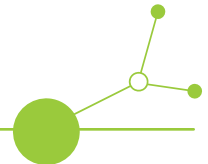


D.3.1.3 Individual gap analyses for innovative energy financing models, standards and investment procedures



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A. Introduction

The central Europe region faces a very uneven energy transition due to unbalanced economic development, distribution of technology and finance flows. Public and private buildings account for 43% of the final energy consumption in the 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 it 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.

The purpose of this document is to determine the market maturity of each Central European pilot country (Austria, Croatia, Germany, Italy, Poland) and Slovenia by assessing the financing needs of local energy project developers, availability of green investments evaluation criteria with performance tracking methodology for investors and the existence of citizen financing models. The analysis focuses on current market gaps and solutions for deep renovation of buildings (public and private), including access to finance, risk perception, viability and policy framework gaps. A stronger emphasis has been placed on innovative financing models that involve private investors and citizens. The results of this study will be presented to key stakeholders during roundtable sessions, and the results of this gap analysis, in combination and with studies will present inputs for the piloting action: development of green financing methodology, tools and financing models.



B. Country gap analysis

1. Poland

The Polish financial market for energy projects can be considered very stable and developed, although 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. The innovative financing models primarily revolve around bonds, fiscal instruments, and loans (Figure 1).

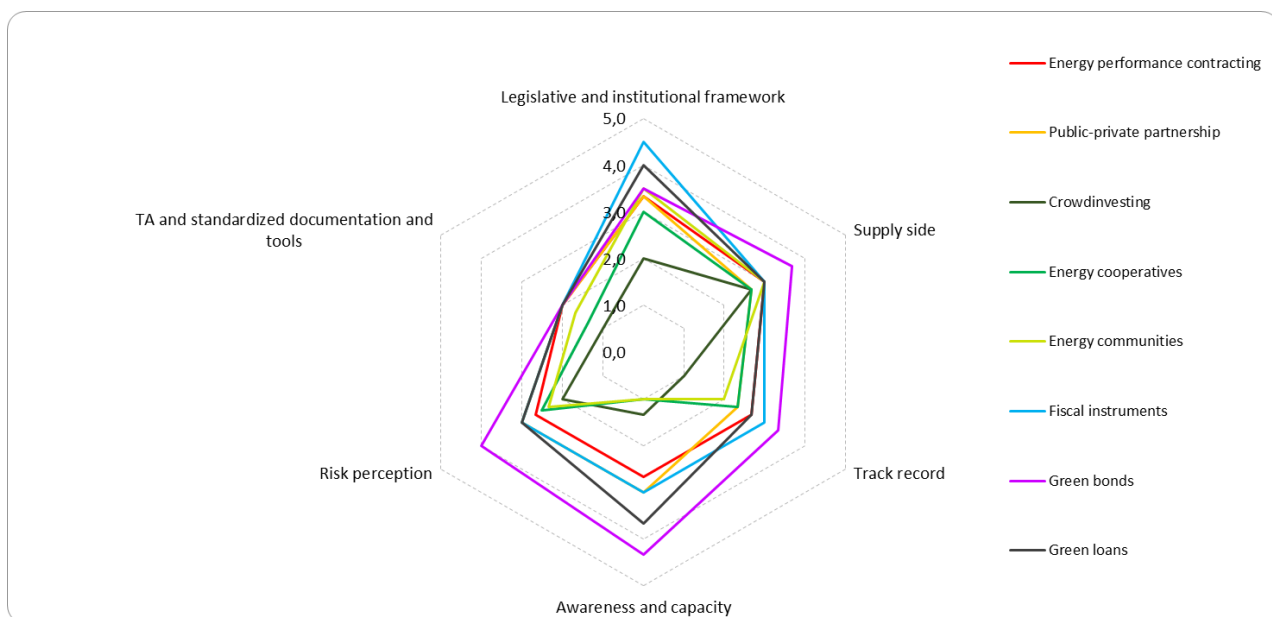


Figure 1: Market assessment of different financial instruments in Poland through a spider diagram

The gap assessment of each financial model and instrument was conducted in the following chapters.

1.1. Fiscal instruments

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.

In 2022, the money market for short-term debt instruments was the largest segment of the short-term debt market. 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, 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.

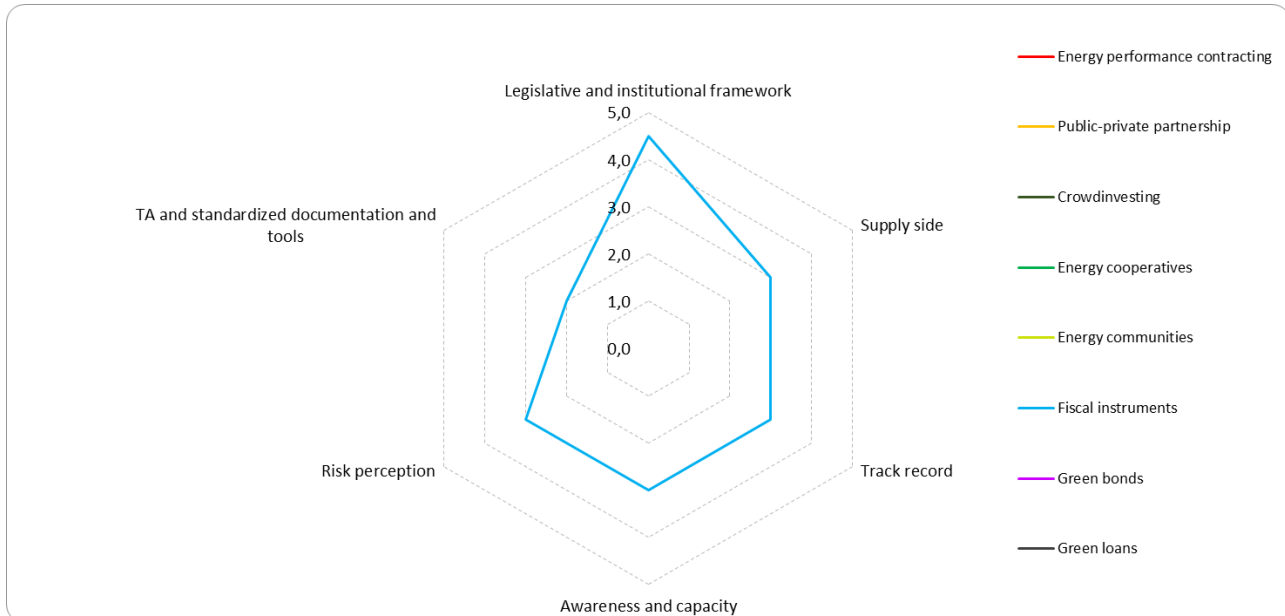


Figure 2: Fiscal instruments - assessment of the market status

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.

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.

Based on the current situation, the public support schemes based on the fiscal incentives are concentrated on the private households. The existence of such instruments may fill in the gap in the financing needs of the private households and is a valuable extension to other support schemes covering the needs.

1.2. 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].

Poland was the first country in the world to issue green bonds worth 750 mln euros in 2016.

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.

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.

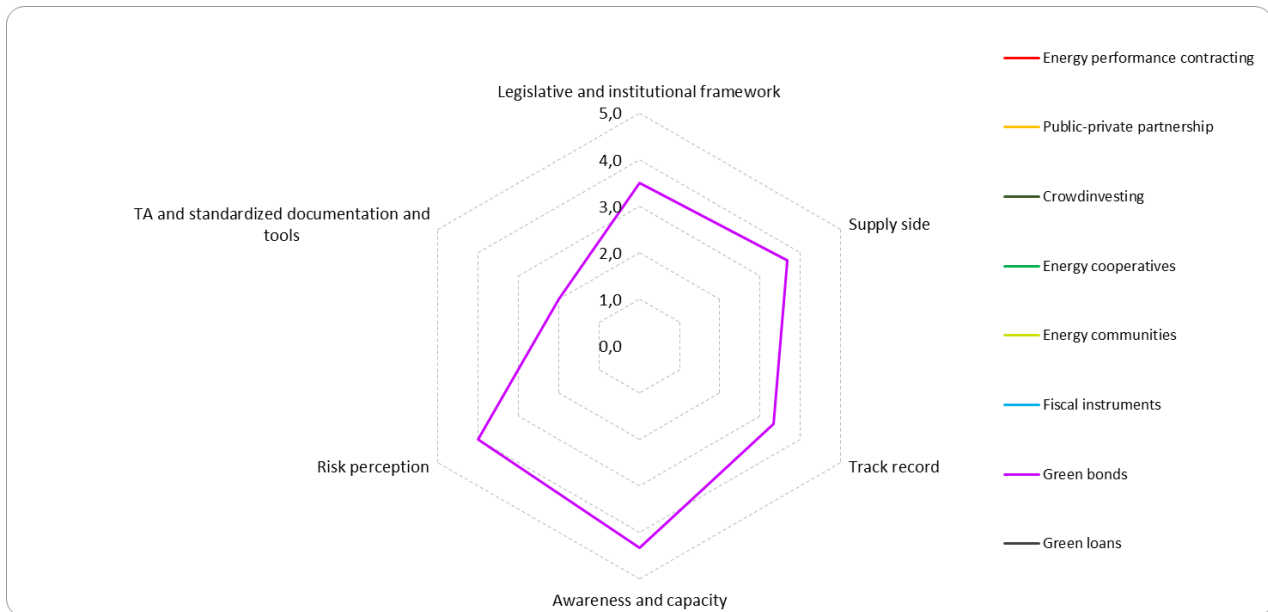


Figure 3: Green and climate bonds - assessment of the market status

The high unit costs associated with issuing green bonds are a major barrier for corporate issuers. To mitigate these costs, fiscal incentives are suggested, which may include relief for the issuer (deductibility of eligible issuance costs) or relief for the investor (exclusion or reduction of taxation of interest income from green bonds). Currently, tax incentives for green bond issuance mainly operate outside the European Union. Reliefs, especially for issuers, are recommended to directly affect financing costs.

1.3. Green loans

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.

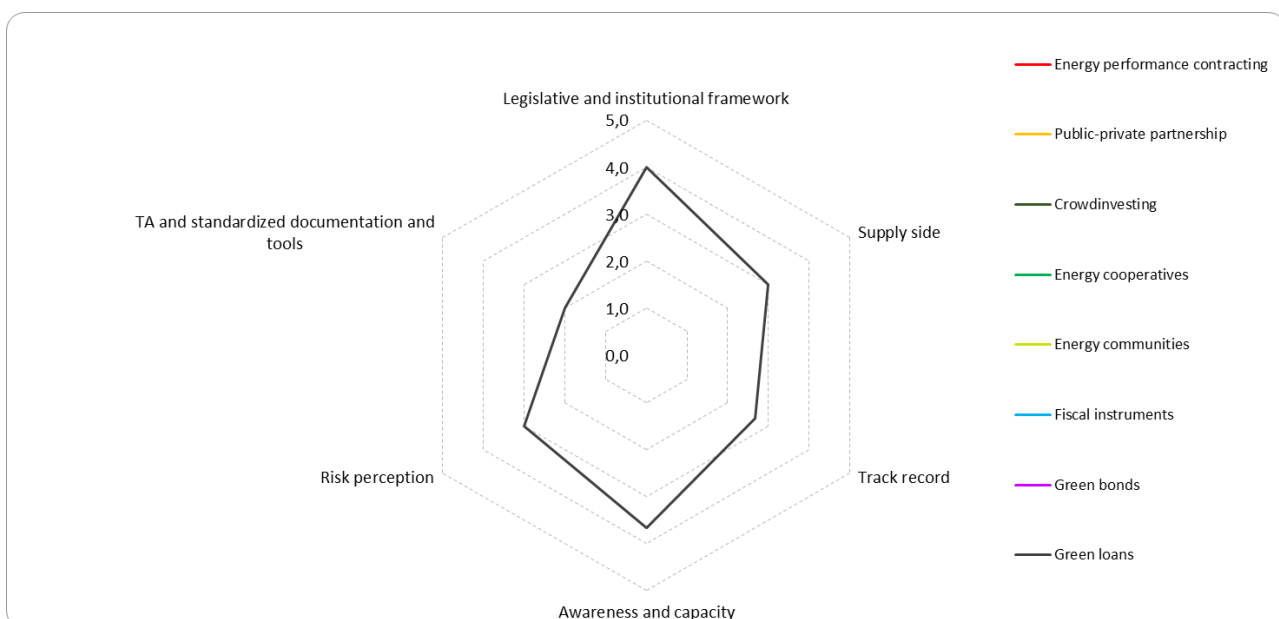


Figure 4: Green loans - assessment of the market status



In Poland, green loan services vary depending on the institution, the type of service and the needs of the client. It is impossible to state unequivocally what should be on offer from each lender.

It can be assumed that with increasing pressure on the decarbonisation and green actions, the portfolio of traditional offer of loans will concentrate more on the green loans. Therefore, the proposals may tend to be more competitive as complying with generally-supported business areas.

1.4. Energy service companies (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.

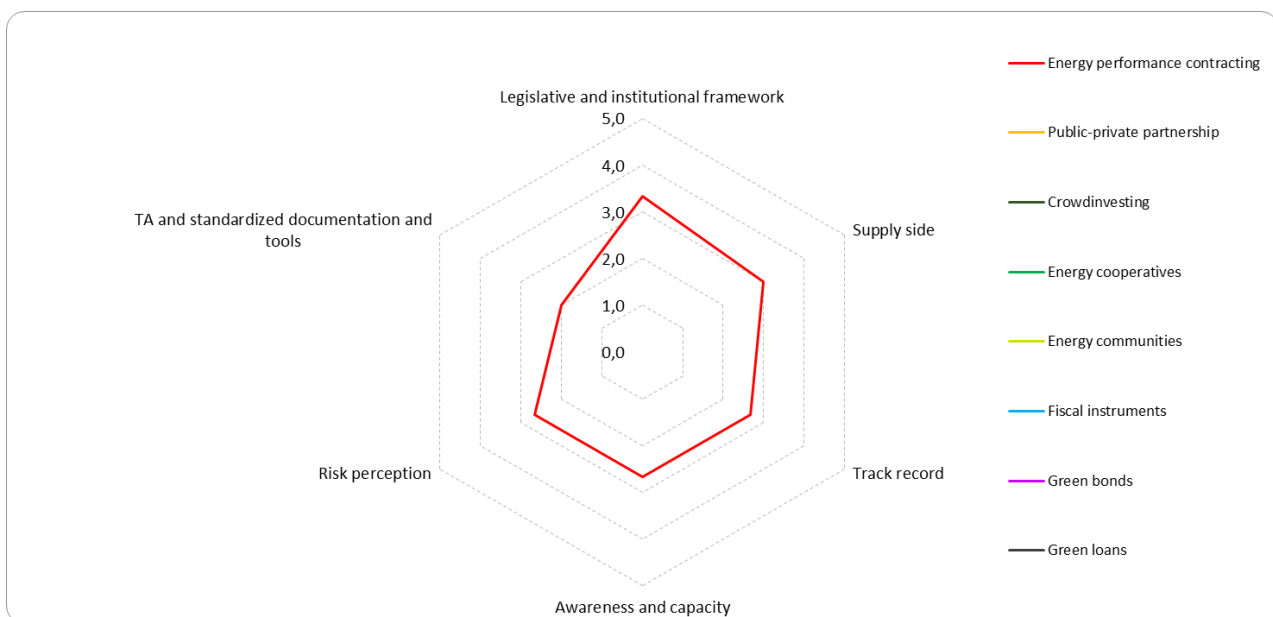


Figure 5: EPC models - assessment of the market status

The ESCO market in Poland is still in its early stages of development, with many entities lacking sufficient knowledge about this investment model.

Various barriers have been identified in the development of the ESCO market in Poland, including insufficient promotion of energy services, mistrust, and incompatibility with other financial systems. Recommendations have been made to address these barriers, such as the creation of dedicated funds to support the use of the ESCO formula and central administration support in formalizing ESCO business.

1.5. Public-private partnership

Energy efficiency has been a favourite of public entities in Poland, with 25 PPP contracts already signed to date (2022).



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.

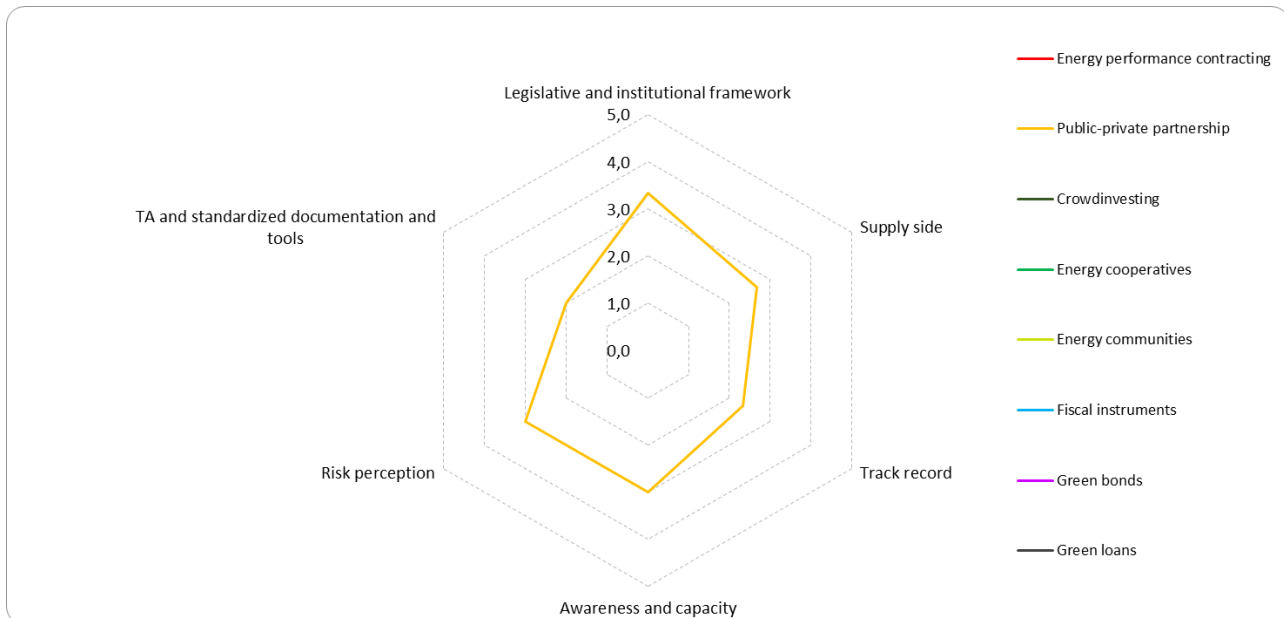


Figure 6: PPP models - assessment of the market status

There is great PPP growth potential in many sectors in Poland, and it is high time to realize this potential by introducing new procedures for selecting private partners and signing new PPP contracts. High-profile success stories, addressing the ever-growing needs of public authorities and users of public infrastructure, and the expectations of potential private partners implementing public projects can help Poland's PPP market to come into a path of intensive development.

1.6. Citizen-led initiatives

1.6.1. Crowdfunding

In November 2021, Poland introduced the ECSP Regulation, which set out the requirements to be met in order to provide crowdfunding services.

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.

There were 10 active crowdfunding platforms in 2022. Crowdfunding providers are obliged to provide the KNF (National Financial Supervision) with detailed information on their activities, financial situation and any events that may affect their crowdfunding activities or financial situation.

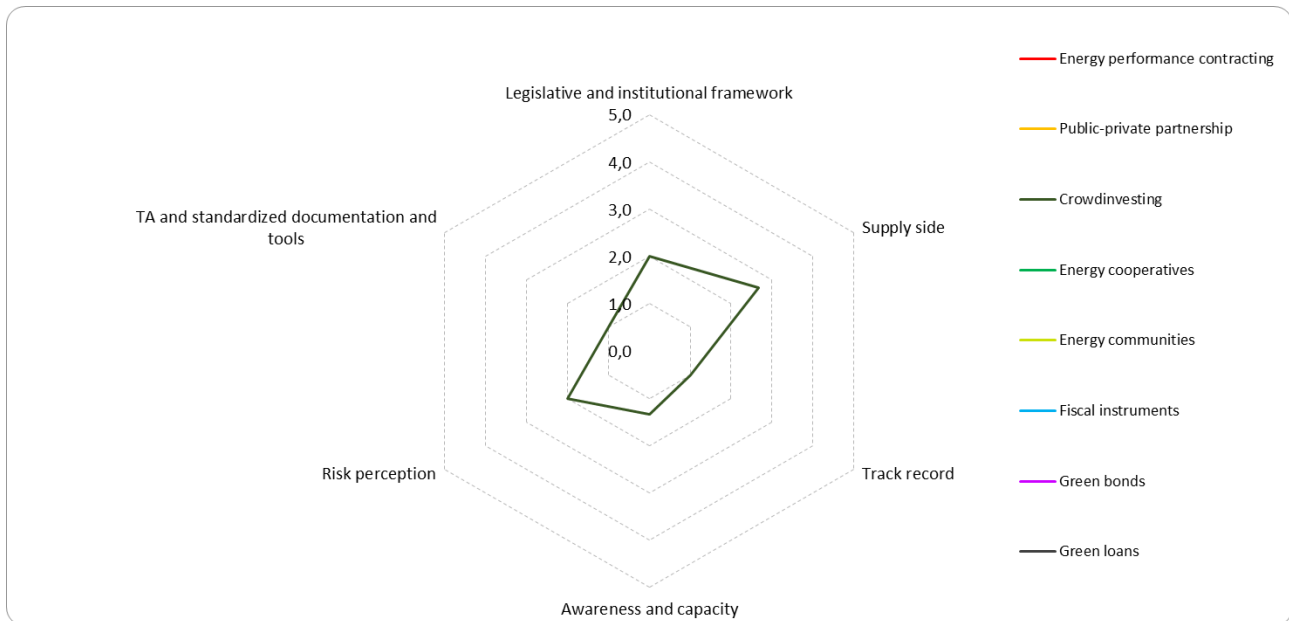


Figure 7: Crowdfunding - assessment of the market status

Crowdfunding is a niche instrument with a very slowly growing potential for supporting the energy effectiveness processes in Poland due to the scale of necessary financial resources. Nevertheless, it might be useful in some limited cases.

1.6.2. Energy cooperatives

The concept of an energy cooperative is relatively new and was introduced into Polish legislation in 2019 through an amendment to the Act on Renewable Energy Sources.

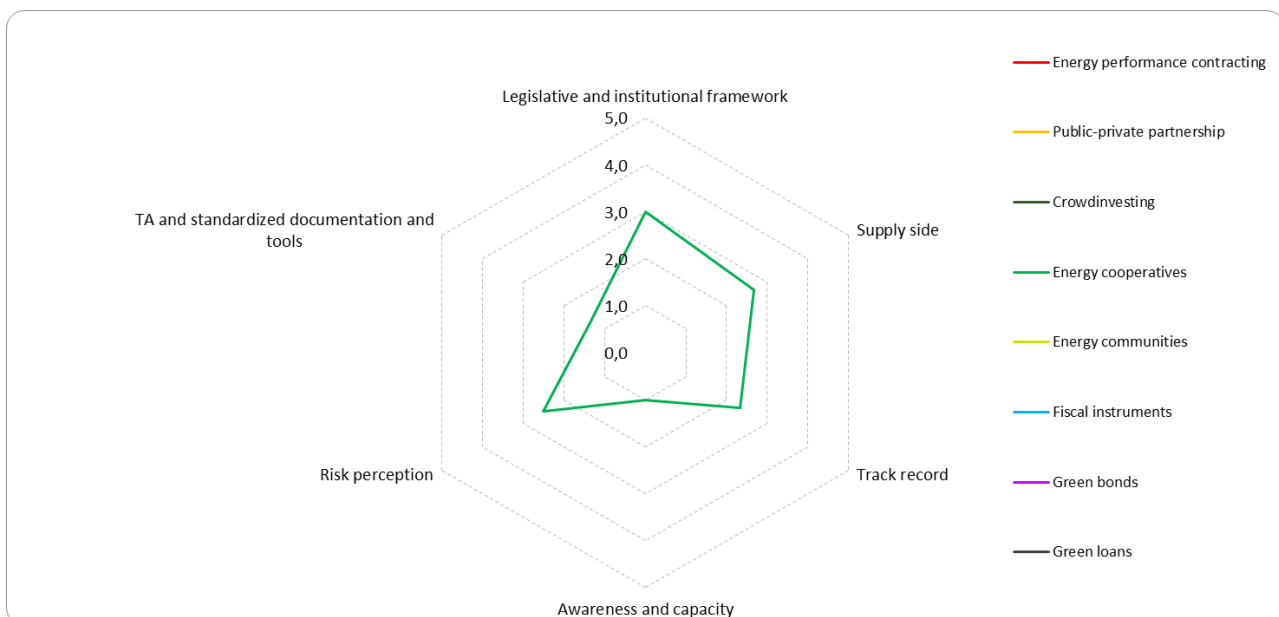


Figure 8: Energy cooperatives - assessment of the market status

However, there are some provisions that raise potential difficulties, such as the requirement that the total installed electrical capacity of all renewable energy installations does not exceed 10 MW and that their generation efficiency covers at least 70% of the needs of the cooperative and its



members annually. In addition, the cooperative must enable at least 50% of the total electricity supply to end users to be covered every hour.

Although the amendment is a step in the right direction, eliminating some restrictions, there are still areas for improvement. The restriction of the possibility to sell energy to external parties and the lack of possibility to establish energy cooperatives in cities are issues that remain unresolved.¹

Currently, there is a lack of ready-made solutions, such as model contracts, which makes the process of setting up and running a cooperative difficult. The value of sharing experiences in this area is crucial, and there is now a need for a forum to share knowledge and experiences between different energy cooperatives and stakeholders, both at the individual and local level.²

1.6.3. Energy communities

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.

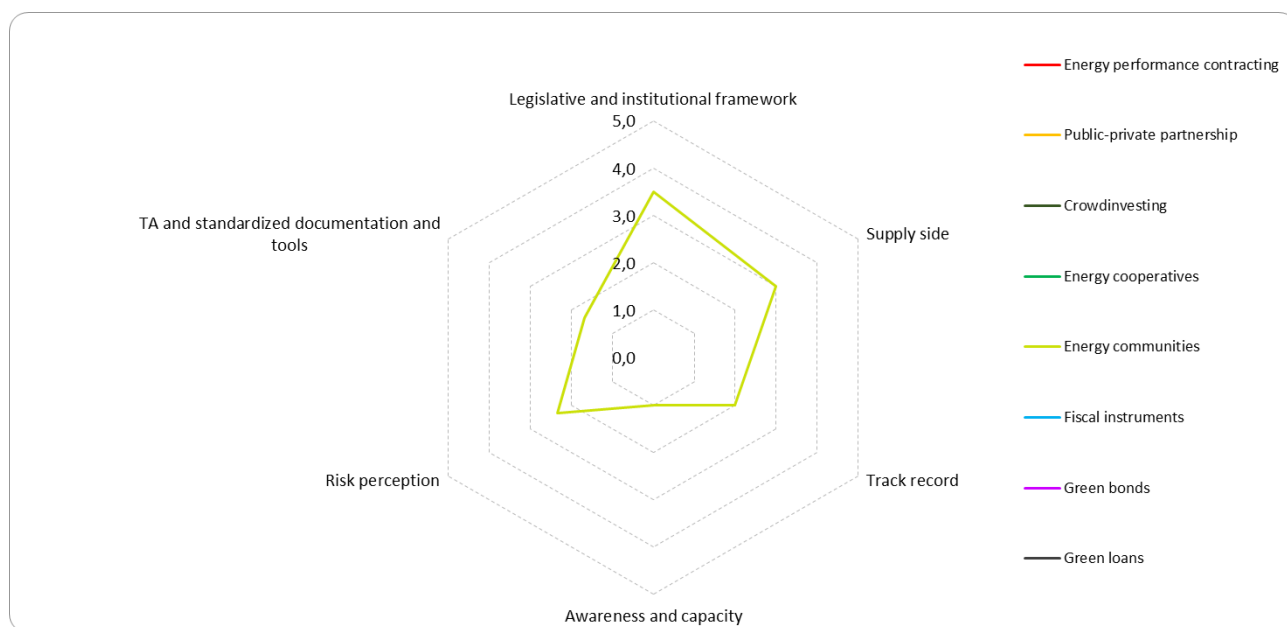


Figure 9: Energy communities - assessment of the market status

There is a notable disproportion in attention given to different aspects in the new regulations. While technical issues regarding the URE President's registry (Office for Energy Regulation) for citizen energy communities receive significant coverage, the crucial matter of preferential energy billing for such communities is superficially addressed. This raises doubts about the attractiveness of this new form of energy for entities considering the establishment of a community.

¹ <https://globenergia.pl/plus/zmiany-w-prawie-spoldzielni-energetycznych-czy-bedzie-ich-wiecej/>

² <https://smoglab.pl/czym-sa-spoldzielnie-energetyczne-spoldzielczosc-energetyczna/>



1.7. Conclusion and recommendations for potential piloting actions

In Poland, there are various opportunities for financing activities related to the energy efficiency modernization of buildings, encompassing both the private and public sectors. Below, we presented several aspects regarding financing instruments in this area.

It is worth emphasizing that the effective utilization of these instruments often requires an understanding of available options, as well as meeting specific criteria and standards related to energy efficiency.

In the context of further developing instruments supporting energy efficiency in buildings in Poland, consider the following aspects:

- **Standardization of documentation:** To facilitate application processes and increase transparency for potential beneficiaries, it is crucial to focus on the standardization of documentation. Uniform guidelines and standards can contribute to the efficiency of application processes and facilitate access to various sources of financing.
- **Community financing models:** Developing and promoting financing models based on communities can be an innovative direction. Community approaches to investments in energy efficiency, especially in the case of multi-family housing or neighbourhoods, can contribute to the sustainable development of local communities.
- **Support for the private sector:** Developing financial instruments that attract investments from the private sector can be key. Collaboration with private companies and investors can increase the availability of financial resources for energy efficiency projects.
- **Education and awareness:** It is essential to focus on educating society and raising awareness of available financing models. Encouraging participation in programs, providing information on the benefits of energy modernization, and sharing details about available instruments can accelerate the adoption of these solutions.
- **Measures for climate change adaptation:** In the context of climate change, it is important to explore financing possibilities for adaptive actions, such as increasing the resilience of buildings to extreme weather events. Supporting adaptive projects should be an integral part of the energy efficiency financing strategy.

Taking the above into consideration, attention should be given to the further development of the following financing instruments in the realm of building energy efficiency:

- **Investment funds for energy efficiency:** Supporting the development of investment funds specializing in energy efficiency projects can create a new source of capital for both institutional and individual investors.
- **Green Bonds:** Expanding the market for green bonds can contribute to obtaining capital for energy modernization projects. These financial instruments allow investors to allocate funds to projects with a positive environmental impact.
- **Credit with preferential terms for businesses:** Developing credit programs with favorable terms for businesses interested in energy modernization of their facilities can encourage investments in energy efficiency on a broader scale.



- **Ecological leasing programs:** Introducing special leasing programs that allow businesses and property owners to benefit from modern energy solutions without incurring significant upfront costs can be an attractive solution.
- **Community investments:** Creating financial instruments that support community investments in energy efficiency, especially in the case of multi-family housing, can assist in the development of projects with significant social impact.
- **Tax incentives:** Exploring the possibility of introducing tax incentives for businesses and individuals investing in energy efficiency can provide an additional financial stimulus.

The development of these financial instruments should go hand in hand with appropriate regulations and promotion to create favourable conditions for investors and beneficiaries, fostering sustainable development in the energy efficiency sector in Poland.



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