrepreneurs and local authorities. This organisational form is still poorly known and the benefits of its creation are not known to many. In addition, there is a paucity of specialist knowledge regarding the establishment and operation of energy cooperatives, including knowledge of the various regulations, especially in the area of accounting for the energy generated. Setting up a cooperative is a complex task, requiring an understanding of many legal and operational issues.

From the information available, it cannot be assumed that there is standardised documentation that can streamline the procedures for setting up and operating energy cooperatives. The lack of ready-made solutions mentioned earlier in the document is just an example of this.

There is also a government programme called Doradztwo Energetyczne (Energy Advise), which operates from a nationwide network of professional Energy Advisors. They provide advisory services throughout Poland, providing free information and consultation on low carbon economy, energy efficiency and renewable energy sources. It does not focus only on energy cooperatives, but is at the moment the only programme open to the general public that can provide any kind of answers and technical support to people interested in energy cooperatives.²¹

Additionally, there are some private companies that provide technical support and coordination services for energy cooperatives.

¹⁹ Economic Conditions for the Development of Energy Cooperatives in Poland, Kostecka-Jurczyk Daria, Marak Katarzyna, Struś Mirosław, 2022

²⁰ <https://swiatoze.pl/spoldzielnie-energetyczne-ciesza-sie-coraz-wiekszym-zainteresowaniem/>

²¹ <https://www.gov.pl/web/klimat/doradztwo-energetyczne>



1.7.3. Energy communities

Legal mechanisms for those interested in collective energy generation are expanding beyond the Renewable Energy Sources (RES) Act in Poland. Following the amendment from June 2023, a novel framework, namely civic energy communities and civic energy communities operating in the field of RES, is introduced in the Energy Law. These entities, aligning with EU directives like market and RED II, can take diverse legal forms such as cooperatives (including housing and farmer cooperatives), housing communities, specific types of associations, or partnerships (excluding general partnerships). Their activities encompass electricity production, trading, storage, aggregation, distribution, as well as involvement in electromobility and energy efficiency initiatives. In contrast to energy cooperatives, these communities can be established in urban areas, and the participation criteria are broader, allowing both legal and natural persons to become members in the case of cooperatives. Despite these advantages, the downside of this approach is the potential for confusion, as the proliferation of different cooperative types with varied legal scopes and regulations may pose a significant barrier for interested parties to comprehend the legal landscape of civic energy options. To genuinely empower citizen-led communities, it is crucial to facilitate easy access to legislation and ensure simplicity in choosing a suitable form of citizen energy without the need for legal expertise.

The citizen energy community will be limited to the operational area of a single distribution system operator (DSO), as per the rationale of the proposed law, aiming to fulfil the objectives of the RED II directive.

The RED II directive also stipulates the independence of energy communities from existing energy enterprises. Yet, the legislative amendment to the Energy Law does not unequivocally guarantee compliance with this directive's objective, as it allows various entities, including professional energy companies, to control energy communities in the RES sector.

It is hard to talk about the existence of a Polish energy communities market. Due to the fact that it is a relatively new creation, it is impossible to determine the size, the biggest players and the trends of the sector. It is expected that the first conclusions regarding this market will be drawn in the coming years, when the first batch of energy communities that comply with new Polish amendments of law will begin to appear.

From the available sources, it is not possible to conclude that there are any mechanisms or standardised documentation regarding the establishment of energy communities in Poland. It can be assumed that it will emerge as part of the formation of the market and the investment of more and more people.

However, there is a government programme called Doradztwo Energetyczne (Energy Advise), which operates from a nationwide network of professional Energy Advisors. They provide advisory services throughout Poland, providing free information and consultation on low carbon economy, energy efficiency and renewable energy sources. In the future it will probably be able to provide people that are interested in energy communities with technical support and some answers regarding this sector.



List of figures

Figure 1 Sample scheme for issuing Polish green bonds:	18
Figure 2 Number of investors in Poland (in thousands).....	31
Figure 3 Length of the campaign (in days).....	31
Figure 4 The issue value of crowdfunding platforms	32

