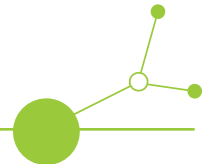


# D.3.1.3 Individual gap analyses for innovative energy financing models, standards and investment procedures



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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 which 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 analyses, 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. Austria

Austria has a solid financial sector with high liquidity. For investments in the building sector in general, and in building renovation in particular a lot of different financial instruments are available, largely depending on the building segment.

In the (multifamily) residential sector, financing of renovation projects suffers from limiting regulations in housing laws, from the investor-user-dilemma and from lacking affordability at the side of homeowners. Generally, financing of renovations is easier in cooperative buildings, whereas in buildings that fall under the rental law the investors have difficulties to apportion cost to the tenants. The condominium sector usually suffers from insufficient repair reserves which makes financing of deep renovation difficult.

In the private sector, professional real estate companies usually do not have difficulties to raise financial means for their investments.

Public building owners, generally have good access to financial sources, but they are tied by debt limits (Maastricht criteria). This is particularly true for municipalities.

For most of the deep renovation projects that are implemented, public subsidies play a crucial role, meaning that they are an important driver behind renovation decisions (see below).

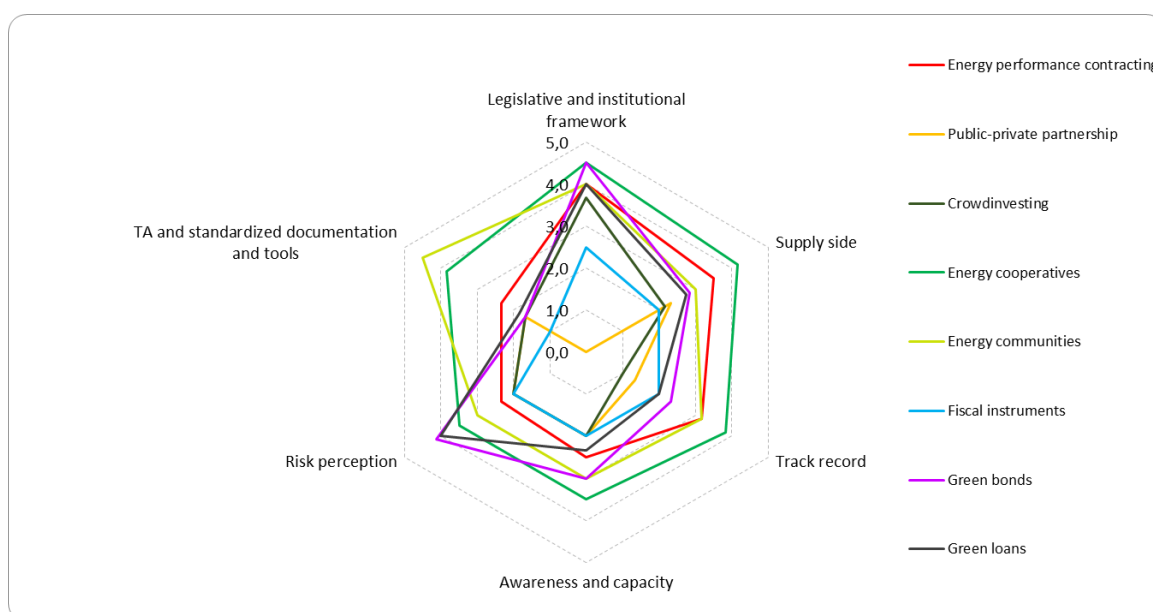


Figure 1: Market assessment of different financial instruments in Austria through a spider diagram

The politically desired refurbishment rates are currently not achieved in Austria (depending on the definition of the term): according to the government program, refurbishment rate should increase to 3%, currently, it averages about 1.7% across all building segments.



## 1.1. Fiscal instruments

The Austrian fiscal system is largely centralised, with a well-developed system of public subsidies. Consequently, there are hardly any further fiscal incentives for the implementation of EE or renovation measures. However, there are two possibilities for tax deductions for individual persons in the form of the *Tax Deductions for Building Renovation and Heating System Replacement*, and the *Eco-Special Expense Flat Rate*. The *Tax Deductions for Building Renovation and Heating System Replacement* allows for expenditures for the thermal-energetic renovation of buildings and the replacement of a fossil heating system with an eco-friendly heating system ("boiler replacement") to be considered as special expenses for tax purposes. This is done through an *Eco-Special Expense Flat Rate*. The tax benefit is applicable only for expenses related to the renovation of privately used buildings or parts of buildings, such as single-family houses, row houses, and apartments. Business or rental properties are not eligible.

The *Eco-Special Expense Flat Rate* can be claimed for specific funding areas within the Climate Protection Initiative (KPC), including: boiler replacement for private individuals, thermal building renovation for private individuals, transition from oil and gas for businesses - heat from renewable resources, and thermal building renovation for businesses.

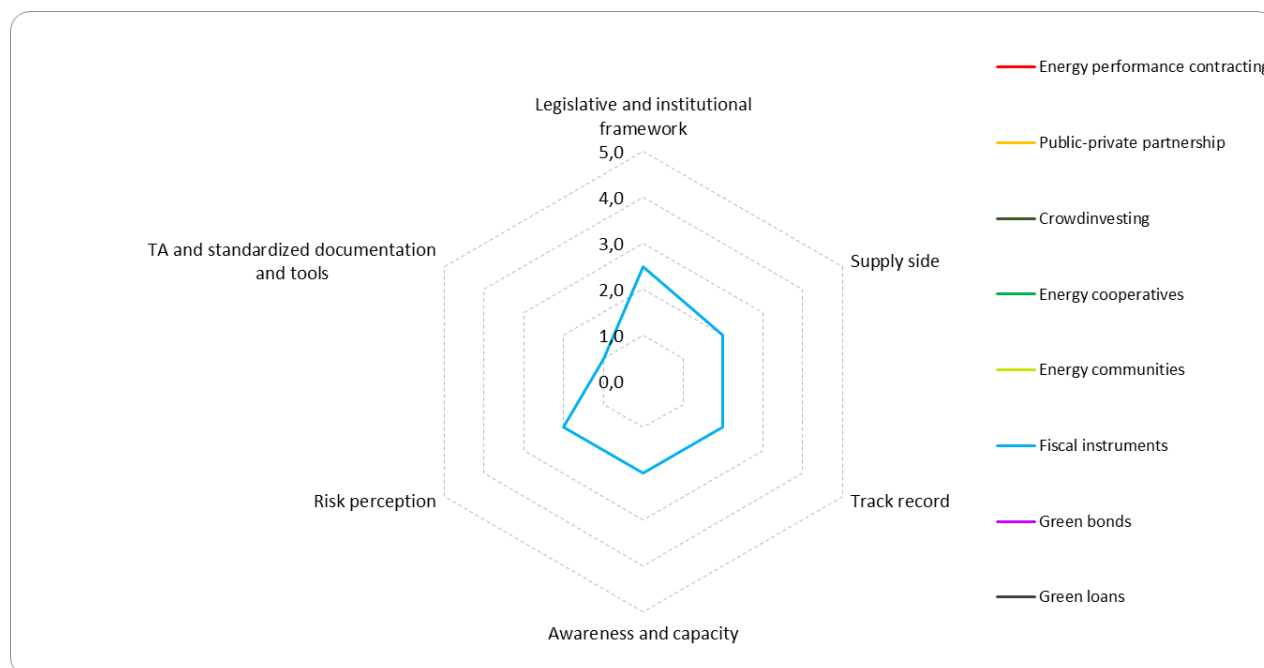


Figure 2: Fiscal instruments - assessment of the market status

**Legislative and institutional framework:** The fiscal system in Austria is more or less completely centralised, meaning that although there are measures supporting energy efficiency and renewable energy both respondents to the spider diagram scored the quality and work of regulatory bodies in Austria fairly poorly. However, the spider diagram also reflected that Austria is a fiscally stable country, meaning that the relevant legal frameworks are generally stable.

**Supply side:** With regards to supply there was a consensus among respondents that there is low fiscal and budgetary capacity for regional and local authorities to implement fiscal instruments



which would support energy efficiency and renewable energy projects from the private sector. Moreover, when the impact and competitiveness of fiscal measures were considered relative to standard support schemes, e.g. grants and financial instruments, then there was a consensus that these fiscal measures would be low impact with a high establishment cost for public authorities.

**Track record:** Fiscal instruments have less of a track record in Austria as there are very limited examples of fiscal instruments being used as a mainstream solution for supporting the energy renovation of private buildings. This results in a limited public perception of the track record of fiscal instruments as there is insufficient data with which to compare the impacts of fiscal instruments relative to their establishment costs.

**Awareness and capacity:** Broadly speaking the awareness and capacity of fiscal instruments in Austria is low, this means that there is low interest and awareness from public authorities as to the possible fiscal instruments which could be implemented to support energy efficiency measures for private buildings. Consequently, there is very low capacity from regional and local public authorities to set up and monitor the effectiveness of fiscal instruments in these contexts. All of which culminates in a low level of awareness for both private companies and individuals with regards to the existence and potential of fiscal instruments for supporting deep renovations of buildings.

**Risk perception:** There is a perception of fiscal instruments as risky due to low knowledge which limits the willingness of local and regional public authorities to introduce fiscal instruments for supporting energy efficiency measures for private buildings and households.

**Technical assistance and standardised documentation and tools:** The availability of experienced market facilitators that provide technical assistance for public authorities which want to implement fiscal instruments, and the availability of tools for calculations and monitoring methodology of impact of fiscal instruments in Austria are non-existent.

**Conclusions:** As it currently stands, the use of fiscal instruments for the introduction of energy efficiency measures in private households in Austria are rather limited. As a result, there is not a convincing or established track record in Austria to encourage the implementation of fiscal instruments which is also complemented by an overall lack of awareness and capacity both among the general public, and local and regional authorities. This also corresponds to a higher risk perception which is not alleviated by the provision of technical assistance or standardised documents, as these are not available.

## 1.2. Green and climate bonds

In 2022 Austria introduced a Green Bond Framework aligned with the 2021 version of the Green Bond Principles (GBP) published by the International Capital Market Association (ICMA). Consequently, Austria will allocate an amount equal to the net proceeds from issuing Green Securities to (re)finance government expenditures that meet the environmental eligibility criteria. The eligibility criteria align with the economic activities and environmental objectives expounded in the EU Taxonomy 17 and the UN Sustainable Development Goals (SDGs). Oversight for the allocation of these funds is provided by the Green Bond Board, comprising an interministerial Core



Working Group. Thus far Austria has issued 2 Green Bonds with a combined volume of EUR 7 bn. Alongside this the Republic of Austria has issued its inaugural Austrian Treasury Bill (ATB) in green format.

Austria has developed an ESG Bond Market with 101 bonds being listed as ESG bonds on the Vienna Stock Exchange, however this represents fewer than 1% of all the bonds traded on the Exchange, making Green Bonds a negligible share of the market as a whole. Thus far issuers in the Vienna ESG segment have raised a total of approximately EUR 20 billion in financing for the sustainable transformation.

There is not currently standardised documentation in Austria for issuing and monitoring green bonds in the private sector. Although large commercial banks may develop their own internal Sustainability Bond Frameworks. However, for bonds to be classified as ESG bonds on the Vienna Stock Exchange they must align with the respective ICMA Principles and be confirmed via an external review.

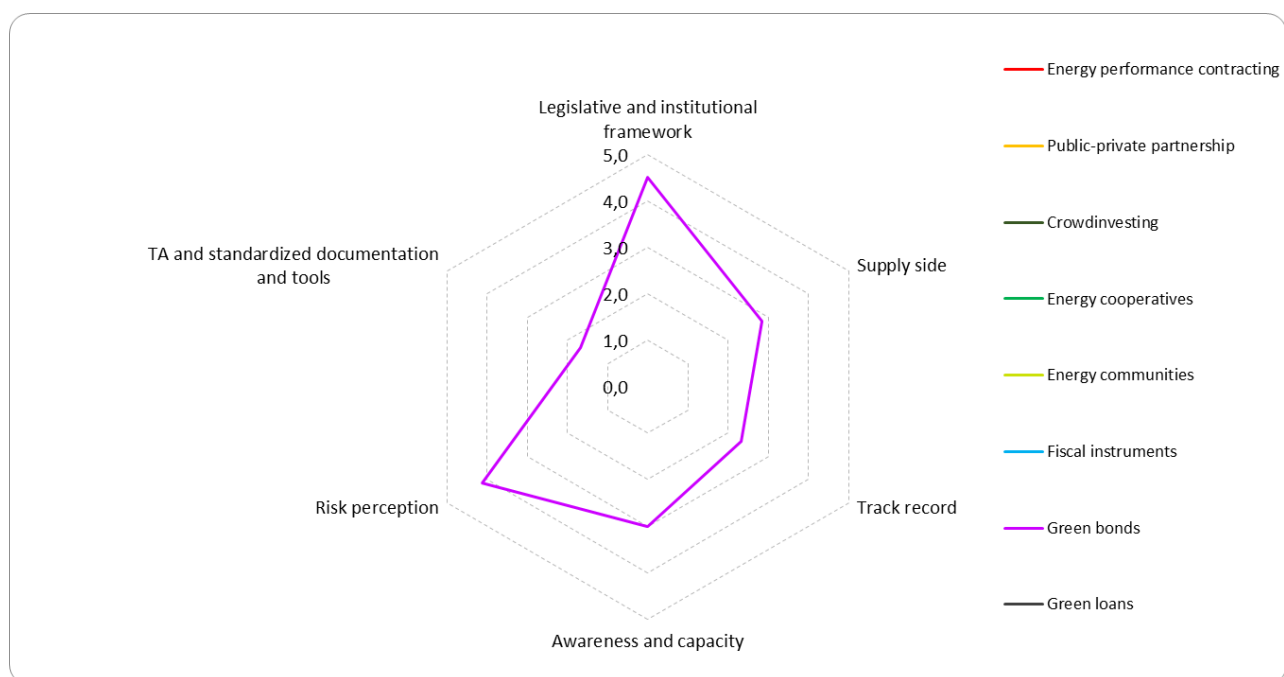


Figure 3: Green and climate bonds - assessment of the market status

**Legislative and institutional framework:** With regards to green bonds the legislative landscape is well developed. Green bonds are well defined, and most sectors are able to operate within this this legislation successfully. Moreover, this legal background and the broader financial market are highly stable, meaning that fluctuations due to legal changes are unusual.

**Supply side:** The supply side situation with regards to green bonds is more complicated. When it comes to larger and more experienced companies and institutions that would be capable of developing a portfolio of green projects for green bond emissions the development of a pipeline is not easy, and usually the pipeline hardly includes any deep renovation projects. However, green bonds are equally competitive when compared to traditional models such as own funding and loans. This culminates in questions regarding the availability of finance, where respondents had



different answers, however there was a broader consensus that there was medium to good interest from financial institutions in green bonds.

**Track record:** Although there is interest and some experience in green bonds in Austria these are still a relatively new financing mechanism, which means that their track record remains fairly uncertain. In particular, green bonds are not yet an established financial instrument so are not used as a mainstream solution for funding energy efficiency measures and building renovations. With regards to the track record and reputation of companies behind green bonds, this was scored fairly low, however, this also reflects that not enough energy efficient renovation of buildings have occurred using funding from green bonds. This is reflected in our estimates of the market share of green bonds acting as a financing instrument for EE and RES which we estimate to be at substantially under 10%.

**Awareness and capacity:** We suppose that in Austria there is an average understanding and awareness level from public and private institutions on green bond instruments and how they work. This is complemented by a good awareness level in financial institutions regarding the preparation of green bond framework and the overall issuing process. However, despite this the capacity of project developers to realise a large number of EE projects using green bonds remains low.

**Risk perception:** Risk perception is not an area of particular concern when it comes to green bonds, the perception of the risks of green bonds from the public authorities and financial institutions is low. This is also the case for private investors which translates into a high willingness to invest from private investors. All of these factors ultimately mean that the cost of capital in the form of green bonds is good, with one respondent indicating that it is the same as the average interest rates for the sector, and the other suggesting that it may have slightly below average market interest rates.

**Technical assistance and standardised documentation and tools:** In Austria less infrastructure has been developed around technical assistance, standardised documentation and tools for green bonds. This is evidenced by there being few technical assistance providers available, no grant funding for project preparation costs and finally very limited availability and existence of standardized documentation with methodology, tools for assessment of potential projects and guidelines on how to develop the green bond framework and prospectus.

**Conclusions:** Green bonds are clearly an applicable tool in Austria, although some are already on the market, they are currently oversubscribed, from this we are able to infer that there is a desire from a broad category of investors for the volume of green bonds in Austria to be increased. This is reflected by a broadly high awareness of green bonds across diverse categories of investors and a very positive risk perception. Moreover, Austria would be well positioned for an increase in green bonds, as a solid legislative and institutional framework already exists. The supply side experience in Austria varies and there is certainly scope for the pipeline for experienced companies and institutions to increase their pipelines to meet projected demand. This being said, the track record for green bonds in Austria is still uncertain as there have not been extensive enough trials of this instrument. In particular, one area into which Austria could invest to increase the potential of green loans is technical assistance and standardisation of documentation and tools, as this could be useful for supporting further developments. It is also significant to note that although green





bonds have been a fairly successful instrument in Austria, their application to deep renovation of buildings in particular is virtually unheard of.

### 1.3. Green loans

Austria has issued 2 green loans with a total combined value of EUR 100 million. These loans will come to maturity in 2030 and 2040 respectively. These loans may be used to finance eligible green expenditures in 8 categories: clean transportation, renewable energy, energy efficiency, pollution prevention and control, environmentally sustainable management of living natural resources and land use, terrestrial and aquatic biodiversity, sustainable water and wastewater management and climate change adaptation. Of this financing over half has gone to supporting green transportation and by far the least has gone to energy efficiency.

Within the private sector sustainability has become increasingly important culminating in specialised banks that consider sustainability within their deposit and lending operations, contributing 2.1 billion euros to the total of sustainable investments in Austria.

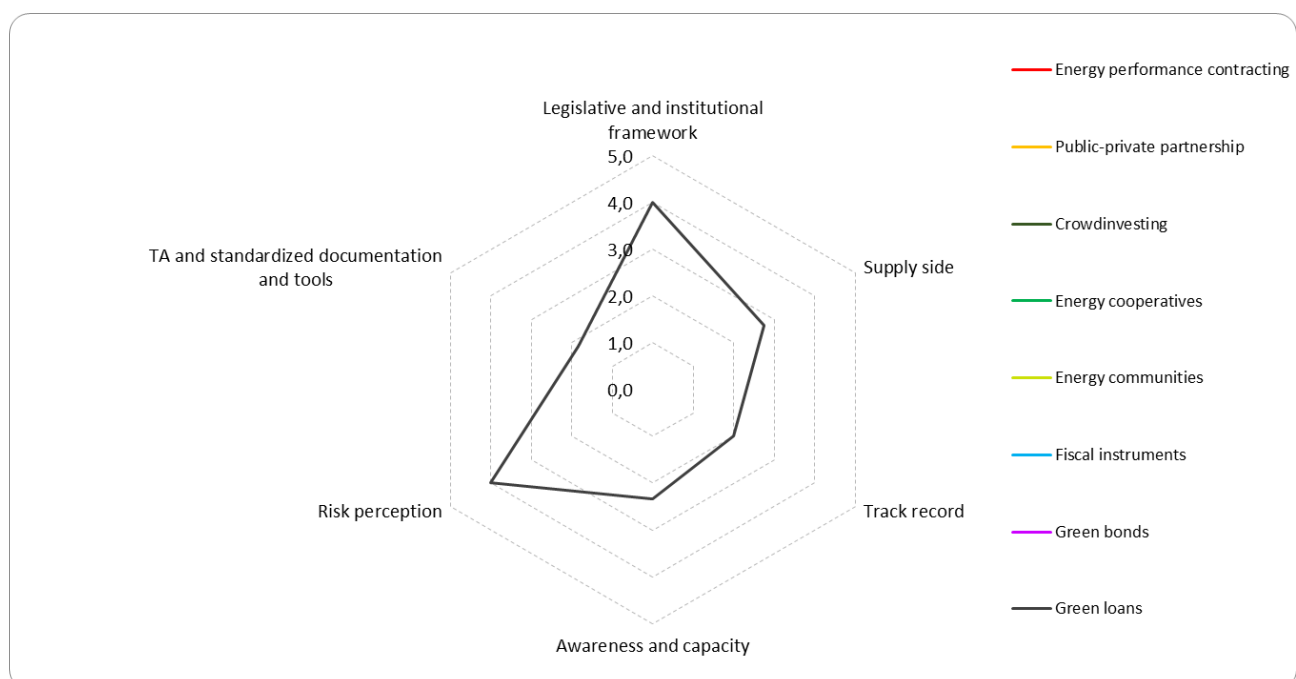


Figure 4: Green loans - assessment of the market status

**Legislative and institutional framework:** In Austria the legal stability of market for green loans and ESIF financial instruments is fairly stable with the market showing consistent positive trends.

**Supply side:** With regards to the supply side in Austria there are two green loans and several commercial banks are providing loans for most sectors. However, these loans are not particularly competitive and respondents to the spider diagram suggested that they were either on a par or slightly more expensive than traditional funding models.

**Track record:** The track record for green loans in Austria is limited as so few green loans have been introduced so far. This means that green loans are not an established financial instrument



used as a mainstream solution for EE/RES measures and renovations of buildings. Equally, there have been too few projects that have concretely been implemented using this financing model to make value judgements as to the reputation of financial institutions providing these loans. All of which is reflected in the investment volume being low with an estimation that green loans occupy less than 10% of the overall market share.

**Awareness and capacity:** In Austria awareness and capacity of green loans is generally middling to low, with an average to limited awareness level from public and private institutions on green loans and ESIF instruments and how they work. This translates to average limited capacities in financial institutions for establishing green loan programmes and possessing similarly limited knowledge about assessment of buildings renovation projects. All of this culminates in low capacities for project developers to realise EE projects with green loans and ESIF instruments.

**Risk perception:** Despite the awareness and capacity being fairly low, green loans are not perceived as particularly high risk, perhaps because they are generally perceived in the same terms as loans as a whole. Specifically, this means that there is a positive risk perception of green loans and ESIF instrument from public authorities. Similarly, there is a low risk perception of green loans and ESIF instruments from financial institutions and private investors who have a fairly high willingness to use green loans.

**Technical assistance and standardised documentation and tools:** Technical assistance and standardised documentation and tools is fairly poor in Austria, there is a very limited availability of market facilitators who provide technical assistance, there is little to no grant funding for project preparation. Nor are there widely available and/or nationally standardised documentation with methodologies, tools for assessment of potential projects, and guidelines on how to use green loans and ESIF instruments.

**Conclusions:** Green loans have the scope to be an important tool in Austria, the preexisting legislative framework around green loans could allow for a fast development of this financing mechanism. Moreover, although there are limitations on the supply side, the provision of green loans through the private sector does suggest that there is a non-negligible interest in this financing mechanism, however these loans are not more competitive than other publicly available loans. The lack of current supply influences the track record of these green loans, as there have been too few loans especially within the specific area of EE renovations in buildings to draw any clear conclusions. This lack of experience has secondary impacts on awareness and capacity which are middling to low, despite green loans being generally perceived as fairly low risk. These issues could perhaps be somewhat alleviated by technical assistance and standardised documents. However, these are not broadly available in Austria. All of which leads us to the conclusion that the green loan market in Austria is perhaps underdeveloped and not an ideal focus for financing of EE investments in deep renovation.

#### 1.4. Energy service companies (ESCO) and Public Private Partnerships (PPPs)

Austria has a Federal Energy Efficiency Law which applies in some parts to energy services and to ESCOs and is regulated by the National Energy Efficiency Monitoring Agency. Additionally this Law



obliges large energy-consuming companies to carry out energy audits or to introduce energy or environmental management systems. For this, a registration at the Register for Energy Service Providers (Register für Energiedienstleisterinnen und Energiedienstleister) and the fulfilment of reporting obligations are required, despite there being no dedicated financial instruments for ESCOs and PPPs.

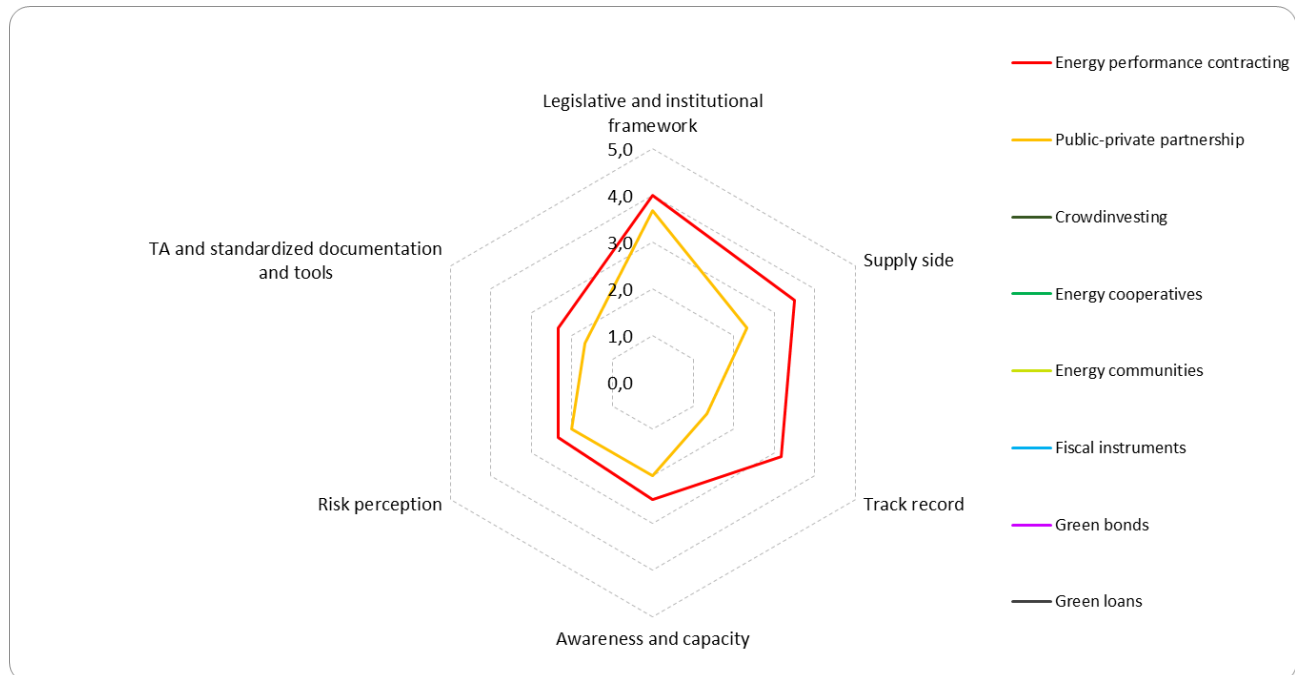


Figure 5: EPC and PPP models - assessment of the market status

**Legislative and institutional framework:** The legislative and institutional framework for ESCOs and PPPs is fairly strong, as there is legislation which defines EPCs and PPPs that both the public and private sector can use to align with existing regulations. Consequently, most types of EPC and PPP contracts are regulated for, both of these factors produce a stable market which shows long term positive trends, although the market is increasing only rather slowly.

**Supply side:** The supply of ESCOs in Austria are strong with a large number of ESCOs and EPC models being available, making ESCOs similarly competitive to a traditional model. However, for ESCO's a key limitation is financing. Respondents classified the interest from financial institutions for financing EPC projects and the availability of guarantee schemes/factoring funds/financial instruments for ESCOs as being medium to low. The supply for PPPs is perhaps slightly weaker, with the suggestion that only a few companies are capable of conducting PPPs and with only basic models available and not in all sectors. This has rendered the PPP model less competitive as it is more expensive and less adequate for most types of EE project, this is also perhaps linked to a low level of interest from financial institutions for financing PPPs.

**Track record:** Respondents had different conceptions of the track record of EPCs as an established and mainstream solution for financing the energy renovation of buildings in Austria. One stakeholder suggested that ESCOs were a well-established and extensively used model, and the other suggested that although ESCOs have been used they are not as common. However, there was more consensus that where ESCOs have been used a good reputation has emerged among



project developers. Meanwhile, the market share occupied by the EPC model in the overall energy renovation of buildings, is very low at under 10%.

For PPPs the track record is less established, with very few examples of PPPs being used to finance energy renovations of buildings. In particular, one respondent noted that they are aware of some PPPs being used for new construction, but are not aware of any having been used for renovation. Moreover, because so few projects have been implemented their investment volume is negligible meaning that there is insufficient data to make a comprehensive assessment of track record and reputation.

**Awareness and capacity:** The awareness and capacity of ESCOs and PPPs is low to medium in Austria. In particular, there is a low level of awareness from of public and private institutions, and financial institutions on EPC and PPP models and how they work in the context of deep renovation of buildings. This translates to an average to low capacity from project developers to realize a large number of EE projects using ESCO and PPP models.

**Risk perception:** For ESCOs the perception of the trust level from public and private institutions and financial institutions varied between the respondents, with one respondent suggesting that they were perceived as risky, with a public authorities being sceptical due to low knowledge and limited experience with ESCOs. Whereas another respondent suggested a more middling response contingent on mixed positive and negative experiences with ESCOs. This risk perception leads to the cost of capital for ESCOs being above typical market interests due to higher perceived risks from the point of view of financing institutions.

There was a full consensus between respondents with regards to the risk perception of PPP models. Respondents suggested that PPP models were perceived as being high risk by both public authorities and financial institutions. Similarly, to the ESCOs, for PPP this perceived risk translated to the cost of capital for PPP projects being above typical market interests due to risky perception from financing institutions.

**Technical assistance and standardised documentation and tools:** For ESCOs there is a limited availability of experienced market facilitators who can provide technical assistance for project developers, whereas for PPP this is even more limited. Meanwhile, for both ESCOs and PPPs, there is no grant funding to support project preparation costs for projects which use this model. With regards to the existence and availability of standardized EPC contracts with harmonised approaches to metrics for baseline estimations of energy use as well as measurement, verification and reporting on energy savings achieved, these exist and are made available for all sectors in Austria. However, for PPPs standardized contracts and tools for assessment of potential projects exist but are not widely available on the Austrian level.

**Conclusions:** ESCOs appear to be a very relevant instrument in Austria, there is legislation in place that provides a strong starting point. This is then complemented by favourable supply side conditions, in particular the existence of experienced and large ESCOs on the market, which has resulted in a positive track record. However, ESCO could be further developed as a financial mechanism by considering three areas. These are, increasing the awareness and capacity surrounding ESCOs, addressing the perception of ESCOs as high risk, and increasing the provision



of technical assistance surrounding ESCOs. By this way, we may also expect that the ESCO approach will be used more frequently for deep renovation projects.

With regards to PPPs there is also a fairly positive legislative environment, however the supply side conditions are weaker, in particular they are less financially competitive than more traditional models. This has a secondary impact that the track record for these PPPs is therefore less positive as fewer have been trialled, also limited to new construction projects. The lack of experience results in low awareness and capacity and an unfavourable risk perception, positioning PPPs less optimally relative to ESCOs.

### 1.5. Citizen-led initiatives - Crowdfunding

Austria has passed The Alternative Financing Act (AltFG) opening Austria to lending and equity based crowd funding, in particular for SMEs, this has led to a significant increase in crowd funding in Austria. The AltFG was amended to simplify the interaction between the AltFG and the Capital Markets Act (“KMG”), whilst also increasing legal certainty and practicality for users by relaxing increasing value limits and relaxing information requirements. Of the 25 Austrian crowd funding platforms 7 specialise in real estate and 2 in energy and climate / sustainability respectively.

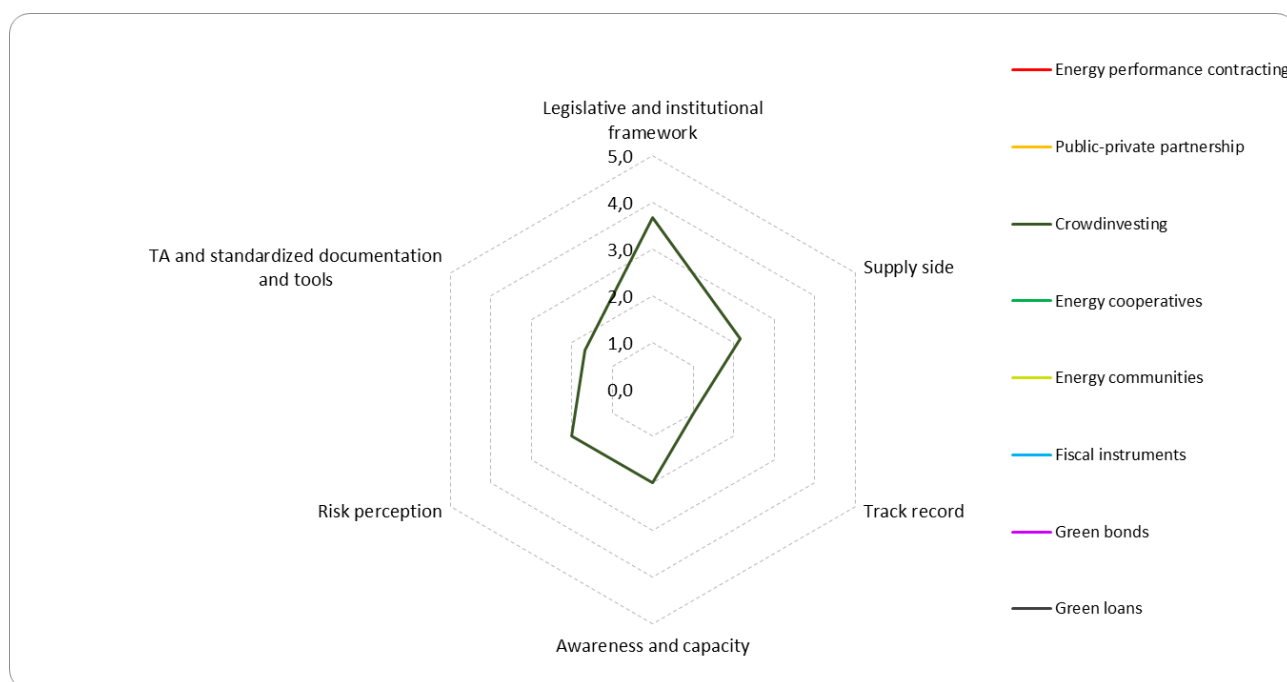


Figure 6: Crowdfunding - assessment of the market status

**Legislative and institutional framework:** The quality of legislation relating to crowd investing in Austria is fairly high, as there is legislation in place which both defines and regulates crowd investing, allowing for the public and private sector to use this tool according to their needs and as aligned with existing regulation. This legislation is still fairly new, meaning that although it is not particularly prone to fluctuation it is still evolving.



**Supply side:** The availability of crowd investing in Austria is moderate, there are a few platforms available with basic models. The crowd investing approach is roughly comparable to traditional financing models, if sometimes slightly more expensive and less adequate than traditional models of funding EE renovations. However, in stark contrast there is no interest in these crowd investing models from financial institutions, which leads to there being no co-financing of crowd investing projects.

**Track record:** The track record for crowd investing is very low as it is a fairly new approach in Austria, and more specifically it has not really been used for the deep renovation of buildings yet.

**Awareness and capacity:** The lack of a track record may also be a causal reason for the low awareness and capacity for crowd investing, which is the case amongst the private and public authorities and financial institutions in Austria. Alongside this project developers have a very low capacity to realise a large number of EE projects using crowd investing models.

**Risk perception:** As crowd investing models are still relatively new in Austria the perceived level of risk is high from both public authorities and financial institutions. This leads to the cost of capital from crowd investing projects being above typical market rates.

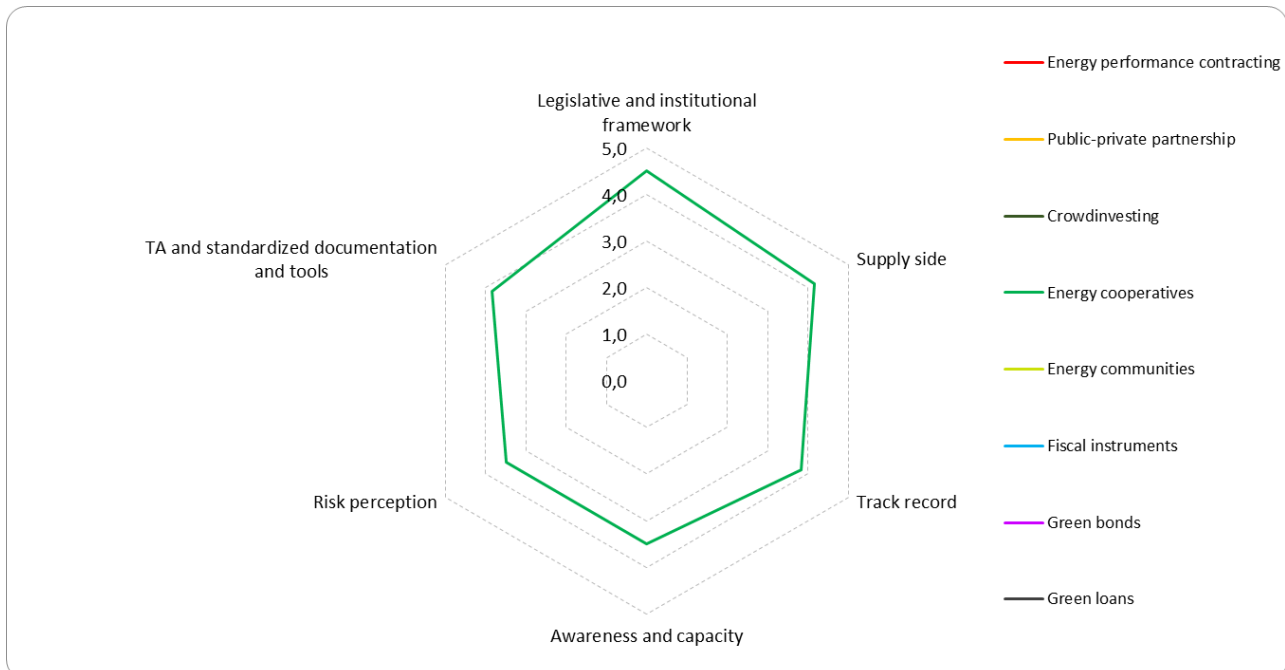
**Technical assistance and standardised documentation and tools:** There is very little technical assistance and standardised documentation and tools available in Austria. This means that there are a very limited number of market facilitators who can provide technical assistance, meanwhile there is no grant funding available for the project preparation cost incurred whilst using this model. However, there are some crowd investing guidelines, assessment tools and methodology on how to prepare projects for crowd investing available in Austria but these are not exhaustive, nor are they tailored for different sectors and target groups.

**Conclusions:** Crowd investing is relatively new to Austria, that means that although there is a stable legislative framework, the concept and its implementation is still nascent. This is reflected in the limitations on the supply side, particularly with regards to deep renovation of buildings where there appear not to have been crowd investing projects in Austria where this has been a specific focus. This is again reflected in an almost non-existent track record, low awareness and capacity and an elevated risk perception. This sector is well positioned to grow and one element that could help with this is increasing technical assistance provision, which could be developed from already existing generic crowd funding documents.

## 1.6. Citizen-led initiatives - Energy cooperatives

Cooperatives play an important role in Austria, especially in the building sector, this means that there exist well-developed support mechanisms for the establishment of cooperatives, e.g., the ÖGV and the Austrian Cooperatives Association. In general energy cooperatives are expected to become more important in the future, developing beyond a few cooperatives with an energy focus which supplies their customers with heat based on renewable sources in an energy supply contracting model, to the emergence of energy customer cooperatives.





**Figure 7: Energy cooperatives - assessment of the market status**

**Legislative and institutional framework:** The legislative and institutional framework for cooperatives in general is fairly well established in Austria. This means that the cooperative market is highly stable and does not fluctuate due to legal changes.

**Supply side:** The supply of energy cooperatives in Austria is also plentiful, with a considerable number of energy cooperatives available, mostly as an established cooperation of energy suppliers (e.g. providers of biomass sources). This means that energy cooperatives are as, if not more, competitive relative to traditional companies. Alongside this there is a high level of interest from citizens in providing financial resources for renewable and decarbonisation projects.

**Track record:** The track record of energy cooperatives in Austria is positive, as in general cooperatives play an important role in the housing sector - and thus also in relation to energy renovation of buildings. Furthermore, there exist a number of cooperatives which focus on energy supply in local areas, mostly based on biomass district heating plants. The investment volume of and market share of EE/RES projects implemented by cooperatives is uncertain, however, stakeholders estimated that it sat somewhere between 2-20%, where the higher value includes the renovation projects implemented in the building stock of/by housing cooperatives.

**Awareness and capacity:** Awareness and capacity of energy cooperatives in Austria is generally average to good, with a good level of awareness from public and private authorities on cooperatives in general and how they work. This is complemented by citizens having good capacity and/or support to establish energy cooperatives and implement a larger number of EE/RES projects

**Risk perception:** Energy cooperatives are not perceived a particularly high risk in Austria, however this can be mixed as public authorities and private companies have varying relationships and/or past experiences with cooperatives. These subjective experiences influence the risk perception of



cooperatives, in particular the level of trust towards cooperatives from contractors. Equally, the risk perception among citizens is mixed to good with many people having had positive experiences thereby lowering the general risk perception.

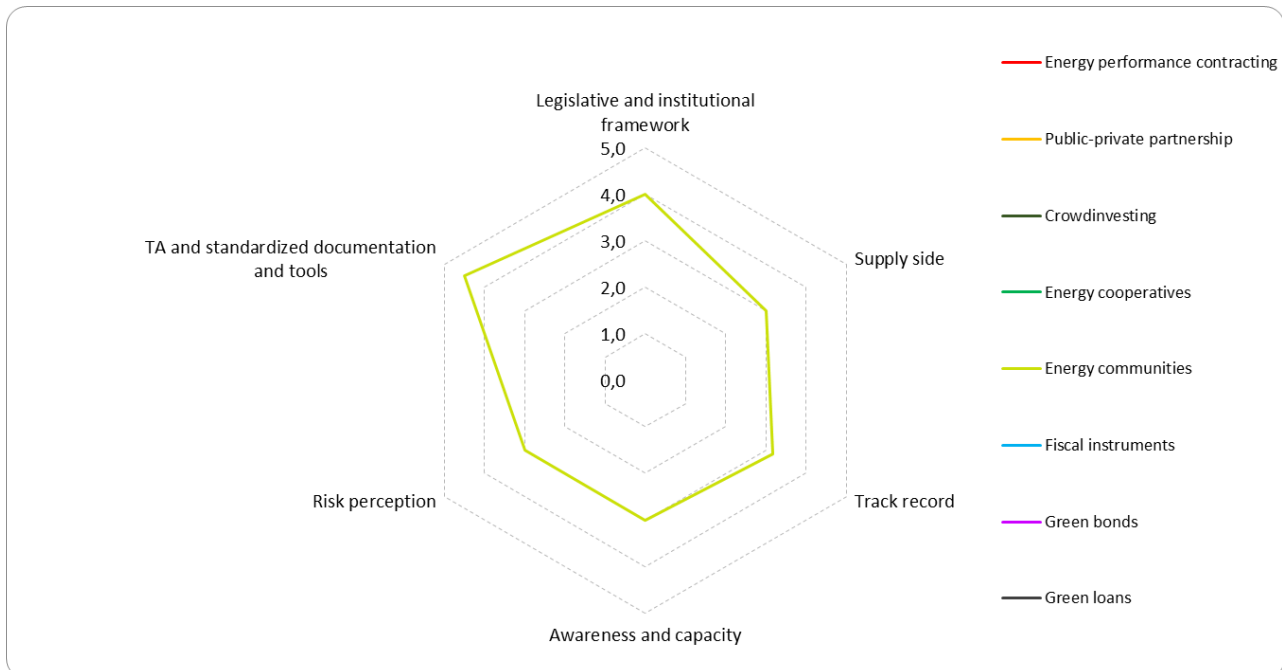
**Technical assistance and standardised documentation and tools:** The existence of technical assistance, standardised documentation and tools is a particular strength of energy cooperatives in Austria. There is a good availability of market facilitators who provide technical assistance for establishing energy cooperatives, and there are some obtainable, although limited, amounts of grant funding for establishing energy cooperatives. Finally, there are general, and some specific, guidelines available on how to establish energy cooperatives.

**Conclusions:** Cooperatives are generally fairly well established in Austria and this is no exception. There are well-established legal frameworks for cooperatives in general and thus also for energy cooperatives. Alongside the track record of energy cooperatives is generally positive and there is decently high awareness and capacity. This culminates in a fairly low risk perception of cooperatives, and this is supported by sufficient technical assistance and standardised documentation and tools related to the formation of energy cooperatives.

## 1.7. Citizen-led initiatives - Energy Communities

Two different types of energy communities have been officially defined in Austrian Renewable Energy Act. These are renewable energy communities (REC) and citizen energy communities (CEC). For both forms participants have to sign an agreement with their local DSO (grid operator) and those with energy generation assets share their surplus generation with the other participants. The “sharing” is done by the local DSO by assigning the energy quantities to each participants’ electricity bills. Austria’s explicit regulatory framework for energy communities has not only made Austria a European front runner, but has meant that as of September 2022, there were 92 RECs in Austria. Another contributing factor to their prevalence is the Austrian specific support facility that provides knowledge for implementing energy communities with branches of this facility located in each of the 9 federal states.





**Figure 8: Energy communities - assessment of the market status**

**Legislative and institutional framework:** In Austria the legislative and institutional framework for energy communities is well established with legislation that defines energy communities and allows for them to be established relatively easily. Moreover, the legislation and institutions are fairly stable and showing positive trends.

**Supply side:** With regards to supply energy communities are comparable with traditional and alternative models, with medium interest from citizens, SMEs and public authorities in participating and providing financial resources for projects.

**Track record:** The track record of energy communities is somewhat average; they are a fairly established model with 92 RECs having been established in Austria as of 2022. This also means that energy communities have an averagely successful reputation. However, the market share of EE and RES projects implemented by energy communities is still fairly low, and stakeholders estimated it was below 5%.

**Awareness and capacity:** Awareness and capacity of energy communities in Austria is middling with an average awareness from public and private authorities on energy communities and how they work. Moreover, the ability of citizens, public and private authorities to establish energy cooperatives and implement a larger number of RES projects was also deemed by stakeholders to be average.

**Risk perception:** The risk perception of energy communities from public authorities and private companies and citizens is average. This could be attributed to them being understood as representing a normal level of risk, or especially in the case of citizens and their willingness to invest this could be influenced by mixed personal experiences.



**Technical assistance and standardised documentation and tools:** The provision of technical assistance and standardised documents and tools is particularly good for energy communities. In particular, there is a good availability of market facilitators who are able to provide technical assistance for establishing energy communities. Alongside these factors there is often sufficient grant funding available to establish energy communities and prepare projects. This is complemented by tailor made guidelines, technical and financial assessment tools, and standardized documentation on how to establish energy communities.

**Conclusions:** Energy communities are a very applicable instrument in the case of Austria, in particular this is because the legislative framework is already well established and there is support available in the form of technical assistance and standardized documentation and tools. This means that there is still room for development within the Austrian context especially related to increasing supply, awareness and capacity, and improving risk perception.

## 1.8. Conclusion and recommendations for potential piloting actions

Ultimately, we have been able to draw a few key conclusions about financing conditions in Austria. The first of which is that the legislative and institutional frameworks in Austria are generally very strong, this provides a good foundation for moving forward with exploring different approaches to financing. Contrary to this, the provision of technical assistance, standardised documentation and tools is generally incomplete in Austria. This can act as a limiting factor for many different financing approaches. With regards to the other criteria considered in the spider diagram, supply side, track record, awareness and capacity and risk perception, each of these criteria was highly subjective depending on the specific financing instrument being considered, and therefore broad generalisations cannot be made.

Of the eight financing approaches considered we found three to be underdeveloped or less suited to the Austrian market, these were: fiscal instruments, green loans and PPPs. One approach that was found as a middle ground was crowd investing, in this case there was a high level of interest and good potential for development, however it was fundamentally too new to be recommended as a key approach to explore in Austria. This leaves four remaining approaches which we will focus on for providing recommendations, these are, green bonds, ESCOs, energy cooperatives, and energy communities.

We suggest that green bonds should be further developed in Austria, in particular through support to the supply side where there would be value to increasing the pipelines of for experienced companies and institutions to increase to meet projected demand. Alongside this it could be valuable to improve the track record for green bonds in Austria, as there have not been extensive enough trials of applying this instrument in the field of building renovation. This could be achieved by improving technical assistance and standardisation of documentation and tools, with a specific focus on ensuring that assistance is given to help this mechanism be applied to deep renovation of buildings specifically.

ESCOs have the potential to be a significant financing instrument in Austria due to legislative and supply side conditions, which have produced positive track records. We would suggest that ESCO could be further developed as a financial mechanism by investing in increasing the awareness and capacity surrounding ESCOs, addressing the perception of ESCOs as high risk,



and increasing the provision of technical assistance surrounding ESCOs, mainly with respect to applying the ESCO approach for deep renovation of buildings.

Cooperatives are a common and culturally significant model in Austria, with well-established legal frameworks and strong supply conditions. This is complemented by a high awareness and capacity alongside low-risk perception. The cooperative model could be further developed by increasing resources and providing increased technical support.

In a similar vein, energy communities also have a well-established legislative framework, and uniquely for Austria, extensive technical assistance and standardized documentation and tools. However, as energy communities are currently only used in the field of local renewable electricity, would recommend investing in providing support to increasing supply, awareness and capacity, and improving risk perception as regards to potential use of energy communities for deep renovation projects.



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