

Market growth models for energy efficiency financing

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Abstract

Although by far not the only barrier, limited access to financial resources represents a serious restriction for market growth of EE markets. Even if the EE investment is economically viable and brings forward additional non-energy benefits, the corporate client may give preference to core-business investment options. Similarly, a household may find other funding needs more urgent.

Energy efficiency service (EES) providers address the clients' reluctance by including financing into their service packages, but of course, they have to respect their own credit limits, too. Furthermore, EES providers are not well prepared to carry the bankruptcy risk of their clients. For financial institutions (FIs), EE investments are cumbersome, because they are usually small, complex and cash flow is generated from cost savings and not through sales on the market. Therefore, FIs – even if they wish to grow towards “green financing” – have difficulties to channel their resources towards EE investments.

Against this background, refinancing models get increasingly important, containing all kinds of financing models that enable EES providers to clean up their balance sheet, thus gaining financial leeway for new projects. In many cases, in these models an EES provider sells and a refinancing institution acquires receivables to be paid by an EES client.

The paper explains the way, how refinancing models contribute to the growth of EE financing, by elaborating the following issues in particular:

- European-wide market assessment and analysis cases studies showing the current importance of refinancing models for EE markets
- Analysis of case studies where refinancing schemes are currently already applied (mainly in Czech Republic, Latvia, Austria, Belgium)
- Need for further deployment of refinancing models with the aim to attract more FIs to invest into EE markets through the reduction of transaction cost. This includes: The standardisation of approaches and contract stipulation; rating/scoring-system for quick evaluation of EES project risks; public guarantees or insurance models for handling project risks.

Introduction

There exists a general consensus among experts that **large potentials of cost-efficient energy efficiency (EE) investment** are currently untapped. Furthermore, these potentials are steadily expanding due to technological innovation. The implementation, however, is hampered by a bundle of barriers, such as lack of trust in savings forecast, high cost for project preparation and procurement, split incentives, lacking awareness for non-core activities such as energy efficiency, perceived low energy prices, etc.

Within the set of interlinked barriers, the **access to attractive financing represents a serious restriction** for the expansion of energy efficiency (EE) investments to the level that is required if EU ambitions in terms of energy and climate goals shall be met (QualitEE, 2019). From the client's perspective, the most

important issue is to stay within credit limits. For example, household clients will ask themselves, whether they can afford the thermal refurbishment of their home, whereas corporate clients will analyse the impact of the EE investment on the key credit figures and may decide. Equally, public clients (municipalities, regional and federal authorities, etc.) are tied by budgetary constraints. Therefore, **EE investments compete with other investment needs**. Even if they are economically viable – usually through repayment of the investment by energy and other operating cost savings – and bring forward additional non-energy benefits, the corporate client may give preference to core-business investment options that promise better return on investment. Similarly, a household or a public building owner may decide to postpone the EE investment because other funding needs are more urgent.

The **energy efficiency service (EES) providers** address the clients' reluctance by including financing into their service packages. In this case the EES provider (frequently called ESCO) prefinances the investment and gets repaid through yearly remunerations which are dependent on the actual savings achieved. This means that the EES provider has the investments in his balance sheets. This leads to a situation where EES provider soon reaches his own credit limits and has to reject further EES projects. Therefore, if remarkable market growth is intended, the major question is how the balance sheets could be cleaned up in order to gain financial leeway to expand the EE business.

On the other hand, there exist many **financial institutions (FIs) that have formulated strategic focus areas around green and sustainable financing** and thus would also like to finance more EE-projects, but – in contrast to investments in the renewable energy sector – they have difficulties to channel their resources towards energy efficiency (EE) investments. The perception of FIs is that EE investments are cumbersome, because they are usually small, complex and cash flow is generated from cost savings and not through sales on the market.

Refinancing schemes have the ability to overcome certain financing barriers that frequently emerge in the EES business. In general, a refinancing scheme can be defined as an approach whereby an EES provider sells and a refinancing institution acquires receivables to be paid by an EES client (Villoslada, Cañamares and Morell, 2021). In a refinancing scheme, the EE project is financed initially through a corporate loan (e.g. overdraft) provided by a bank to an EES provider who is implementing the EE investment in the frame of an EES project. The client immediately profits from this approach as he or she is generally not forced to burden his balance sheet while he takes advantage of the broad scale of benefits of the EE investment. A certain period after the investment has been implemented and performance of the investment has been demonstrated, the EES provider sells off the expected receivables to a refinancing institution and gets cash upfront for the receivables, while the buyer gets the right to collect the receivables. By this way, the EES provider clears his balance sheets and gains leeway for financing of new projects which it could not realise otherwise. Therefore, the possibility of applying refinancing schemes is a major element supporting the growth of the EES provider.

European EES market analysis on financing of EES¹

The following analysis of EES markets in Europe focusses on the following countries: Austria, Spain, Italy, Slovenia, Croatia, Greece, the Czech Republic, Latvia and Ukraine. Among these targeted countries, the analysis of the European EES market shows a quite diverse picture. Only four markets (Austria, Spain, Italy, and the Czech Republic) have achieved some degree of maturity. The rest are still at developing stage. The trend analysis shows that the EES market size is increasing in most of the analysed countries. The growth path is steeper in Spain and Croatia than in Slovenia, Greece, Latvia, Italy and Ukraine. The Austrian and Czech markets have been declining or stagnating over the last years.

A survey which has been conducted as part of the QualitEE project (QualitEE, 2017) showed that borrowed debt predominates as financing instruments for EES projects commonly used in European countries. The use of refinancing schemes is not very extended. Only in the Czech Republic and Latvia refinancing is considered to be a usual practice. However, through the conduction of expert interviews² in 12 countries (Austria, Belgium, Croatia, the Czech Republic, Greece, Slovenia, Spain, Ukraine, Italy, Germany, Slovakia and Poland) it became evident that also in other European countries refinancing models are being applied in some cases. For example, in Belgium, Austria and Germany refinancing schemes are used, however, not to the same extent as in the Czech Republic. Also, some FIs in Slovenian and Slovakia are offering a kind of refinancing scheme. In Spain and Italy, a limited number FIs or investment funds (such as the SUSI Energy Efficiency Fund) finance EE projects via refinancing.

From the EES provider's perspective, in many countries the most prominent barrier for further growth of the business is financing due to very demanding requirements to access to credits and due to the lack of specialized financial instruments, such as refinancing schemes. Furthermore, institutional barriers such as the absence of support from the government are a common observation from EES providers. Technical and administrative barriers have been also reported: the rigidity of the governmental organizations or the lack of standardised procedures tend to jeopardise the (re)financing of EES projects.

From the financier's perspective, the uncertainty on the legal, tax and accounting rules applicable to EES projects generates a perception of high transaction cost. Also, the complexity of the approval process and the ambiguity of some legal aspects complicate the refinancing process.

A number of expert interviews made evident the **country-specific barriers and risks**: For example, the interview partners in Belgium stated that the Belgium market for the time being has not yet reached sufficient volume, to accommodate dedicated services such as refinancing energy performance contracting (EPC). More critical mass would be needed. According to some interview partners in Spain and Italy, some of the main barriers to refinancing are the complexity of the operations and the lack of specialized funds that can find interesting market niches in

1. A more extended analysis, which is summarised in this part, can be found in (Villoslada, Cañamares and Morell, 2021)

2. The interviewed experts represented different target groups like EES providers, financing institutions, EES clients, EES facilitators, EE experts as well as other similar stakeholders.

EE projects. Also, difficulties to assess the technical risks and the atomized market (small projects) hamper access to suitable projects. From the point of view of FIs, in Ukraine the requirements for non-collateral lending are stricter, which has been reported as an important barrier to offer refinancing schemes. Apart from this the Covid-19 crisis hampers the growth of the EES market in some countries in 2020 which leads to a situation where refinancing schemes are less requested³.

Analysis of existing refinancing schemes in Europe⁴

In order to conduct an analysis on the existing refinancing schemes in Europe the different approaches were classified in two categories:

- The sale of receivables schemes which find similar applications in Austria, Belgium and the Czech Republic.
- Refinancing scheme which is operated by the Building Energy Efficiency Facility (BEEF) and focuses on financing comprehensive building renovation as a service.

SALE OF RECEIVABLES SCHEME

The sale of receivables schemes which are for example implemented in Austria, Belgium and the Czech Republic refinance the implementation of technology energy efficiency improvement (EEI) measures in the field of building technologies, equipment etc. mostly under EPC contracts. At the cornerstone are the EES providers, privately owned companies that enjoy a good reputation and/or hold long-term collaboration relationships with the FIs. Refinancing institutions are normally banks or other financial companies. EES clients are generally public administrations, but they can also be private clients with high creditworthiness. The range of contract duration is between 8 and 14 years.

The refinancing process begins with a negotiation between the client and the EES provider where both have to approve the sale of receivables⁵. Another agreement must be concluded between the EES provider and the refinancing institution, concerning the future sale of receivables. Once the technology measures have been implemented and the quality tested, the EES client signs a handover report confirming the correct implementation of the EE measures. Then, the EES provider acquires the receivables issuing an invoice, charging the client with the cost of the measures' implementation. The client confirms its liability to pay the invoiced amount in stipulated payments over the whole contract period. The receivables related to the financing of the measures are then assigned to the refinancing institution based on the receivables purchase agreement and the invoice with the repayment schedule signed by the client. Usually, the EES provider's investment in the EEI measures is reflected on its own balance sheet until the sale of

receivables is performed, so that the process of the sale of receivables does not affect the client's balance sheet. Finally, the refinancing institution sends a lump-sum payment for the total value of the receivables to the EES provider, and the client keeps sending the regular repayment throughout the duration of the EES contract. Figure 1 summarises the overall process.

Risk management and taxation issues are important criteria for FIs that want to get involved in refinancing schemes. In the case studies the risk management varies among refinancing institutions, but they have some similarities:

- The risk management mechanisms largely depend on the creditworthiness of the EES provider and the client.
- The technical risk remains with the EES provider. This means that if the contractually agreed savings are not achieved, the EPC provider must compensate for the savings shortfalls.
- The financial risk is borne by the refinancing institution and assessed depending on the client's creditworthiness. If the client's creditworthiness is high, the perceived risk to the refinancing institution is very low. However, if the client's is not considered very trustworthy, the refinancing institution requires a risk mitigation mechanism (such as a public guarantee instrument, as described in the below chapter) or rejects to sign receivables purchase agreement.
- The VAT taxation applies only to the technical equipment, its installation and the energy management services, not to the sale of receivables. Also, the VAT related to EEI technology measures installation is due at the moment of invoicing to the EES client.

PRIVATE FINANCE BUILDING ENERGY EFFICIENCY FACILITY ("BEEF")

In Latvia, the successful implementation of the BEEF model has become an important source of financing for EE projects. Whereas the previous case study is focused on financing of "standard EES projects" in the public sector, the BEEF model is centred around advanced deep renovation of multifamily/social housing and public buildings. It provides refinancing for comprehensive building refurbishment through EPC contracts with a duration between 20 and 30 years. This initiative, that belongs to the private sector, started in Latvia ("LABEEF") and Bulgaria ("BULBEEF") and is now being implemented in Austria, Bulgaria, Poland, and Slovakia.

The first step in the refinancing process is the completion of an energy audit and a technical inspection of the building. The renovation project is designed so that it meets BEEF's Investment Guidelines. Therefore, all project parameters, including implementation, forfeiting, maintenance, rights and obligations of all parties are agreed at the design stage. Before the approval/commitment for purchase of long-term cash flows from BEEF, the EES provider must arrange the financing for the implementation phase. In this way, BEEF acts as a 'gate-keeper' for owners by ensuring standard and guidelines are met. This commitment also allows the EES provider to approach the bank for securing bridge financing. At this point the EES provider can start the implementation of the project. One heating season after the project commissioning, an independent auditor will verify the achieved energy savings. Once the savings are veri-

3. But there are exemptions, such as the Czech Republic, where the market has increased in 2020, because a specific subsidy scheme ended by the end of 2020.

4. A more extended analysis, which is summarised in this part, can be found in (Viloslada, Cañamares and Morell, 2021) and (Szomolányiová and Maroušek, 2020).

5. The approval of the sale of receivables by the client is not legally required in the Czech Republic and in Austria, but usually the contract between the EES provider and the client includes a clause saying that the EES client is allowed to sell the receivables.

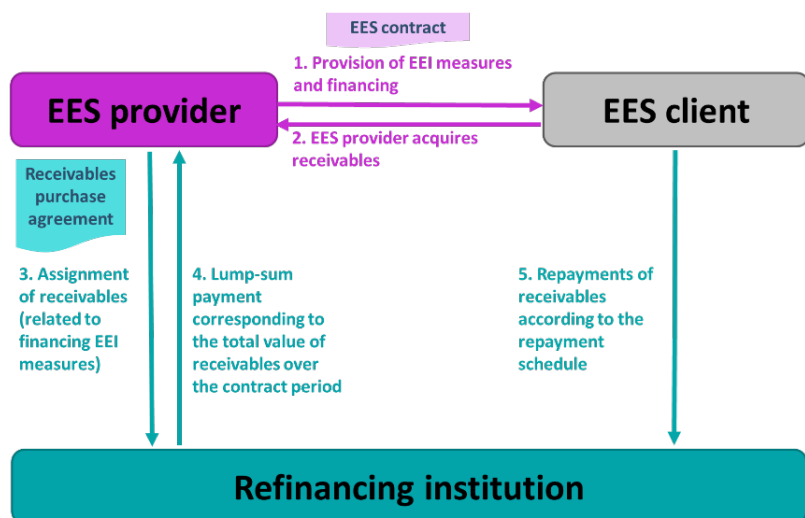


Figure 1. Process of sale of receivables (case studies in Austria, Belgium, and the Czech Republic).

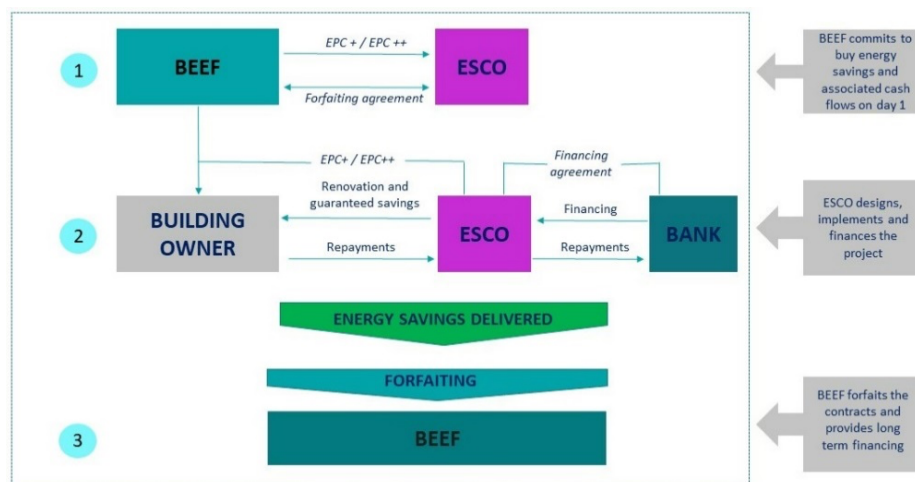


Figure 2. Refinancing process of the BEEF scheme.

fied, BEEF provides the financing by purchasing at least 80 % of the receivables from the EES provider. Subject to the performance of the installation, up to 100 % of the receivables can be purchased in subsequent years. Figure 2 summarises the main elements of the scheme.

The complete technical performance and the guaranteed savings are required from the EES provider. The investment cost is repaid through an on-bill repayment mechanism and is usually administered by the house maintenance company in conjunction with BEEF. A maintenance agreement is also signed with the same EES provider or a third-party maintenance company and the related fee is not forfeited.

Collateral is not required by BEEF in Latvia. However, in contrast to the Sale of Receivables Scheme as described above, the refinancing institution has step-in rights allowing it to replace the EES provider if it is not performing according to the guidelines and the contract.

The performance risk after implementation remains with the EES provider or can be transferred to a third party, subject to approval by the facility. The EES provider guarantees the performance for the works that has been undertaken.

Standardised building insurance and project performance guarantee are put in place. The cost of financing is dependent on whether it is a public or a residential building and the extent of guarantees provided. However, the standardised procedures and the online platform from where it is managed, minimize the cost.

In Latvia, within the BEEF scheme, the general concept of reverse VAT applies. EES providers, as recipients of construction services, can pay for outsourced services net of VAT and they become liable to report VAT only upon issuance of bills to final beneficiaries (residents), which include VAT.

Categorisation matrix for refinancing schemes

Although refinancing schemes are not very widely used across Europe yet, the market review and the analysis of case studies have shown that there exist different application fields of these schemes which are reflected in their design features. Furthermore, we found logical combinations of the features of the refinancing schemes, i.e., “generic” schemes that are designed in a way to be successful in a specific application field.

The **first level of categorisation** of refinancing schemes is presented in the matrix as shown in Table 1. The matrix is defined by two dimensions:

- Client sector
- Type of investment

Each intersection point in the matrix defines a specific application field which requires a suitable design of the refinancing scheme. The above-described case studies can be assigned to A1/A2 (BEEF model) and B2/B3 (Sale of Receivables Scheme).

At the **next level – i.e., “inside” each intersection point – further differentiations** will apply depending on the specific starting points and needs of the client, the EES provider and the refinancing institution. The most important distinguishing factors are as follows:

- **Means of collateralisation:** Refinancing schemes may be different with respect to collateralisation. On the one hand there exist refinancing models where the payment from the client to the refinancing institution is not collateralised (e.g., BEEF model). On the other hand, some of the refinancing models include various forms of collateralisation of the EES investment, such as:
 - Asset-based collateralisation of receivables: In this case, at first the EES provider invested into the facility of the client and retains an ownership title to the invested assets till full payment. When transferring the receivables, the title on the assets is transferred to the refinancing institution.
 - Collateralisation through third party, including public guarantee, bank guarantee and credit insurance: In fact, mainly the collateralisation by public guarantee instruments is expected to become an important market booster because it would enable the establishment of securitisation vehicles which facilitate the access to capital markets. Therefore, public guarantee instruments are described in further detail in the section below.
- **Handling of performance risks:** Generally, it is very unlikely that any refinancing institution is willing to take over parts of the performance risk from the EES provider. Therefore, for the refinancing institution it is important that the refinancing institution rely on a certain agreed payment independently from the performance of the EES provider. On the other hand, the client wants to be sure that the refinancing agreement does not oblige him to pay more than he is obliged to pay according to his agreement with the EES provider. One common way to ensure that full performance

risk remains with the EES provider, is a non-recourse clause in refinancing contract. However, this stipulation in the refinancing contract has to be complemented by related provisions in the EES contract; such as:

- client’s acceptance of invoice for hardware delivery;
- stipulations ensuring that EES provider compensates the client if due EES remuneration is lower than the payment due to the refinancing institution;
- bank guarantee provided by the EES provider to the client to guarantee the promised compensation
- step-in-rights of refinancing institution if service quality is below a certain level over a longer period of time
- bank guarantee to be provided by the EES provider to the refinancing institution covering delayed/reduced payments from the client due to performance shortcomings of the EES provider
- etc.
- **Balance sheet treatment:** This element is of major importance for corporate clients. If the refinancing scheme includes the acceptance of an invoice by the client, this means that the value of this invoice (e.g., corresponding to the delivery of hardware) has to be activated in the client’s balance sheets. Therefore, this approach is less attractive for corporate clients. For public clients it is important, whether the refinancing scheme is model compliant with the requirement of the EUROSTAT notice. Unfortunately, there is very little practical experience and therefore a high degree of ambiguity, if and how refinancing schemes have an impact on EUROSTAT notice compliance.
- **Collection of payments:** In most cases, invoicing and collection of payments is organized by the EES provider, but there are also approaches – such as the BEEF model – where the refinancing institution is responsible for the collection of payment, possibly in collaboration with a third party, e.g., utility or property manager.

Further deployment of refinancing schemes

As shown above, refinancing schemes have been successfully implemented in some European countries. However, in order to attract more FIs to invest into EE markets there is a need to further enhance refinancing schemes. The wider use of refinancing schemes that have already been implemented is often limited by high **transaction cost**. An exception is represented

Table 1. Basic categorisation matrix for refinancing schemes.

	Comprehensive refurbishment	EEI measures	Energy supply measures
Residential buildings (MFH)	A1	(B1)	C1
Public buildings / facilities	A2	B2	C2
Commercial buildings	A3	B3	C3
SMEs/industry	(A4)	B4	C4

The schemes in brackets refer to boxes in the matrix which have comparably little relevance for EES business.

by the BEEF scheme and Czech scheme for public clients that appear to maintain relatively competitive prices thanks to the **standardisation of contracts and processes**. Therefore, standardisation of approaches and contract stipulation as well as rating/scoring-system for quick evaluation of EES project risks are key to reduce the transaction costs and to expand refinancing approach to other market segments. The establishment of state-backed guarantees can also help to the success of refinancing schemes.

STANDARDISATION OF CONTRACT STIPULATIONS

In all refinancing schemes **two contracts** are in play in order to make refinancing possible – and both contracts must fit well together!

On the one hand, there is the EES contract between the client and the EES provider. If this contract does not include certain stipulations, refinancing will become impossible or at least very costly. The following contract stipulations are of major importance:

- EES provider obligations:
 - The EES provider operates and maintains the installation in order to ensure the savings are accomplished.
 - The contract reflects a compromise and valuation of the savings that the energy efficiency project will attain.
 - The EES provider is allowed to rectify the design of the project in case of poor performance.
 - The EES provider commits to develop any necessary improvements that may increase energy efficiency throughout the life of the contract.
- Equipment/Installation:
 - The installation or equipment that generates the energy efficiency improvement is insured by a third party.
 - It is clearly stated in the contract which party owns the installation/equipment that generates the energy efficiency improvement throughout the contract duration.
 - It is clearly stated that the responsibility for the design, construction, installation and performance of the equipment lies with the EES provider throughout the contract duration.
- Client Obligations:
 - The client provides the EES provider with free access to the location where the equipment is installed throughout the contract duration.
 - The client assumes the payments derived from the EPC contract, knowing that they may be affected by factors such as energy price variation, pass-through costs or deductions due to lack of performance.
- It is clearly stated that the EES provider has a right to transfer its financial rights and obligations to a FI without client consent for the duration of the contract, while the performance, operation and management obligations remain with the EES provider. The client specifically waives its right to object said transfer.

- It is stated in the EES contract whether credit risks are guaranteed by a public guarantee instrument.
- It is stated whether the client or the EES project outcome are taxonomy aligned.

For the **refinancing contract** between FI and EES providers that arranges the sales of receivables following contract stipulations are of importance:

- The refinancing contract reflects that the forfeited client payments correspond to legitimate, existing, unmatured, liquid and fully enforceable collection rights. Also, that they derive from sales, supplies, works or services already performed or rendered to the debtors by the EES provider. The EES contract and its future payments should not be subject to challenges, appeals or litigation, or be affected by other assignments, retentions, incidents, etc.
- It is clearly stated whether the payments forfeited correspond to the installation/equipment, to the operation and management of the EPC contract, or both.
- The refinancing contract duration is aligned with the EPC contract duration.
- The refinancing contract states that it corresponds to a non-recourse cession.
- The refinancing contract specifies that the EES provider is responsible for the client's non-payment in case of under-performance.
- Ownership of the installation/equipment related to the EPC contract that is being refinanced, is clearly specified throughout the duration of the refinancing contract.
- The refinancing contract must specify what the default rate will be in case of non-payment by the client, and when it will be applicable.

In practical terms, we assume that standardisation can be best achieved by **framework arrangements** between FIs and EES providers, where the FI promises to step in as refinancer, if an EES project implemented by the EES provider fulfils pre-defined conditions, included standardised contract stipulations, as described above.

RATING/SCORING-SYSTEM FOR QUICK RISK EVALUATION OF EES PROJECT

Another important element for all financing transaction is the evaluation of risks. Given the complexity and the number of involved parties it is necessary to assess refinancing risks of EES projects through a multi-stage process, which has to be fully standardised in order to keep the cost of due diligence low. The following four levels allow a structured risk analysis:

- **EES provider risks:** The two main risk factors given by the EES provider that need to be evaluated are the credit risks and the operational risk. The evaluation of both risk categories can be done by traditional bank risk rating approaches.
- **Client risks:** The two main risk factors given by the client are the credit risks, contractual risk and legal risk. The evaluation of these risk categories can be done by traditional bank risk rating approaches.

- **EES project risks**, including risks of project preparation & execution phases, operation and maintenance risks, performance risk, regulatory risk, country risk, energy price risk. The evaluation should be able identify and evaluate easily those risks that end-up with the refinancing institution, whereas the risks that remain the EES provider are of less importance.
- **Project refinability risk:** These risks are related to the preparedness of contractual stipulations to refinability of an EES project – i.e., the most important risk mitigant in this context is the use of standardised contract stipulations, as described above.

PUBLIC GUARANTEES INSTRUMENTS FOR HANDLING PROJECT RISKS

For further EES market growth, and independently from the application of refinancing schemes, guarantee instruments are important because EES providers are not well prepared to carry the credit risk (i.e., the bankruptcy risk) of the client. Specifically seen from the perspective of a financial investor who is purchasing receivables against the customer, two risk types may result in cash shortfall: Either because the customer does not pay because he does not have the money to pay (**credit risk**), or he does not pay because the supplier did not deliver energy savings or energy supplies as contractually agreed (**performance risk**⁶). In order to handle the credit risks and to support EE investments three possible options are identified, which will be presented in more detail.

Option 1: Guarantees for loans to asset owners (investment loan guarantee):

Loan guarantees (credit guarantees) are provided in many member states for bank loans to finance long-term investments of companies and – in the housing sector – of home owners. In most cases, public credit guarantees can (only) be called when the debtor gets insolvent. Furthermore, loan guarantees usually do not cover 100 %, but max. 80 % of the loan to motivate the guaranteed bank to manage the loan exposure also in its own interest. Loan guarantees can be a valuable support for asset owners investing themselves in EES projects and for working capital loans to EES providers, but they are not an appropriate guarantee instruments for refinancing EES projects because they do not cover payment obligations based on an EES contract.

Option 2: Loss insurance for customer payments (payment guarantee)

Guarantee systems which stand in if payment arrears occur are called payment guarantees⁷. This type of guarantees is protecting supplier credit against payment default of the client. However, this type of guarantees is not simply a payment guarantee which can be called unconditionally when payment becomes due and is not paid on time. They are a “loss insurance”, which has a certain predefined maximum coverage, but pays out only the amount corresponding to the actual damage. Payment obligations of clients can be the subject of payment guarantees, which can also cover payment default risks of purchased receivables when they

become due. However, the claim on payment guarantee is covering only the cash loss of the guarantee holder, and thus not necessarily the full payment risk of financial investors.

Option 3: Unconditional payment guarantee (bank guarantee on first demand)

The third option would be most suitable protection for financial investors purchasing receivables against the risk of payment default by the client. We call it an unconditional payment guarantee on scheduled payments by the client. The financial risk of a financial investor acquiring receivables is related to the payment on time whenever it becomes due. Guarantees covering this risk can facilitate capital-market based refinancing schemes for EES projects if they are unconditional, assignable and callable when payment becomes due.

Unconditional payment guarantees are not provided directly by public guarantee schemes. But if a public loss insurance according to “Option 2” is available, a payment guarantee by a private bank can be structured using the loss insurance as a credit risk backstop. And when refinancing by selling the receivables to financial investors (refinancing institution) is secured, a public loan guarantee (Option 1) will be easily available on a working capital loan to the supplier or the EES provider for financing the construction phase. Figure 3 summarises the main elements of the approach.

In the described approach, the public guarantee would cover the fundamental risk of a loss for the supplier by a payment default of the customer with 80 % of this risk. Based on this guarantee backstop (by assignment of the guarantee claims by the EES provider to a bank), the bank would cover the liquidity risk of pre-financing the payment default by the client (100 %) and would have recourse against the EES provider for the 20 % deductible and for possibly lower payments by the public guarantor because of cost savings. All obligations concerning reporting, monitoring etc. would remain with the EES provider as the original beneficiary of the public guarantee.

Conclusions

In our understanding, refinancing schemes may become an important market booster to realise the well-known huge potential of cost-efficient EE investments in various sectors (residential, public and commercial buildings, SMEs, etc.). At the same time, refinancing schemes support the role of EES providers as enablers for EE investments, since they address their limited access to new capital and their non-suitability to carry credit risk of their clients. In this context, refinancing schemes contain all kinds of financing models that enable EES providers to clean up their balance sheet, thus gaining financial leeway for new projects. In many cases, in these models an EES provider sells and a refinancing institution acquires receivables to be paid by an EES client.

However, there is no one-fits-all approach, but refinancing approaches have to be designed in custom-fit way in order to perfectly match the specific requirements of different application fields, clients, EES providers and FIs.

A major challenge is to keep transaction cost low. Therefore, it is important to further work on the standardisation of contractual stipulations which are required for the sale of receivables. Furthermore, due diligence cost can be reduced by rat-

6. We argue that guarantee systems do not need to cover performance risks because EES provider can and should cover these risks on their own.

7. This guarantee model is often applied in the export business (export guarantee systems).

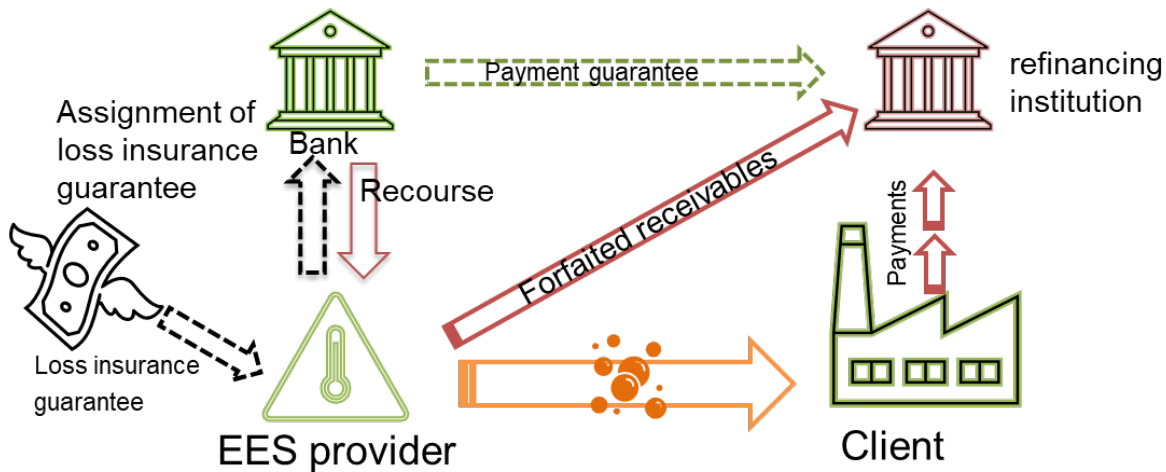


Figure 3. Steps and the structure of a guarantee instrument combining of private and public guarantees.

ing/scoring system that helps to assess refinanceability of EES projects quickly and at low cost. In our opinion, such a rating system may become an important facilitation service for easier match-making between EES providers that look for refinancing offers and refinancing institutions that look for purchase opportunities.

In this manner, the floor would be prepared for the securitisation of the assets of receivables from EES projects, since any kind of receivable may be securitised and traded on financial markets. If combined with a guarantee element covering (parts of) the credit risk, receivables from EES projects may gain additional attractiveness.

Finally, it will be essential to put a focus on capacity building for FIs and EES providers. Most FIs – even if they are aiming at extending their sustainable finance portfolio – are not aware of the business opportunities of the refinancing of EES projects. The same applies to most EES providers who have little knowledge about preparing their projects in a way that makes it possible and easy for refinancing institutions to step in.

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