Analysis of guarantee instruments for EES projects

D3.4, V1.1

December 2021

REFINEE

REFINE has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 894603

DOCUMENT SUMMARY INFORMATION

Grant Agreement No	894603	**Acronym**	REFINE
Full Title	Mainstreaming of refinancing schemes as enhancer for the implementation of energy efficiency service projects		
Start Date	01/06/2020	**Duration**	36 months
Project URL	https://refineproject.eu/		
Deliverable	**D3.4 Analysis of guarantee instruments for EES**		
Work Package	WP3 Conceptual development and structuring of instruments and services		
Nature	Report	**Dissemination Level**	Public
Lead Beneficiary	e7		
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GLOSSARY

Some of the terms that are important in the context of the REFINE project and specifically in this document are not used in a uniform way throughout Europe. Therefore, below is a list of definitions:

Energy efficiency improvement: An increase in energy efficiency as a result of technological, behavioural and/or economic changes.

Energy efficiency improvement (EEI) action or **EEI measure:** An action normally leading to a verifiable, measurable or estimable energy efficiency improvement.

Energy efficiency improvement (EEI) investment: An EEI measure that requires the use of upfront investments, usually through the involvement of a financial institution, and regardless of whether these investments are related to hardware installations or to services.

Energy Efficiency Service (EES): Agreed task or tasks designed to lead to an energy efficiency improvement and other agreed performance criteria. The EES shall include energy audit as well as identification, selection and implementation of actions and verification. A documented description of the proposed or agreed framework for the actions and the follow-up procedure shall be provided. The improvement of energy efficiency shall be measured and verified over a contractually defined period of time through contractually agreed methods [EN 15900:2010]. If the EES includes EEI investments, it may or may not include financing of these investments.

Partial services connected to EES: Services that just include parts ("components") of the EES value chain like design and implementation (excluding verification, for example), but are designed to lead to an energy efficiency improvement directly or indirectly. If the partial EES includes EEI investments, it may or may not include financing of these investments.

EES provider: A company that offers EES to its clients. Another term frequently used in this context is ESCO (energy service company), but this term is mostly connected to the provision of energy performance contracting (EPC) or energy supply contracting (ESC), which are specific forms of EES.

Energy Performance Contracting (EPC): A comprehensive energy service package aiming at the guaranteed improvement of energy and cost efficiency of buildings or production processes. An external Energy Service Company (ESCO) carries out an individually selectable cluster of services (planning, building, operation & maintenance, (pre-) financing, user motivation …) and takes over technical and economic performance risks and guarantees. Most projects include third party financing. The services are predominantly paid out of future saved energy costs (Graz Energy Agency Ltd, 2008).

Energy Supply Contract (ESC): A contractual arrangement for the efficient supply of energy. ESC is contracted and measured in Megawatt hours (MWh) delivered (this definition is a simplified version of IEA DSM Task force 16 definition).

Financing Models for Market Growth: Financing Models that enable EES providers to clean up their balance sheet, thus gaining financial leeway for new projects. In many cases, these models contain a refinancing scheme.

Refinancing: A model, where an EES provider sells and a refinancing institution acquires receivables to be paid by an EES client, thus leading a restructuring of the initial financing set-up which may have been ensured through the EES provider's cash flow, credit financing, leasing financing or other financial means.

Sale of receivables or **sale of claims:** umbrella term for any kind of receivables purchase agreements that allow a company (in our case an EES provider) to sell off the as-yet-unpaid bills or expected receivables from its customers.

Cession: The legal term for the assignment of receivables.

Factoring: A specific form of receivables purchase agreements, where short-termed receivables are sold. The non-payment risk remains with the seller.

Forfaiting: The sale of longer-term account receivables usually without right of recourse.

EPC+/++: An EPC where the technical solutions as well as the contractual issues of energy services are according to additional standardized set of structural & aesthetic measures.

1. INTRODUCTION

This report was developed as part of the REFINE project, funded by the EU´s Horizon 2020 programme. The project aims to contribute to the supply of sufficient and attractive financing sources for EEI (Energy Efficiency Improvement) investments through the enhancement of **refinancing schemes,** which are important amplifiers of the market growth.

In particular, this document provides an analysis on the role that various guarantee instruments play in facilitating the **energy efficiency service (EES) business in general** and the **application of refinancing schemes for EES projects in particular.**

Seen from the perspective of refinancing schemes existing guarantee schemes, are of limited use for covering risks of forfeited receivables derived from EES projects. Therefore, the report does not start with a blank-sheet analysis of existing guarantee schemes in different countries of the European Union but with a generic approach about possible options for structuring guarantees to support refinancing of investments EES projects. For this purpose, the analytical baseline is laid with an outline of the fundamental financing challenge and the risk categories of energy and energy efficiency projects. Starting from there, the report explains the economic case for public guarantees, screens typical guarantee types for their suitability for refinancing and describes the main topics of three possible guarantee options. Furthermore, a concept for a combination of these options for structuring payment guarantees to facilitate refinancing by financial investors is developed. The final chapter summarises possible starting points to implement guarantee systems for EES projects on the national level.

The report has been developed by a core team consisting of e7, F3, REGEA and Reenag (sub-contractor to e7) in close exchange with public and private guarantors, and with the support of the other REFINE partners who provided the assessment of the partner countries’ starting conditions.

2. BASIC RISKS OF EES PROJECTS

EES projects are implemented by EES providers that conduct Energy Performance Contracting (EPC) or Energy Supply Contracting (ESC) projects for EES clients (e.g., municipalities, industry, SMEs etc.). Given that for EES clients energy efficiency investments are not a priority, the EES provider steps in and provides an all-in-one service which includes in many cases the financing of the energy efficiency (EE) investment.

The basic principle of the **Energy Performance Contract (EPC)** is all implemented EE investments are prevailingly financed through the realized savings (see Figure 1). After the start of the EES contract and the implementation of the EE investments, the savings generate cash flows which are used to pay the costs of the project (investment plus services). The risk of unachieved savings (technical risk/performance risks) remains with the EES provider who has to compensate the gap in cash flows.

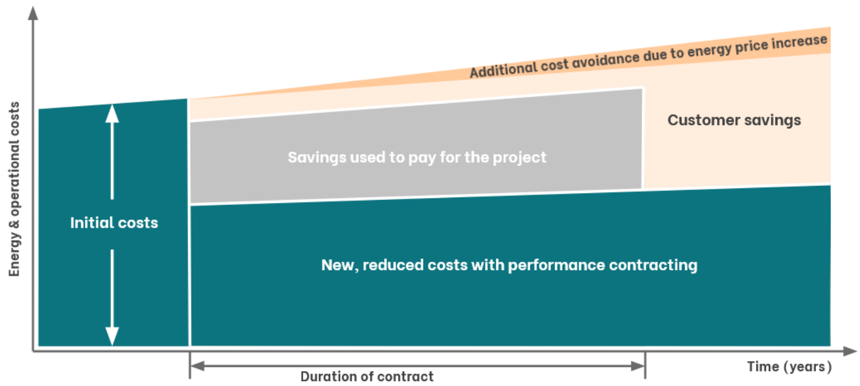

Figure 1 Cash flow generation in an ideal-typical EPC project

In **Energy Supply Contracting (ESC)** the EES provider implements efficient supply (from fossil and/or renewable sources) in new or existing facilities of the public, industrial, commercial and large residential sectors. The EES project remuneration is performance-based and depends on the useful energy output delivered. Therefore, the ESC model provides an incentive to increase the efficiency of the energy conversion and to reduce primary energy demand. ESC contract covers the outcome and all costs of the services, as well as the commercial, technical and operational risks of the project. ESC projects are a significant boost in efficiency, clear and optimized operational costs, better supply security and the application of the most recent safety standards.

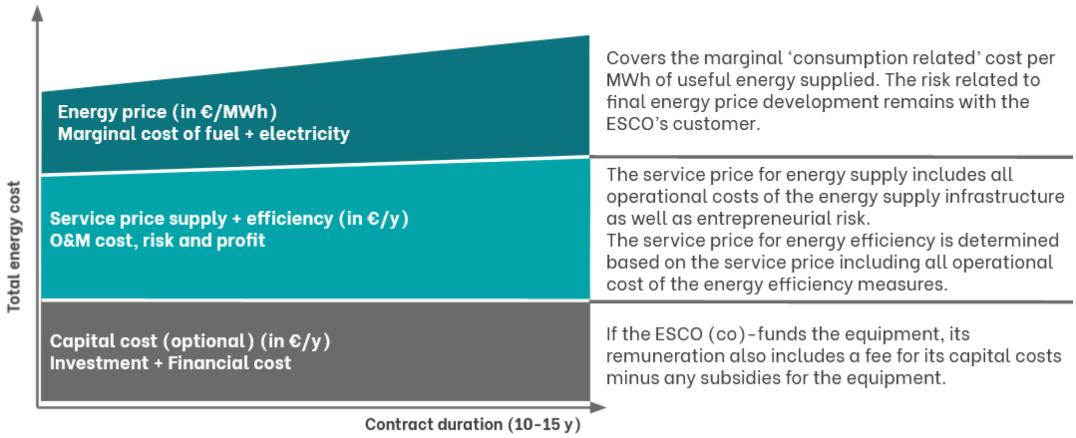

Figure 2 Revenue model and cost structure of an ideal-typical ESC project

2.1 Financing of EEI investments

Energy consumption of buildings and industry including EEI measures can be covered either by producing energy with own resources or (as in most cases in the currently prevailing energy system) by purchasing energy produced or provided by a third party.

Correspondingly, financing will be provided either by the asset owners of buildings or industrial facilities for investing in assets to generate energy or to improve energy efficiency for own consumption, or by other owners of energy assets to sell energy or energy efficiency ("Negawatts") to buildings or industry.

The investment motives and the financing needs of those two types of asset owners regarding energy assets are quite different.

Building and industry owners need equity and / or debt as for any long-term asset on their balance sheet. But for building and industry owners, investment in owned energy assets is not their core business.

Decarbonisation of buildings and industry means big investments in deep renovation, energy efficiency and on-site energy production. If undertaken by building or industry asset owners, such investments put a huge burden on balance sheets. Many companies and building owners cannot afford the impairment of credit ratings for financing assets which have long payback times and no core value for the housing or business operations. Asset owners, equity providers and banks will be reluctant to provide financing for non-core investments with good reason.

For energy asset owners, investment in energy assets is their core business. Investment and financing of decarbonisation using Energy Performance Contracting and Energy Supply Contracting is replicating the traditional role of energy utilities for the new technologies of distributed and renewable energy. Energy production and distribution is always characterized by high capital intensity and long amortization time.

EES providers need financing of long-term investment to maintain and to grow their core business of selling energy or energy efficiency. For growing their business, they do not only need capital for starting their business, but also refinancing (selling off assets on their balance sheets to pay back debt) in order to be able to get additional capital for new projects. Loading off receivables and debt from the balance sheet of suppliers and EES providers to the financial sector by refinancing schemes is indispensable. The REFINE project wants to facilitate this need of refinancing.

2.2 Risk categories in EEI investments

Literature and practice have developed a broad and diverse range of risk types, risk areas, risk categories etc. for EEI investments. For the purpose of this discussion paper risk identification from the financial investor's perspective is most relevant. The financial investor is primarily interested in the cash flow produced by a project and primarily looks at risks which may cause a shortfall of cash receipts.

From this perspective, the simplified formula for the "Levelized Cost of Energy" (LCOE), which divides the lifetime cost for producing energy by the lifetime amount of energy produced, and then is used for calculating the net present cash value by relating these energy cost to energy prices, provides a useful starting point for risk categorisation and identification:

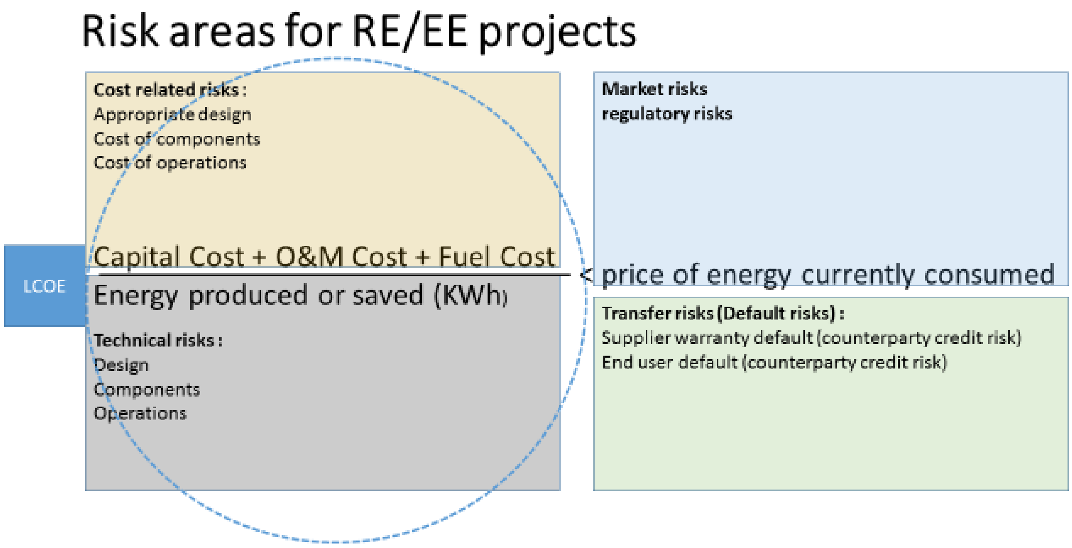

Figure 3 Risk Areas for energy efficiency and renewable energy projects

In the LCOE formula, the **denominator** stands for the **physical properties** of the project, which are combined to produce or save energy (in energy terms like kWh etc.). All events or set of events impacting or influencing the designed physical properties of the projects can have an impact on the amount of energy saved or produced and can be categorized as **technical risks** or **performance risks** for saving or producing energy. This **category of technical risks** can be subdivided into the subcategories of:

- **Technical Design risks**: Design risks concern the engineering design to produce/save the planned energy quantities.
- **Technical Component risks** concern all physical parts used in the project which may not perform to the defined specifications or may fail altogether, irrespective whether they are defective regarding their specifications or have been faultily built in (therefore including construction risk).
- **Operational risks** arise from improper operation or maintenance of the project's system. A financial investor who is typically not able to control technical risks will try to avoid or minimize the possible negative impact on the cash flow caused by such risks. Refinancing by purchasing receivables **after the performance of the EEI investment has been tested and confirmed** is a very effective way of reducing and avoiding technical risks, because most of these risks occur in the construction and testing phase. However, the performance risk of not delivering energy or energy savings as stipulated in the EES contract still can have a negative impact on the cash flow to the financial investor, because non-performance or underperformance of energy services or energy services may cause reduction or termination of payments by the customer.

The **numerator** in the LCOE formula stands for the **cost** of investment, operations and fuel (if any) and is affected by **cost related risks:**

- **Design Cost Risks** arise from design deficits resulting in higher cost of construction or operation (planning or calculation faults)
- **Component Cost Risks** are caused by higher purchase prices or higher construction cost to build/integrate them properly into the system of the project (therefore including construction cost risk)
- **Operation cost risks** occur when the cost of operations and maintenance become higher than foreseen (fuel cost risk, which is influenced by market risks, is included in this subgroup)

Cost-related risks materialize and are settled typically in the construction phase before commissioning. Because refinancing by forfeiting takes place after commissioning they are not directly relevant for the financial investor after refinancing.

The **price of energy** which is used as comparator for the energy saved by an EE project or for the LCOE of an RE project is the third part of the formula needed to arrive at a Cash-related value for the project or for the payments made by a project (Net Present Value, Internal Rate of Return, Amortization Times etc.). The risk to be categorized into this group include:

- **Market risks:** energy prices tend to be volatile due to energy market conditions and are impacting the cash value of the project

- **Regulatory risks:** prices and cost are influenced and determined by lawmakers and public authorities. This category includes also political risks.

Market risks and regulatory risks affecting the profitability of an EEI investment are typically not directly impacting the risk position of a financial investor in the refinancing phase. But they may have a negative influence on the creditworthiness either of the provider or the buyer of energy or energy savings, whoever has to take that sort of risk.

The fourth risk area covers **Transfer Risks or Default Risks,** which arise from **other stakeholders** in a project:

- By virtue of an Energy Performance Contract the end-user has to pay for the (saved) energy at certain due dates and is therefore responsible for having the necessary liquidity in order to make due payments to the energy provider (or to the financial investor who has bought the receivables). From the point of view of the financial investor this risk is a **counterparty risk**, which materializes as a financial risk or a **credit risk**. **This is the typical risk type financial investors have to assess and to manage**.

3. ASSESSMENT OF GUARANTEE INSTRUMENTS

The major impediments for financing EES models are counterparty **credit risks**, often in a single customer situation (energy offtake by only one customer; no or limited grid access or possibilities to sell to other customers) and technical **performance risks**.

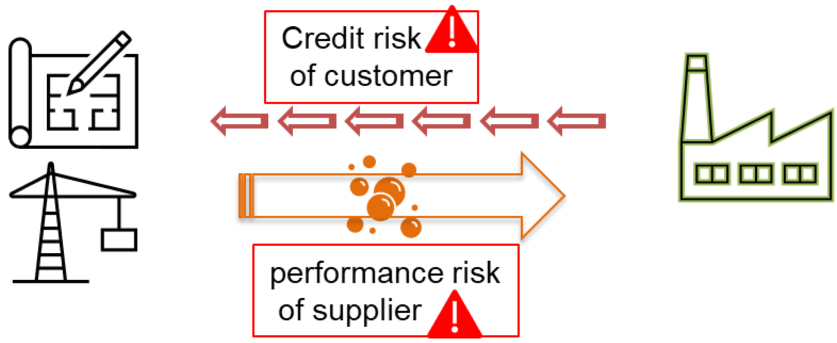

Figure 4 Risk takes of credit risks and performance risks in EES projects

Seen from the perspective of a financial investor purchasing receivables against the customer, both risk types my 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).

Credit risks are depending on the creditworthiness of the customer – if the credit rating of the counterparty is high, then this risk is low. For covering credit risks of customers, a commercial credit insurance can be acquired, if such insurance is available at the appropriate terms (usually up to three years). Availability and cost of the insurance premium are depending on the credit standing of the counterparty.

For lower credit ratings and for longer payment terms guarantees by third parties (typically public guarantees) are necessary to reduce counterparty credit risk, as in industry for smaller projects and for SME involvement, and in the residential sector for residents with lower incomes.

Performance risks are depending on the physical and operational quality of the energy producing or energy generating assets and processes, which are under the control of the owner of those assets. Customers (and financial investors) would expect that such risks are borne by the energy or EES providers. Usually, performance risks are mitigated and managed by contractual warranties and performance guarantees issued by equipment suppliers (which are ultimately also depending on the creditworthiness of the suppliers or EES providers). Insurance solutions like property insurance, business interruption insurance and equipment breakdown insurance may be added. For some components like LEDs or PV panels insurance policies can be bought to cover all technical performance risks; insurance solutions for other EES contracts might also be available under certain conditions.

To avoid performance risks altogether, third-party guarantees to cover performance promises of suppliers and EES providers could provide additional comfort to financial investors and eventually also to public sector asset owners. An **unconditional third-party payment guarantee** would cover both risk types, as it could be called whenever a payment becomes overdue, irrespective of the reason for non-payment.

Credit risks and performance risks are embedded in the receivables purchased by forfeiting scheme investors. The distribution of those risks is defined in the contractual terms of the EES contract. Standardised technical and financial project assessment and standardized contract terms are necessary to enable quick and low-cost risk assessment by financial investors. If the customer does not enjoy a strong credit rating, the credit risk has to be covered by credit insurance or by guarantees of third parties with high credit ratings (banks or state-backed institutions). Credit risk coverage is at the same time a prerequisite for securitization.

From **a public policy perspective**, public guarantees are provided for the following reasons:

The main and well-acknowledged reason for public guarantees for long-term investment loans in the manufacturing sector is **market failure** to give SMEs equal access to financing. Thus, such guarantee instruments are established in most member states and supported by guarantee facilities provided by EIB and EIF. This type of guarantee is available for EEI investments by the manufacturing sector in many countries.

For the housing sector, either state-backed loan facilities or Public Guarantees for long-term loans are mostly motivated by the goal to offer housing also to less creditworthy individuals or families, therefore as instrument of **social policy considerations**.

The reason for providing state-backed guarantees for financing and refinancing EEI investments can be justified differently. Their objective would be to speed up CO2 reduction in the buildings and industry sector, thereby contributing to **climate policy objectives.** In this regard such guarantees are pursuing comparable objectives to long-established **export guarantees**, where the main argument are benefits for economic growth and employment policy. At the same time, it can be shown that such guarantees are particularly effective for SMEs helping them to grow exports much faster.[1] The long-standing experience with export guarantees can also be used for structuring EEI investment-related guarantees.

[1] https://voxeu.org/article/effects-export-credit-guarantees-firm-performance

3.1 Suitability of existing guarantee types

Loan 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 (state-backed housing loan programmes are usually including an “implicit guarantee” because they are offered to debtors who would not qualify for a commercial loan).

In most cases, public credit guarantees can (only) be called when the debtor gets insolvent. They are usually covering not 100%, but 80% of the loan to motivate the guaranteed bank to manage the loan exposure also in its own interest.

This quite common type of guarantees is protecting creditors from the loss of the asset value of the outstanding loan and is supporting investment in assets which are on the balance sheet of a company or a building owner. It helps **asset-based financing** of EEI investments, for which the house or company owner would otherwise not be able to raise financing because of creditworthiness issues. However, this “Insourcing” of energy investments is neither sufficient nor adequate to succeed in the required renovation wave of buildings or in large-scale decarbonizing industrial processes.

For **refinancing EEI investments** and securitization-backed forfeiting schemes credit guarantees are not the appropriate guarantee type. Loan guarantees cover the repayment of a loan by the debtor. But the EES provider does not grant a loan to the customer. With forfeiting, the credit risk (more exactly: the risk of payment default by the customer) is transferred to the financial investor, who has purchased future receivables against the customer, but did not grant a loan either.

Guarantees which can be called when payment arrears occur are provided by **export guarantee systems** in many member states. This type of guarantees is protecting supplier credit against payment default of the customer. 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. Export guarantees are protecting **the exporter** against a loss from an export contract. They are a “**loss insurance**”, which has a certain predefined maximum coverage, but pays out only the amount corresponding to the actual damage.

As an example, Oesterreichische Kontrollbank (OeKB) has published Guidelines G9 on **export guarantees for forfeited receivables** in export contracts. The credit risk situation is the same as for forfeited receivables from EES contracts. These guarantees have been designed for a comprehensive export financing offer: the bank is providing a working capital loan to its bank client for financing the products to be delivered to an export customer who wants a supplier credit and can get a loan guarantee for this working capital loan. After delivery the bank acquires the export receivables (the supplier credit). The bank client uses the receipts from the forfeiting transaction to his bank to repay the working capital loan or to reduce the working capital credit line. The bank’s exposure to the export customer is covered with a guarantee quota of 80% by the G9 Export Guarantee. This financing scheme is a recurrent part of the banking relationship between the Austrian Bank and its client. The complicated calculation of the "cash loss" in the case of a Guarantee Claim against the Export Guarantee and also the guarantee quota of up to 80% can be accommodated in the financing agreement between bank and client. This kind of comprehensive export financing offer could be replicated for the working capital financing and refinancing needs of EES providers (see chart below) and is in fact a bilateral refinancing scheme established between an EES provider and his bank. But the loss insurance arrangement is not appropriate for protecting "anonymous" financial investors, because the loss of the exporter will be different from the loss of the investor by a payment default of the customer.

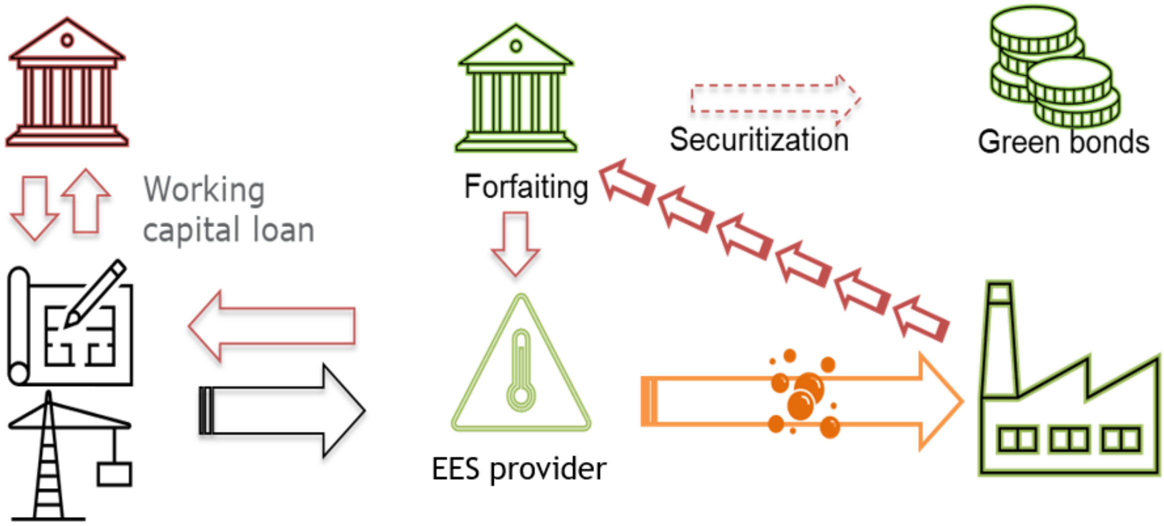

Figure 5 Cash flows in a typical EES project

The appropriate protection against the risk of payment default by the customer would be an **unconditional payment guarantee** on scheduled payments by the customer. Such a payment guarantee would even protect the financial investor against the case that payment is not made by the customer because of non-performance of the energy supplier. Such guarantees are typically issued by private banks against a credit or guarantee line on instruction of a client who needs enhancement of short-term or long-term payment obligations. Public guarantee schemes are rarely structured as unconditional payment guarantees.

Summing up, **loan guarantees** can be a valuable support for asset owners investing themselves in EES projects and for working capital loans to technology suppliers, but they are not appropriate guarantee instruments for refinancing EEI Investments because they do not cover payment obligations based on a contract on delivering energy or service.

Payment obligations of customers can be the subject of **export guarantees**, which can also cover payment default risks of purchased receivables when they become due. However, the claim on an export guarantee is covering the cash loss of the exporter. This Loss insurance therefore does not necessarily cover the full payment risk of financial investors.

The "ideal" guarantee for refinancing EEI investments via forfeiting receivables would be an **unconditional bank guarantee** which is covering exactly any scheduled amount when due.

3.2 Options for guarantees to support financing of Energy Efficiency and Renewable Energy Investments (Overview)

3.2.1 Option 1: Guarantees for Loans to Asset Owners (model investment loan guarantee)

Guarantor	Public guarantee institution
Applicant	Company, EES provider or Building Owner(s)
Counterparty risk	Applicant (Company, EES provider or Building owner)
Beneficiary	Bank or other Provider of loan
Guaranteed asset	Long-term loan to applicant for on-balance sheet investment n Energy Efficiency or Renewable Energy assets or short-term loan to cover working capital requirements
Guarantee quota	80%
Claim under guarantee	in case of insolvency of the debtor (applicant) repayment of debt plus interest
Reporting duties	Beneficiary and applicant
Default risk	insolvency of applicant
Assignment of guarantee	Not provided for
Recourse on	Applicant (but only under insolvency regulations)
Required for	On-balance sheet investments in energy efficiency or renewable energy by asset owner with weak credit standing (long-term investments by manufacturing company or building owner; working capital loans to suppliers or EES providers)
Suitable for refinancing	No

3.2.2 Option 2: Loss insurance for client payments (model export guarantee)

Guarantor	Public guarantee institution
Applicant	EES provider
Counterparty risk	EES-Customer
Beneficiary	EES provider or Bank (after assignment)
Guaranteed asset	Net cash flow from EES-customer receivables; corresponding to standardized terms of contract specified by the guarantor
Guarantee quota	80%
Claim under guarantee	Net cash receipt when payment is overdue (payment minus saved costs and third-party receipts) ; in case of insolvency of the client all contracted future payments minus saved costs and third-party receipts) ; no default interest
Performance risk	Not covered
Assignment of guarantee	Possible to Banks with consent by guarantor
Reporting and monitoring duties	Extensive obligations on Beneficiary; risk of denial of guarantee claim if duties have not been fulfilled properly
Default risk	Payment default (credit risk of EES-customer)
Recourse on	EES client by guarantor or by beneficiary representing the guarantor according to the instructions by the guarantor
Rights of guarantor in the event of a claim	Recourse; redemption of the open guaranteed claims; continuation of operation by the applicant (EES provider) right of entry into the EES; replacement of EES provider; transfer of assets by the applicant (EES provider)
Suitable for refinancing	Primarily securing cash flow to EES provider; facilitates refinancing via EES provider's relationship bank; little suitability for refinancing and securitization on capital markets because of guarantee quota and limitation to incurred cash loss

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

Guarantor	Bank or public guarantee institution *)
Applicant/instructing party	EES provider
Counterparty risk	EES client
Beneficiary	Purchaser of accounts receivables from EES contract
Guaranteed asset	Scheduled payments on EES-customer receivables (typically fixed payments)
Guarantee quota	100%
Claim under guarantee	Guarantee payment on first demand in the amount of scheduled payment at due date
Performance risk	Covered (because of unconditional guarantee claim)
Assignment of guarantee	Possible with consent by guarantor
Reporting and monitoring duties	Applicant/instructor (EES provider)
Default risk	credit risk of EES-customer + performance risk of EES provider
Recourse on	EES customer for payment default; EES provider for guarantee payments caused by non-performance of contractual obligation
Rights of guarantor in the event of a claim	Recourse; redemption of the open guaranteed claims; continuation of operation by the applicant (EES provider) right of entry into the EES; replacement of EES provider; transfer of assets by the applicant (EES provider)
Support for	Refinancing of EES contracts
Suitable for refinancing	refinancing and securitization on capital markets

* Public guarantee institutions might not be well equipped for handling small and frequent guarantee claims - payment guarantees are typically a financial product of commercial banks which are booking payments on guarantee claims immediately against agreed credit lines. The payment made by the bank is turning into a credit liability of the bank client.

3.3 Structuring unconditional payment guarantees for refinancing EES projects based on a public guarantee scheme

As pointed out above, the best protection for financial investors purchasing receivables against the risk of payment default by the customer would be an **unconditional payment guarantee** on scheduled payments by the customer. Such a payment guarantee would even protect the financial investor against the case that payment is not made by the customer because of non-performance of the energy/ energy savings supplier.

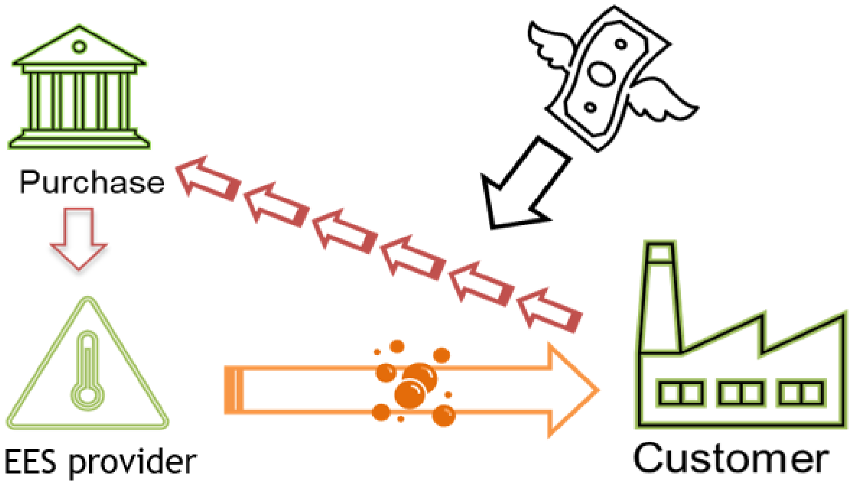

Figure 6 Schematic representation of an unconditional payment guarantee in an EES project

The financial risk of a financial investor acquiring receivables is payment on time whenever it becomes due. Guarantees covering this risk can facilitate capital-market based refinancing schemes for EEI investments if they are:

- Unconditional
- Assignable
- Callable when payment becomes due

The “ideal” guarantee for refinancing EEI investments via forfeiting receivables would therefore be an unconditional bank guarantee which is covering the fixed scheduled payment amount when 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 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.

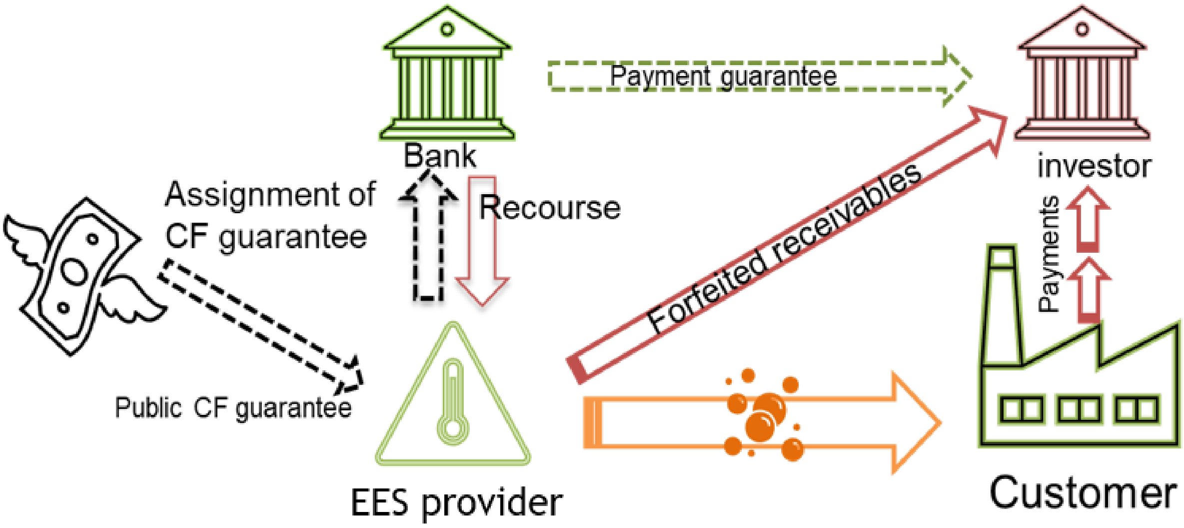

Figure 7 Combination of private and public guarantees facilitating forfaiting in EES projects

The diagram above shows the steps and the structure of such a combination of private and public guarantees:

1. The EES provider applies to the public guarantee agency for a guarantee for a working capital loan by its bank. The loan is used to finance the EE investment to fulfil the investment obligation of the EES provider in the EES contract with the customer.
2. After installation, the EE investment is tested for compliance with the performance promise in the EES contract and commissioned by the customer. The customer starts the payments for the delivered energy or energy savings.
3. The EES provider applies for cash shortfall guarantee at the public guarantee agency, and asks his bank to provide a payment guarantee to the financial investor who is offering to purchase the receivables against the customer. As a security for the payment guarantee, the EES provider assigns the cash shortfall guarantee to the bank.
4. The purchase price for the receivables is used by the EES provider for repayment of the working capital loan (refinancing) to his bank. The loan guarantee is canceled accordingly (or may be utilized for another working capital loan on a revolving basis)
5. If the payment guarantee by the bank is called, the guarantee payment can be recovered from the public cash shortfall guarantee. Based on the guarantee contract between the EES provider and the bank, the bank has recourse against the EES provider for all amounts, which are not recovered from the public guarantee.

In this structure, 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 the Bank), the Bank would cover the liquidity risk of pre-financing the payment default by the customer (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.

This structure is possible also if the guarantee claim on the public guarantee can only be made if the customer gets insolvent. However, in this case the risk for the EES provider would be higher because prefinancing by the Bank could be necessary for much longer times; and in case the customer does not get insolvent in spite of the payment default the public guarantee cannot be called at all.

A part of the risk (corresponding to the risk which is not covered by the guarantee quota) will remain with the EES provider. Therefore, the structured guarantee approach will require EES providers with sound creditworthiness and equity endowment.

4. CROSS-COUNTRY ANALYSIS ON STARTING POINTS FOR GUARANTEE INSTRUMENTS IN THE EES BUSINESS

4.1 Overview

This chapter presents existing guarantee instruments in the REFINE partner countries and discusses to which degree they may be applicable for the coverage of risks related to EES projects in these countries. Furthermore, the REFINE partners assess if the existing schemes or ongoing processes in energy efficiency policy may serve as possible starting points to implement guarantee systems for EES projects on the national level. In this context, it is important to point out that due to varying policy and regulatory frameworks the starting points for guarantee instruments strongly differ between countries.

The following table presents a cross-country overview of the guarantee instruments that may be related to getting used in EES projects. We assume that many of the guarantee instruments can be also used in the context of refinancing schemes but there exist also cases where the guarantee instrument cannot be applied for a refinancing approach, because there is no way in transferring the guarantee from the initial guarantee holder – usually the EES provider - to the refinancing institution.

Table 1 Overview on cross-country analysis on starting points for guarantee instruments in the EES business in REFINE partner countries

Country	Credit guarantee	Public Guarantee/Funds	Export Guarantee / Export Insurance	Credit Insurance	Energy savings insurance	Additional Information
CZ	Public clients: No guarantees or insurance are required for refinancing. For private clients: Credit guarantees from commercial banks: • Extra costs of minimum 2-3% • No maturity of 8 or more years → *not suitable for refinancing*	**Public clients:** The Expansion Guarantees are not eligible to the projects aiming at energy savings. **Private clients:** Guarantees of state aid programs operated by CMZR bank → *not suitable to cover the client's risk of repayment*	Performed by Czech Export Bank (CEB)	Public clients: with maximum maturity of 2 years → use of this insurance for EES projects is minimal Private clients: No information available	No information available	For EES projects with private clients a guarantee to cover the client's risk of repayment would allow for refinancing.
Austria	No special guarantee instruments available for EES projects.	AWS guarantees (loan guarantees and working capital guarantees for SMEs)	Export Guarantee managed by the public development bank OeKB	Credit insurances are usually limited to a duration from 2 to maximally 4 years	No information available.	Ongoing policy process related to the provision of public guarantees to support EES business and

Country	Credit guarantee	Public Guarantee/Funds	Export Guarantee / Export Insurance	Credit Insurance	Energy savings insurance	Additional Information
				→ *not suitable for refinancing*		refinancing arrangements.
Croatia	HAMAG-BICRO individual loan guarantees. → *not suitable for refinancing*	No special guarantee instruments available for EES projects	HBOR export insurance guarantees	No information available	No information available	Existing public guarantee instruments can be a starting point for guarantee instruments for refinancing of EES project.
Greece	Credit guarantees by commercial banks: Very short term (up to 180 days) →Not suitable for refinancing.	Hellenic Development Bank (HDB) public guarantees and co-guarantees	• Export credit insurance program by OAEP • Export guarantees by corporate banks	Credit insurance program to the buyer by OAEP	No information available	Possibility to establish a public guarantee fund managed by HDB to support the financing and refinancing energy efficiency measures.
Italy	Private equity fund FIEE dedicated to EE investments.	• FNEE Guarantee Fund • SME Guarantee Fund (Public Guarantee Fund - not specific for EEI)	No information available	No information available	• GoSafe with ESI-energy savings insurance • CIS Broker Insurance for EES providers	The current Italian framework of energy efficiency guarantee funds is rather limited in terms of concrete

Country	Credit guarantee	Public Guarantee/Funds	Export Guarantee / Export Insurance	Credit Insurance	Energy savings insurance	Additional Information
						and accessible offers.
Latvia	No information available.	Public guarantees by ALTUM	Export credit guarantee by ALTUM	No credit insurance available on the market	No information available	
Slovenia	Credit guarantees by commercial banks: Extra costs: Up to 2 %	Public guarantees by SID Bank	Export Credit Insurance by SID Bank	No information available.	No information available.	It was planned to establish a guarantee fund for financing EES projects financed from Cohesion Funds. This guarantee fund, however, was not established.
Spain	No information available	• Fund GEEVE by the regional government of Extremadura • Public guarantee fund for electro-intensive activities • CESCE Green Insurance Policy	Export guarantees CESCE.	Energy efficiency insurance from Engineering's' Mutual Company (Private EE insurance)	Energy savings Insurance by ESI	The current situation in Spain with respect to guarantees for the refinancing EES contracts is rather undeveloped.

Country	Credit guarantee	Public Guarantee/Funds	Export Guarantee / Export Insurance	Credit Insurance	Energy savings insurance	Additional Information
Ukraine	Credit guarantees are provided by commercial and state banks. There are state programmes to support SME where state guarantee is provided for up to 80% of the loan pool amount.	State programmes to support SME where state guarantee is provided for up to 80% of the loan pool amount. No specific product for EES companies but they can apply for the financing under those programmes.	Export guarantees are provided by commercial and state banks.	There is no specific credit insurance product on the market for EES loans.	There is no specific energy saving insurance product offered for EES contracts.	A system of guarantees for the refinancing of EES contracts is not developed in Ukraine.

REFINEE

4.1.1 Starting points for Guarantees for EES contracts in Austria

In Austria following public guarantees are available:

- AWS guarantees (loan guarantees and working capital guarantees for SMEs)
- export guarantees provided by Kontrollbank

Credit insurances available in Austria are provided by private insurance companies and are usually limited to a duration from 2 to maximally 4 years. Therefore, they are not suitable for refinancing schemes.

With Federal Law BGBl 114/2020 (Environmental Promotion Act, October 14, 2020) a promising opportunity has opened for the provision of public guarantees to support EES business in general and refinancing arrangements in particular. With this law a new guarantee type has been introduced in Austria: From 2020 onwards, Austria Wirtschaftsservice Gesellschaft mit beschränkter Haftung (AWS) can, in its own name and for its own account, assume guarantees for energy contracting for the implementation of investments in energy generation from renewable energy sources and for the saving or efficient provision of final energy. The prerequisites and conditions for the contractual assumption of guarantees by AWS are to be set out in the guarantee guidelines. The Federal Minister of Finance may indemnify guarantees

- up to a total outstanding amount of 1 billion euros in capital plus interest and costs as well as
- in individual cases only up to a total outstanding amount of 5 million euros in capital plus interest and costs and for a maximum term of 20 years"

Guarantee guidelines have not yet been published, even not as a draft. The REFINE project team has participated in the policy formulation process related to the definition of guarantee guidelines which are decisive for the final impact to be achieved. Our recommendations for the main requirements for such guarantees have been:

- Energy service providers must be eligible for guarantees
- The guarantee coverage must relate to payments made by the customer for energy supplies or energy savings.
- In order to enable the sale of receivables for payments for energy services and energy supplies and thus a balance sheet relief, the assignment of the guarantee to the purchaser of the receivable must be possible
- Not only the insolvency, but already a payment arrears with a certain minimum duration must trigger the guarantee payment in the amount of the arrears.
- The payment guarantee must cover the entire arrears without a deductible.

AWS, the government guarantee agency designated to issue and administer the new guarantees, is traditionally offering loan-related guarantees. We pointed out, that loan guarantees which can be called only in the case of insolvency of the debtor are not appropriate to cover the risks of energy contracting and that the administrative setup for payment guarantees is different to administering loan guarantees.

However, the Ministry of Finance might accept no other guarantee claims but insolvency. We proposed to structure the guarantees like export guarantees (which are well established in Austria, but issued by a different guarantee institution, Oesterreichische Kontrollbank) and a claim in case of insolvency of the customer, but with the following modifications (to loan guarantees):

- Guarantee holders can be banks and energy service providers
- The guarantee coverage must relate to payments made by the customer for energy supplies or energy savings.
- It must be possible to assign the guarantee at least as a security

In this structure, an insolvency guarantee that covers the fundamental risk of payment default by insolvency can assume the function of reinsurance for a payment guarantee by a bank.

4.1.2 Starting points for Guarantees for EES contracts in Croatia

Overall guarantee framework in Croatia mostly relies on public guarantees issued by HBOR (Croatian Bank for Reconstruction and Development) and HAMAG BICRO (Croatian Agency for SMEs, Innovations and Investments) and guarantees issued by commercial/business banks of private entities. Concerning the EES contracts and especially EES models, there are no specially dedicated financial instruments in form of guarantees developed for this purpose. Nevertheless, some guarantee programs can in general be used by EES providers for investments (loan guarantees) in energy efficiency, but they cannot be used for refinancing existing loans.

Since most energy efficiency projects in Croatia were realized through traditional models where building owners, in form of investors, have taken the loans for reconstruction of their buildings, financial instruments were developed especially for them in the form of loans. This was also the case for energy efficiency projects in public buildings. EES provider companies were not eligible for those loans since they were not owners of the buildings nor are they public sector entities for which that financial instruments were developed. Together with the fact that only building owners were eligible for grants from EU funds for energy efficiency refurbishment of the building, this led to the EES provider market develop more slowly in Croatia.

Since there are indications that the EES provider model is recognized in the National Recovery and Resilience Plan (the plan was adopted by the Croatian parliament) there is a strong belief that this will resolve one of the main barriers for stronger market growth of EES provider models. Having this in mind, the need for financing and refinancing instruments of EES models will undoubtedly rise. This also leads to the need for developing dedicated financial instruments in form of guarantees in which existing experience can be used. REGEA will actively collaborate with managing authorities in developing and setting up those instruments. A starting point for this collaboration will be existing public guarantee instruments for which amendments will be suggested.

At this point, a few existing public guaranteed instruments can be used as a starting point for developing dedicated EES guarantee instruments. Some of the public guarantees include:

- HBOR guarantees (export guarantees for Croatian exporters),
- HAMAG-BICRO (ESIF national loan guarantees for WC).

HBOR guarantees

HBOR (Croatian Bank for Reconstruction and Development) issues export insurance guarantees for private business clients, guarantees for participation in procurement procedures and guarantees for the performance of contracts. Guarantees are issued in the short-term, and prices range from 0,2% to 0,35% one-time plus 0,25%-0,45% quarterly of the guaranteed amount.

HBOR also issues export insurance guarantees against commercial and political risks (commercial risks are delayed in payment by the foreign buyer or bankruptcy of the foreign buyer). HBOR insures cash receivables against foreign buyers. In case of non-payment by the foreign buyer, indemnity is paid by HBOR. Up to 90% of the receivable amount per foreign buyer can be insured. Insurance guarantees are issued for deferral of payment up to one year (exceptionally up to 2 years).

HBOR counter-guarantees

HBOR also issues counter-guarantees for domestic companies in cooperation with commercial banks. Guarantee prices are between 0,2%-0,35% one-time and 0,25%-0,4% quarterly of the guaranteed amount.

HAMAG-BICRO individual loan guarantees

HAMAG-BICRO, in cooperation with the Ministry of Regional Development and EU Funds (MRRFEU, MRDEUF), issues guarantee for investment loans and loans for working capital to small and medium-sized enterprises. Guarantee for investment loans covers 80% of the principal of the investment loan from 0,15 M€ to 4 M€ for up to 10 years. The price of the guarantee ranges from 0,25% to 0,5% of the guaranteed amount. Guarantees for working capital cover 80% of the principal amount of the working capital loan. The amount of the guarantee covers 80% of the loan principal and the loan can be from 0,15 M€ to 1 M€. The price of the guarantee is from 0,1% to 1% of the guaranteed amount. Guarantees can not be issued for refinancing existing loans.

Generali osiguranje d.d. and Croatia osiguranje d.d. (mortgage and commercial loan insurance)

Generali osiguranje d.d. (private insurance company) provides housing and non-corporate loans to private persons. Also, Croatia osiguranje d.d. (private insurance company) issues insurance for small and medium-sized enterprises. The policy covers loan insurance in case of death or permanent business incapacity of key persons in the company (up to three persons: owner, director, procurator).

General remarks

Both HAMAG-BICRO individual loan guarantees (ESIF) and HBOR export insurance guarantee instruments have their positive and negative sides in respect to guarantee instrument needed for EES refinancing. In the next period, REGEA will, together with HAMAG-BICRO, HBOR and the Ministry of regional development and EU fund (managing authority) discuss the potential to develop new guarantee instrument based on existing ones. Whether it is more possible to change the basis of export insurance guarantees and issue them for domestic clients/buyers and for longer periods (15 + years) or amending loan guarantees to fit the needs of the suggested EES refinancing, guarantees concept needs to be further analysed.

4.1.3 Starting points for Guarantees for EES contracts in the Czech Republic

Framework of public guarantees

Czech-Moravian Guarantee and Development (CMZR) Bank’s main activities is assistance to small and medium-sized enterprises and development of municipalities. SMEs are supported by bank guarantees and preferential loans. CMZR Bank acts as the manager of loan and guarantee schemes funded from structural funds (ERDF), state budget, regional budgets or other sources and, in case of loan facilities, also through CMZRB’s co-financing.

CMZR Bank provides guarantees for working capital loan and/or investment loan free of charge. Some of the programmes focus on specific sector like COVID SPORT Guarantee (sport sector) or S-guarantee (social enterprises). The Expansion Gaurantees are not eligible to the projects aiming at energy savings. CMZRB also offers cost-free credits for energy saving projects. As these credits can have maturity up to 10 years, they are suitable for EES project financing.

Credit guarantees

Credit guarantees are available from the commercial banks operating in the Czech Republic. The Bank shall provide the beneficiary with a guarantee of an agreed amount of funds in the event of non-fulfilment of the terms of the contractual relationship by the debtor. Often the amount of funds corresponds only to a part of the non-fulfilment of the terms.

The bank guarantee is based on a so-called guarantee deed in writing. A contract must be concluded between the bank and the principal before the guarantee deed can be issued. It includes amount guaranteed and its currency, terms of payment of the guarantee and expiry date.

Export guarantees

Czech Export Bank (CEB) is a state-owned banking institution forming one of the pillars of the government's pro-export policy system.

The CEB provides bank guarantees both domestically and abroad in the form of a direct guarantee for the beneficiary or an indirect guarantee (counter-guarantee) in favour of another bank, which issues a guarantee in favour of the beneficiary. The

CEB will satisfy the beneficiary up to a certain amount of money, depending on the contents of the guarantee instrument, if the debtor fails to fulfil a certain obligation or other conditions set out in the guarantee instrument are fulfilled.

The CEB provides several types of guarantees. Export Guarantees (SME Support Programme) is particularly suitable for small and medium-sized enterprises, which are involved in the business cases of exporters who are clients of the CEB, or commercial banks, by way of subcontracting. The essence of the program is financing provided by commercial banks, which is provided by a bank guarantee issued by the CEB, a.s. The guarantees are insured using the EGAP - "Z" insurance product, where the CEB is the insured party.

The Performance bond ensures that the exporter keeps his or her commitment and duly fulfils the terms of the export contract. The guarantee is used to ensure delivery timing and quality.

Credit insurance

As far as credit Insurance is concerned, only the state insurance company, the Export Guarantee and Insurance Corporation (EGAP), offers insurance for credits with maturity longer than 2 years. The purpose of this insurance is to promote Czech exports, a condition is at least 50% share of Czech work in exported goods, and the exporter's residence in the Czech Republic.

The other commercial insurance companies, which operate in the Czech market: ATRADIUS, COFACE, Euler Hermes, Credendo and Lloyds offer insurance for credits with maximum maturity of 2 years, so the use of this insurance for EES projects is minimal. These companies insure commercial claims of all types, both for deliveries within the Czech Republic and abroad.

Guarantees for EES projects and refinancing models

Based on interviews with the FIs and the EES providers who participate on refinancing of EES projects, **normally, no credit guarantees or insurances are used to finance and refinance the projects** in the Czech Republic. If needed, EES provider or the clients are using parent company as a third-party guarantor. As an exception there was a guarantee of guaranteed savings used in one EES project in Prague. The guarantee covers the case when EES provider does not compensate the client for the part of the guaranteed savings that was not achieved and the client will receive this compensation from the bank guarantee.

Typically, commercial banks provide working capital loans to the EES providers established on the market without a guarantee. Currently, there are also cost-free public loans available from CMZR Bank for energy saving projects, which can serve well such purpose.

When financial institution (FI) purchases receivables from an EES provider, the FI assumes the risk of the client’s insolvency only. All other risks stay with the EES provider. Currently all EES projects in the Czech Republic are implemented by **EES providers with high creditworthiness**, i.e., experienced EES providers that have implemented at least several successful EES projects. That is why refinancing institutions do not consider performance risk. However, in case an EES provider which have entered the market recently and have not implemented enough EES projects to prove their competency, wants to sell receivables from their EES project in the future, credit guarantee would be probably required by a refinancing institution.

Currently, refinancing institutions in the Czech Republic are concerned only with the credit risks. Most **public institutions** are trustworthy clients for the FIs with a very low risk of non - payments. Thus, no guarantees or insurance for public organisations by the government or other FIs are required for refinancing.

In contrast, in the case of **private clients**, FIs are much more careful and require detailed analyses in advance. Refinancing costs are higher than in the case of public clients and the private clients often see these extra costs as too high. For some industries, FIs reject purchase receivables in all cases (e.g. for textile companies). In such cases **guarantees to cover the client's risk of repayment** would allow to refinance EES projects.

Credit guarantees are available from the commercial banks operating in the Czech Republic, however its use to refinance an EES project would mean extra costs of minimum 2-3% for a private client. Moreover, commercial banks would not approve maturity of 8 or more years, which is the typical length of the EES contract in the Czech Republic. Also, usually commercial bank guarantees cover only part of the payment arrears.

The guarantees offered by state aid programmes operated by CMZR bank are not suitable to guarantee to cover the client's risk of repayment for EES projects as they always include some limiting conditions, mostly short guarantee period, low guaranteed loan amount or as in the case of Expansion guarantees, it is directly specified that energy saving projects are not eligible.

Therefore, establishing of a programme financed from structural funds, which would provide low-cost or no cost credit guarantees to the private clients of EES projects would allow for refinancing such projects and thus implementation of higher number of projects in private sector. The opportunities need to be discussed with the key stakeholders, representing financial institutions.

The public fund could use for defining its terms and conditions the recommendations of the REFINE project for such guarantees:

- Energy service providers must be **eligible for guarantees**.
- The guarantee coverage must relate to payments made by the customer for energy supplies or energy savings.
- In order to enable the sale of receivables for payments for energy services and energy supplies, **the assignment of the guarantee to the purchaser of the receivable** must be legal.
- Not only the insolvency, but already a **payment arrears** with a certain minimum duration must trigger the guarantee payment in the amount of the arrears.
- The payment guarantee must cover the **entire arrears without a deductible**.

Guarantees by CMZR Bank

Czech-Moravian Guarantee and Development (CMZR) Bank's main activities is assistance to small and medium-sized enterprises and development of municipalities. SMEs are supported by bank guarantees and preferential loans.

CMZR Bank acts as the manager of loan and guarantee schemes funded from structural funds (ERDF), state budget, regional budgets or other sources and, in case of loan facilities, also through CMZRB's co-financing.

Below is more detailed description of some of bank guarantees provided by CMZR Bank to SME. The programme conditions can be summarized:

- No fees apply for the guarantees provided.
- Guarantee for working capital loan and/or investment loan is offered.
- Project location for all support listed below is territory of the Czech Republic (with exception for City of Prague for Expansions Guarantee and COVID SPORT guarantee.) Eligible sectors are always listed in an annex of the particular programme.
- Some of the programmes listed below focus on specific sector like COVID SPORT Guarantee (sport sector) or S-guarantee (social enterprises). The Expansion Guarantees are not eligible to the projects aiming at energy savings.
- The guarantee and financial contribution are granted as de minimis aid (Commission Regulation (EU) No 1407/2013) or under a block exemption (Commission Regulation (EU) No 651/2014).

Credit insurance

Export supplier credit insurance by EGAP

The purpose of Export Guarantee and Insurance Corporation (EGAP) insurance on export receivables is to promote Czech exports. EGAP was founded in 1992 as a joint stock company fully owned by the Czech Republic. The government exercises its shareholder rights through the Czech Ministry of Finance. Its activities are governed by the Insurance Law and the Act No. 58/1995 Coll., on insuring and financing state supported export.[2]

For all insurances offered by EGAP, the following conditions are required:

- The share of value of supplies with the origin in the Czech Republic in the export value exceeds 50%;
- The entity exists and carries out the activity being exported for a minimum of 2 years prior to the submission of the application.
- seamless credit histories of subjects;

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[2] The detailed description and conditions of all products offered by EGAP can be found on its website (https://www.egap.cz/en).

- environmental and social impact assessment of exports and non-application of international sanctions;

EGAP provides insurance of export supplier credit against the risk of non-payment both for exporters and banks. There are products to insure short term export supplier's credit (export claim) with maturity shorter than 2 years, as well as for the medium- and long-term export supply credit. For sale of receivables for EES projects the latter is much more relevant and is described below more in detail.

The conditions of insurance for **the medium- and long-term export supply credit** (export receivable) are the following:

- The maturity is longer than 2 years and the importer has to pay upfront (advance payment) a minimum of 15% of the total export value (price agreed in the export contract). Maximum credit amount is 85 % of the total export value.
- The share of local costs does not exceed 15% or, exceptionally, 30% of the Export Contract Value.

The amount of the premium depends on the volume of exports, the agreed payment terms, the method of securing payments, the assessment of the nature and riskiness of the importer, the assessment of the country or territories' risk of performing the export contract and the level of co-payment. The premium amount agreed already includes a possible increase or decrease in the insurance risk and is constant for the entire duration of the insurance.

Guarantees by Czech Export Bank

Czech Export Bank (CEB) is a specialised, directly and indirectly state-owned banking institution. Established in 1995, it forms one of the pillars of the government's pro-export policy system.

The CEB will satisfy the beneficiary up to a certain amount of money, depending on the contents of the guarantee instrument, if the debtor (the originator) fails to fulfil a certain obligation or other conditions set out in the guarantee instrument are fulfilled.

The CEB provides bank guarantees both domestically and abroad in the form of a direct guarantee or an indirect guarantee:

- The CEB issues a **direct guarantee** to the benefit of the beneficiary.
- If another bank is involved, the CEB issues an **indirect guarantee** (counter-guarantee) in favour of the bank, on the basis of which this bank issues a guarantee in favour of the beneficiary.

The CEB provides the following types of guarantees:

- **The Bid bond** ensures that the exporter will honour the commitment and enter into an export contract if his bid is successful in the tender.
- **The Performance bond** ensures that the exporter keeps his or her commitment and duly fulfils the terms of the export contract. The guarantee is used to ensure delivery timing and quality.

- **The Advance payment guarantee** ensures that the exporter honours his or her commitment and returns the payment or part thereof if he or she fails to supply goods, equipment, services or work in accordance with the terms of the relevant export contract.
- **The Retention Money Guarantee** (Retention Bond) guarantees the obligations of the exporter within the warranty period and allows the exporter to dispose of the funds of the restraint which would otherwise be paid after the expiry of the warranty period.
- **The Warranty Bond** (Warranty Guarantee) is used to ensure the quality of delivery during the warranty period. The Czech Export Bank guarantees the quality of supply required by the relevant export contract during the guarantee period.
- **Export Guarantees** (SME Support Programme)
    - The product is particularly suitable for small and medium-sized enterprises, which are involved in the business cases of exporters who are clients of the CEB, or commercial banks, by way of subcontracting.
    - The essence of the program is financing provided by commercial banks, which is provided by a bank guarantee issued by the CEB, a.s.
    - The guarantees are insured using the EGAP - "Z" insurance product, where the CEB is the insured party.

4.1.4 Starting points for Guarantees for EES contracts in Greece

Framework of Public Guarantees

The Hellenic Development Bank (HDB), subject to the supervision of the Bank of Greece, was established by Law 4608/2019 (Government Gazette A΄ 66/25.4.2019) and is the successor of the Hellenic Fund for Entrepreneurship and Development (ETEAN SA). ETEAN was established by Law 3912/2011 (Government Gazette A17/17.2.2011), as a financial institution fully owned by the Greek State bearing an initial share capital of Euro 1.7 billion, of which Euro 1.5 billion in Greek Government Bonds (GGBs) and approximately € 213 million in cash. ETEAN in its turn was the successor of the Guarantee Fund for Small and Very Small Enterprises (TEMPME SA), which was founded in 2003 as a public limited company wholly owned by the State, aiming to facilitate the access of SMEs to the financial market. TEMPME's capitalisation rose to Euro 240 million, funded by the EU [ERDF (67%) and national sources (33%)].

Nowadays, HDB has broadened the scope of its services, to include, apart from the extension of guarantees and co-guarantees, the origination and management of innovative special purpose funds, co-financing loans and/or guarantees at attractive terms.

Role of the Structural Programmes

In conjunction with the current EU Structural Funds Program 2021-2027, a new Operational Programme (OP) could be established by the Hellenic Ministry of Energy and Environment which is currently planning the allocation of the Structural Funds to new, thematic OP's. A new OP could be planned for the establishment of a Public Guarantee Fund managed by HDB to aid in the financing and re-financing energy efficiency measures in the industrial and tertiary building sectors of the private sector, both of which lack state aid which they particularly need following the 2010 financial crisis and the ensuing Covid-19 pandemic outbreak.

Credit Insurance and Export Guarantees

The Export Credit Insurance Organization (OAEP) was established by Law 1796/88. It is an autonomous non-profit organization in the form of a Public Entity governed by Private Law and it is governed by a nine-member Board of Directors, supervised by the Ministry Economy and Finance, while its Guarantee Fund currently amounts to 1.47 billion euros. Specifically, the Organization offers: short-term export credit insurance programs, insurance schedule for medium-long term export credits, technical works insurance programs, credit insurance programs to the buyer and foreign investment insurance programs.

Both credit guarantees and export guarantees are also provided by most of the Greek Banks. However, credit guarantees are usually very short-term (i.e. up to 180 days), whilst export guarantees cover periods less than 2 years. Export guarantees for more than 2 years usually concern the insurance of "intermediate" or "capital" goods, such as machinery, cables, telecommunications equipment, etc., which have a long life and relatively high value.

Elements of existing framework

Recently, the HDB created the "COVID-19 Business Guarantee Fund" to support businesses' access to loan capital, through the provision of collateral. Its objective is to mitigate the effects of the COVID-19 Pandemic on the operation of businesses, by enhancing their liquidity with working capital loans. All companies operating legally in Greece, except those based abroad, holding companies in other companies, companies in the financial sector, public bodies and their subsidiaries, local authorities and their subsidiaries are eligible.

Lever for the involvement of the REFINE team/expertise

As CRES is the national co-ordination centre for Renewable Energy Sources (RES), Rational Use of Energy (RUE) and Energy Saving (ES) in Greece, it is in a very favorable position to both propose and lobby to the Hellenic Ministry of Energy and Environment the establishment of a Program (either funded by the upcoming Structural Funds Programme or not) for the establishment of a Public Guarantee Fund managed by HDB to aid in the financing and re-financing energy efficiency measures in the industrial and tertiary building sectors of the private sector. CRES would have a primary role in the Fund as technical adviser to HDB.

4.1.5 Starting points for Guarantees for EES contracts in Italy

The current Italian framework of energy efficiency guarantee funds is rather limited in terms of concrete and accessible offers. Regarding energy efficiency refinancing operations very few cases can be analysed, although there is a growing interest in the refinancing mechanism from EES providers that are looking for new liquidity selling their credits and from some private equity funds wanting to expand their portfolio buying EE projects. The role of guarantees in those rare refinancing operations seems to be relevant although not decisive in the outcome of these operations (interviews to ENEL-X COGENIO and to GSE).

Therefore, this document is describing the Guarantees instruments available in Italy for EE interventions in general, and not specifically related to the refinancing mechanisms.

We want to highlight following initiatives:

1. **FNEE** - Fondo Nazionale Efficienza Energetica (Public)
2. **SME Guarantee Fund** (Public – not specific for EEI)
3. **FIEE** - Fondo Italiano per l'Efficienza Energetica SGR (FIEE SGR – private equity fund)
4. **Go-Safe with ESI** (private - ESI Energy-savings insurance – H2020 EU project)
5. CIS Broker Insurance for ESCOs (private insurance)
6. **LIFE4ENERGY by Bank BPER** (Private Finance For Energy Efficiency - PF4EE EU Project, with EIB guarantees)
7. **Garanzie Confidi**, Consorzio di Garanzia Collettiva dei Fidi (private Mutual or Associative funds - not dedicated to EEI)
8. **Other insurance services for EE investments** (private offered by several insurance companies)
9. Regional Revolving Guarantee Funds (public, i,e VDA, Tuscany)

The EES providers operating in Italy are mainly SMEs with a limited financial capacity, in particular when they are new in the market, and they find themselves forced to resort to risk capital. The FIs almost always require adequate financial resources that companies must present to guarantee the required capital.

The difficulty in finding the resources necessary to start a business are particularly high for companies operating in the energy sector and for the EES providers requiring large capital to undertake generally non-repetitive initiatives, in favour of a heterogeneous clientele and with long payback times. Most EES providers do not have capital or other assets to guarantee the requested loans and their investments are repaid in 9-12 years, while banks generally grant them short-term loans (3 years).

RES investments have benefited in recent years from several incentives, facilitating the intervention of banks proportionally to the amount of public support and the possibility of using the incentives themselves as a guarantee for investments. Energy efficiency, on the other hand, is characterized by a multiplicity of different interventions, generally of limited economic dimensions, and although they are normally interesting even in the absence of incentives, suffer the lack of knowledge on the part of credit institutions - i.e., high perception of financing risk, loans proposed only on company rating and guarantees.

After the end of a long season of feed-in tariffs for RES and public grants for EE we assist to the transition to a new model based on grid parity for large RES plants, on Tax Deduction for residential sector (Superbonus) and on the stimulation of the financial and banking sector to improve confidence and concrete support towards investments on the EE.

Recent policies and European programs to intervene both to spread knowledge by credit institutions, favouring the production of dedicated financial packages, and the introduction of guarantee of the EE interventions themselves.

The guarantee funds are managed by the European Union or, at national level, by the state or by some regions, more rarely they are private funds.

Generally, the guarantee funds are made with the sums set aside in the balance sheet of an institution or public administration, and available for the banks to cover the loan requested by public and private entities.

Looking at the guarantee instruments for the EE sector, the sources of funding can be

- Resources from the European Community Structural Funds
- Capital from national and regional public sources
- SME Mutual guarantee fund subscriptions (see CONFIDI)
- Investors, funds of funds, foundations converging resources in private funds

These Funds act as guarantor to the bank that grants the loan to the company, in the event of failure to repay the capital, but more often their principal role is in financing EE with loans, dedicating a minor share of the fund for guarantees.

The advantages offered by guarantee funds are, for companies, the possibility of accessing financing with better conditions and, for financial institutions, the sharing of the risk with the Guarantee Fund, which in fact reduces the risk. The guarantees are based on the principle of risk sharing between the lending institutions and the guarantors, which generally cover 40-80% of the value of the loan.

Some details of the main initiatives listed above will be presented below.

Public Guarantee Funds

1.FNEE – Fondo Nazionale Efficienza Energetica, emitted by Ministry of Economic Development and managed by the public agency INVITALIA, is dedicated to companies, EES providers and public entities.

The concessions are granted in the form of a loan and / or guarantee and requests for access to the concessions must be submitted exclusively through banks or financial intermediaries. The guarantee is provided on individual financing transactions and covers up to 80% of eligible costs for amounts of € 150 thousand and € 2.5 million with a maximum duration of 15 years. The subsidized loan of 0.25% covers up to a maximum of 70%.

The Interministerial Decree of 5 April 2019 approved the operating procedures for submitting applications for subsidies to the National Fund for Energy Efficiency

The Fund applications are evaluated based on the chronological order of arrival and there are no rankings. The incentives - low-interest loans and guarantees on financing transactions - are managed by Invitalia a public agency. The total capacity today is € 310 million. The capacity is dedicated for 30% to guarantees and 70% to soft loan. The capacity of the loans is dedicated for 30% to DHC interventions and 20% is reserved to public administrations.

For EES providers	For Public Entities
Guarantee up to 80% of the admitted costs	No guarantees
Amount between 150.000 and 2.5 ML€	
Duration: max 15 year	
Loan - Fixed rate 0,25 %	Loan - Fixed rate 0,25 %
Max 70% of the admitted costs	Max 60% of the admitted costs But up to 80% for infrastructures (i.s DHC, lighting)
Amount between 250.000 and 4 ML€	Amount between 150.000 and 2 ML€
Duration: max 10 year (+ 3 years preammort)	Duration: max 15 year (+ 3 years preammort)

Companies have to ensure financial coverage of the investment (at least 15% with own means).

Aggregated or associated companies can request the facilities in the same way:

- only for guarantee
- only for loan
- for both guarantee and loan

Currently the success of these initiatives is very limited as only 17 projects have been funded for a total of 12 million. The main critical issues are the approval timing, complex procedures, EE interventions selective assessment and above all the company evaluation criteria considered very strict with the result that several EES providers decided to move toward banks offering better services. On the other side for the public entities appears in general an instrument too complex if compared with other financial sources.[3]

2. Fondo Garanzia PMI - SME Guarantee Fund [4]**,** is a facility provided by the Ministry of Economic Development, also financed with European resources, that can be activated for loans granted by banks, leasing companies and other financial intermediaries.

The intervention is offered up to a maximum of 80% of the loan, on all types of operations both short and medium-long term, both for liquidity and for investments. The Fund guarantees companies a maximum amount of € 2.5 million, which can be used through one or more transactions, without a limit to the number of transactions that can be carried out. The limit of € 2.5 million refers to the guaranteed amount, while there is no maximum ceiling for the loan as a whole. The guarantee is granted free of charge and has been recently raised to € 5 million per single company. The guarantee percentage was raised to 80% in direct guarantee and 90% in counter guarantee for all operations up to € 1.5 million

The total capacity of the fund, that is intended as rotative, is €350 million.

Private Guarantee Funds

3. FIEE[5] is a private equity fund dedicated to EE investments created in 2015. FIEE's first fund is fully invested ahead of schedule, and recently has launched its second fund – the Italian Energy Efficiency Fund II (FIEE II) – with a first close of €127.5 million, above the initial minimum of €100 million. The Fund, with a target size of €175 million, gets €39.9 million from the EIB, backed by the European Fund for Strategic Investments (EFSI).

Fondo Italiano per l'Efficienza Energetica SGR (FIEE SGR), is the leading Italian fund specialising in energy efficiency for energy transition. FIEE investments are finalized in companies operating in the residential, energy community and HVACR segments and its main focus is in the realization or the refinancing of EES projects, in cooperation with primary EES providers. The FIEE has the capacity to act also as guarantee fund for partners operations negotiating such service.

4. GoSafe with ESI[6]**,** this energy savings insurance of the ESI model is a policy to cover clients in the event that promised energy savings are not achieved, and that the TP cannot fulfil its commitments. The energy savings insurance is a surety bond type of insurance, which is a contractual agreement among three parties: the TP, the insurance company and the client.

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[3] www.invitalia.it/cosa-facciamo/rafforziamo-le-imprese/fnee

[4] www.fondidigaranzia.it/servizi-online-per-le-imprese/banche-e-confidi-convenzionati/

[5] www.fieesgr.com/ and https://www.eib.org/en/press/all/2020-219-fiee-sgr-gets-eu-backing-to-close-its-second-fund- dedicated-to-energy-efficiency

[6] https://cordis.europa.eu/article/id/422270-reduced-risk-for-smes-contemplating-energy-efficiency and https://www.esi-europe.org/insurance/

The objectives are to:

- provide a guarantee that reduces the energy efficiency investment risk for clients by insure TP's savings guarantee commitment
- increase the commercial banks' willingness to lend to the clients for these project types given the reduced default risk

The Energy Savings Insurance (ESI) Europe project has received funding from the European Union's Horizon 2020 research and innovation program in the call for innovative financing scheme (EE-23-2017). The project involves rolling out the ESI model in Italy, Portugal and Spain, and developing an ESI Europe Toolkit and video to enable the broader uptake of the model in other European countries. The ESI Europe project brings about a turnkey solution for SMEs wary of the risk of investing in energy efficiency. Its approach has been presented to relevant SMEs in Italy, Portugal and Spain. It is already supported by major insurance companies and financial institutions.

5.CIS Broker Insurance for EES providers[7]**,** offers to EES providers insurance products and services that help to eliminate the uncertainty of the operating result, linking the insurance coverage to the contracts stipulated, covering any difference between the agreed energy savings and the actual result achieved in the period of validity of the link with the company.

The value of the insurance coverage for EES providers is calculated on the basis of the amount of savings contracted with the client company and assessed on the basis of the time reference for applying the contract, usually between 3 and 10 years, analysing the different contractual elements such as the commercial proposal, the different contracts for the supply, performance and energy diagnosis. The EES provider can create a Performance Bond through this insurance service, to enforce the EES with the client covering the performance risk.

6.BPER – BANCA POPOLARE EMILIA ROMAGNA – LIFE4ENERGY[8], is a loan instrument by BPER guaranteed by the EIB, intended for companies that decide to implement energy efficiency measures. It is part of the "Private Finance for Energy Efficiency (PF4EE)" project supported by the European Union under the LIFE PROGRAM. It benefits from both a risk-sharing mechanism, with access to the guarantee fund covered by the EIB, and from a long-term loan at competitive conditions. The maximum amount of € 5 million is only foreseen if the beneficiary is an SME or if the loan is intended for the energy performance of a building.

The Private Finance for Energy Efficiency (PF4EE) instrument is a joint agreement between the EIB and the European Commission which aims to address the limited access to adequate and affordable commercial financing for energy efficiency investments. The instrument targets projects which support the implementation of National Energy Efficiency Action Plans or other energy efficiency programmes of EU Member States.

[7] https://www.cisbroker.it/n/12-soluzioni-assicurative-per-societ-esco.html
[8] https://www.eib.org/en/products/mandates-partnerships/pf4ee/index.htm and https://www.bper.it/imprese-professionisti/finanziamenti/agevolati/life4energy

The PF4EE instrument's two core objectives are:

- to make energy efficiency lending a more sustainable activity within European financial institutions, considering the energy efficiency sector as a distinct market segment.
- to increase the availability of debt financing to eligible energy efficiency investments.

The PF4EE instrument will provide:

1. a portfolio-based credit risk protection provided by means of cash-collateral (**Risk Sharing Facility**), together with
2. long-term financing from the EIB (**EIB Loan for Energy Efficiency**) and
3. expert support services for the Financial Intermediaries (**Expert Support Facility**)

4.1.6 Starting points for Guarantees for EES contracts in Latvia

In Latvia public guarantees are provided by ALTUM based on Cabinet Regulations, and are available for enterprises, export, and residents.

For enterprises

De minimis aid pursuant to the Commission Regulation (EU) No. 1407/2013 of 18.12.2013. in form of credit guarantee is provided through ALTUM (state-owned development finance institution in Latvia) based on Cabinet Regulation No. 383 (Regulations on guarantees for undertakings to improve competitiveness). Guarantee is available for any legal person with couple of exceptions:

- legal person has tax debt over 150 EUR
- primary production of agricultural products
- primary production of fishery products and aquaculture
- financial and insurance activities
- gambling and betting
- manufacture and sale of tobacco products
- arms, ammunition and alcohol trafficking
- real estate activities (NACE Rev. 2, Section L "Real estate activities", group 68.1 "Buying and selling of own real estate" and group 68.31 "Real estate agencies")
- the purchase of goods road transport vehicles for merchants who perform commercial transport by road transport
- for projects which have been finished, with exception if ALTUM previous guarantee term has been extended

Guarantees for viable companies that need financing due to the Covid-19 spread, in order to renew, maintain or promote competitiveness and increase turnover, including export provided though ALTUM based on Cabinet Regulation No. 545

(Regulations on guarantees for large companies that have been affected by Covid-19 outbreak) available till June 30th 2021.

Loan holidays guarantee due to Covid-19 - for companies that have experienced objective difficulties in making loan repayments to banks due to the Covid-19 crisis, ALTUM offers a credit guarantee that will allow the bank to defer payment of the principal amount. Guarantee is based on Cabinet Regulation No. 150 (Regulations concerning guarantees for economic operators affected by spread of covid-19). Guarantee is available till June 30th 2021.

For export business

Export credit guarantee is available based on Cabinet Regulation Nr. 866 (Terms and Conditions for Issuing Short - Term Export Credit Guarantees to Merchants and Relevant Agricultural Service Cooperatives) and is provided through ALTUM.

For residents

Housing guarantees for young specialists - guarantee for a bank loan for purchase or construction of the housing for the young specialists with regular income but not enough savings to make the first payment. Guarantee is provided through ALTUM and Programme is regulated by Cabinet Regulations No. 95 of 20.02.2018. (Regulations on State Aid for Purchase or Construction of Living Quarters).

Additional Information

EU structural programs play a role in this context, such as the development Bank that has utilized some of the already allocated structural funds resources to provide guarantees to banks who lends directly to beneficiary.

There are, to our knowledge, no credit insurance available on the market in Latvia. Generally, refinancing has been limited in Latvia and therefore guarantee instruments for refinancing have found little scope of applying till this point.

ALTUM development bank has recently signed for guarantee instrument under the PF4EE programme to be used with loans provided through commercial banks for Energy Efficiency projects. F3 is in discussion for potential utilization of PF4EE across number of countries.

4.1.7 Starting points for Guarantees for EES contracts in Slovenia

Framework of public guarantees

In November 2017 the Ministry of Economic Development and Technology appointed SID Bank as manager of the Fund of Funds for the implementation of financial instruments within the European cohesion policy 2014-2020 framework, into which EUR 253 million will be paid by 2023 from European Cohesion Fund. The purpose of establishing the Fund of Funds is the promotion and financing of sustainable economic growth and development, investments in innovations and current operations through debt and equity financing on four areas in which market gaps were identified based on a preliminary assessment of financing gaps: research, development and innovations, small and medium-sized enterprises, energy efficiency and urban development.

SID Bank (SID – Slovenska izvozna in razvojna banka, d.d., Ljubljana) is a promotional development and export bank 100 % owned by the Republic of Slovenia. SID Bank was established in 1992 as Slovene Export Corporation (Slovenska izvozna družba, d.d., Ljubljana) with the aim of providing insurance and financing of export for Slovene companies. As the sole shareholder, the Republic of Slovenia is responsible irrevocably and without limitations for SID Bank's liabilities deriving from the transactions concluded during the pursuit of activities from Articles 11 and 12 of the Slovene Export and Development Bank Act (ZSIRB).

SID bank eases access to commercial bank's financing for SMEs through the Fund of Funds portfolio guarantees. Small and medium enterprises can receive loans with SID bank's guarantee in total amount of EUR 100 million directly at participating commercial banks - Nova Ljubljanska banka, Delavska hranilnica and Primorska hranilnica Vipava. This way SMEs are able to receive favourable terms of financing with lower necessary credit insurance.

Participating banks are able to take advantage of SID bank's guarantees when crediting investments and operational costs of sole proprietorships, micro, small and medium enterprises. Final beneficiaries can receive loans amounting from EUR 30 thousand to EUR 10 million with partial 62.5 % risk of loss coverage.

Establishment of a guarantee fund financed from Cohesion Funds, in order to provide low-cost or no cost credit guarantees for financing EES projects, was foreseen in the Operational Programme for the Implementation of the EU Cohesion Policy in the Period 2014-2020. The SID Bank was identified as implementing body and funds for this financial instrument were allocated. Unfortunately, the fund was not established and funds now available as energy efficiency loans provided to the public sector are being mainly unused.

Slovene Enterprise Fund: The Slovene Enterprise Fund (SEF) is a public financial fund for financial support to Slovenian micro, small and medium-sized enterprises (SMEs) with favourable guarantee, credit and equity lines for the growth and development of the SMEs and start-up lines for new enterprises. Beside start up incentives, seed capital, venture capital and microcredits, the SEF offers guarantees as collateral for bank loans with interest rate subsidy that represent the largest share of the approved funds of SEF.

Credit guarantees

Credit guarantees are available from the commercial banks operating in Slovenia, and considered as one of possible collaterals. Its use to refinance an EES project is considered acceptable up to an extra cost of 2 %.

Insurance

As an authorized export-credit agency (ECA) SID Bank provides insurance for international commercial transactions against non-marketable risks on behalf of the Republic of Slovenia and for its account as its agent. The funds required for the effective provision of insurance operations under the Law on Insurance and Financing of International Business Transactions (ZZFMGP) are provided to SID Bank by the Republic of Slovenia in the form of contingency reserves that are used to settle liabilities to the insured entities (claims payout) and to cover losses deriving from such transactions. Insurance services comprise:

- Export Credit Insurance
    - Supplier Credit
    - Foreign Buyer Credit Insurance
    - Foreign Bank Credit Insurance
    - Purchase of Receivables Insurance
    - Post-financing of L/C Insurance
- Pre-Export Credit Insurance
    - Designated Credit Insurance
    - Credit Line Insurance
    - Investment Insurance
- Equity insurance
    - Insurance of shareholders' loans
    - Insurance of non-shareholders' loans
    - Insurance of Bank Service Guarantees

Guarantees for refinancing EES projects

Based on interviews with the FIs and the EES providers who participate on refinancing of EES projects, normally, no credit guarantees or insurances are used to refinance the EES projects in Slovenia. However, the current range of refinancing of EES projects is very low. When financial institution (FI) purchases receivables from an EES provider, the FI assumes the risk of the client's insolvency only and other risks stay with the EES provider.

4.1.8 Starting points for Guarantees for EES contracts in Spain

The current situation in Spain with respect to guarantees for the refinancing EES contracts is rather undeveloped. Nevertheless, efforts are being made to provide energy efficiency refinancing operations with adequate guarantees.

In particular, we have found the following related initiatives:

- Fondo GEEVE (Public)
- Public guarantee fund for electro-intensive activities (Public)
- Seguro Eficiencia Energética de la Mutua de Ingenieros (Private EE insurance)
- Seguro de ahorro energético ESI (ESI Energy-savings insurance)
- CESCE Póliza Verde (CESCE Green Insurance Policy)
- Energy Service Company Certificate (Private quality certificate for EES providers)

GEEVE Fund (Energy Efficiency Guarantee of Housing in Extremadura)

The case of the GEEVE fund, which stands for Guarantees for Energy Efficiency in Housing in Extremadura[9], deserves a special mention. This initiative, promoted by the regional government of Extremadura (a region in western Spain), focuses on guaranteeing loans granted by private financial institutions to homeowners interested in improving the energy efficiency of their homes. Its main goal is to overcome existing barriers to financing the energy renovation of existing buildings. The creation of the fund has been one of the results of the HOUSEENVEST[10] project. The fund is oriented to homeowners' associations or individual homeowners, who develop bankable projects that contribute to achieving energy efficiency improvements such as energy savings, reduction of greenhouse gas emissions or comfort improvements.

The loans are limited to 800.000 EUR per project and beneficiary, with a duration to be determined based on calculations of estimated theoretical savings. Loans will be granted without the requirement of additional collateral or guarantees from the applicants.

Eligible projects to take advantage of the guarantee granted by the Fund must include at least one measure from each of the following typologies:

- Energy renovation and improvement of the building envelope:
    - Measures to renovate and improve thermal insulation in façades, roofs, and other external elements of the building.
    - Improving of insulation conditions of the separating elements between living and non-habitable spaces.
    - Incorporation of elements that reduce overheating of the building.
- Energy refurbishment and improvement of the building's facilities:
    - Replacement of heating and/or cooling systems with more energy-efficient aerothermal systems.
    - Replacement of existing heating and/or sanitary hot water systems for more efficient ones.
    - Implementation of renewable energies
    - Improvement of the energy efficiency of the water supply in the building.
    - Improvement of the energy efficiency of the building's electrical systems.
    - Implementation of monitoring and control systems for the facilities.

Public guarantee fund for electro-intensive activities

This guarantee fund financed by the Spanish government targets the largest electricity consumers, such as large steel, metallurgical and chemical industries. These companies, united under AEGE[11] (Association of large electricity consumers), account for 9% of Spanish electricity consumption.

[9] http://fondogeeve.com/
[10] https://renuevatucasa.eu/
[11] AEGE: Asociación de Empresas con Gran Consumo de Energía; https://www.aege.es/

The aim of this measure is to provide guarantees for the medium and long-term purchase of energy by this type of companies, with a fund of 814 million euros over 10 years. The PPA contracts guaranteed by this initiative are signed between a renewable energy producer and an electro-intensive company. The contract provides for the supply of a specific amount of energy for a certain period of time and at a fixed price.

The ultimate objective is to reduce the risks related to the fluctuation of the electricity market and to cushion the impact of energy costs on the competitiveness of these companies.

Energy Efficiency Insurance from Engineering's Mutual Company[12]

This energy efficiency insurance specially designed for EE interventions, can help reduce the uncertainty of this kind of projects. It consists of three coverages:

- Savings promised but not generated: the difference between the estimated savings and the actual savings provided by an implemented EE measure, is insured to a maximum term of 5 years.
- Property damage: any risk of property damage due to a sudden unforeseen cause which may result in the total or partial destruction of the EE installations.
- Business interruption: loss of profit or expenses caused as a consequence of an accident to the property insured in the previous section.

Contracting this insurance can provide certain advantages such as improving the EES provider's rating, making it easier to obtain financing or minimizing the technical risks of the project.

Following the contracting process, firstly, the insurance company suggests a premium and audit fee orientation. The audit fee is free in the cases where the investment amounts is higher than 500.000 € and meets the ICP (Investor Confidence Project) standards.

Once the premium orientation has been accepted, more exhaustive information is requested and the final premium is quoted, at which point the audit fee must be paid in order to proceed to study the project.

If the proposed final premium is not accepted by the potential contractor, there is no commitment to contract the insurance policy.

The minimum contracting is for Material Damage and Energy Efficiency, the Loss of Profits for material damage claims is optional.

[12] https://www.boe.es/diario_boe/txt.php?id=BOE-A-2020-14317 and https://www.mincotur.gob.es/es-es/GabinetePrensa/NotasPrensa/2020/Paginas/200626Np-Fergei.aspx

Energy savings Insurance (Seguro de ahorro energético - ESI)

ESI's energy savings insurance covers energy efficiency interventions in the event that the promised energy savings are not achieved, and the responsible energy service company is unable to meet its commitments. [13]

Energy savings insurance has the structure of a surety insurance or a performance bond. The insurance consists of a contract in which the insurer commits to indemnify the client for damages suffered if the policyholder (EES provider) fails to fulfil the guaranteed energy savings.

The energy savings insurance is triggered only in the case where the expected energy savings are not achieved, the validating entity verifies that these savings were not achieved, and the energy service company does not comply with the compensation agreement.

In this case the insurer would compensate the client and then ask the EES provider for the reimbursement. This product is a result from the Horizon 2020 research and innovation program.

Compañía Española de Seguros de Crédito a la Exportación (CESCE) - Green Policy

The Spanish company that gives credit guarantees for export (CESCE) is the main institution in Spain for insuring export credit risks. CESCE's capital is subscribed 50.25% by the Spanish State, 45.20% by the country's main banks and 4.55% by insurance companies established in Spain. [14]

In commercial transactions abroad, the risks of non-payment are numerous, ranging from the termination of the contract by the buyer to bankruptcy, including force majeure and the country's difficulties in meeting its foreign commitments due to a poor balance of payments situation etc. Risks related to the seriousness and solvency of the buyer are called commercial risks; those of force majeure, extraordinary risks; and those derived from the general situation of the country and its capacity to meet its foreign currency payments, political risks. CESCE is precisely the instrument offered by the Spanish State to cover both types of risk.

With regard to guarantees for refinancing energy efficiency interventions, CESCE offers its wide range of insurance options but with special advantages. The Green Policy is a special program aimed to companies related to energy efficiency, sustainability, renewables energies etc. Under this program CESCE offers a special treatment for these companies by providing its usual products with:

- Price: 25% discount on fees
- Study fees: 30% discount on fees
- Access to financing: special conditions

[13] https://www.esi-europe.org/es/seguro/

[14] https://www.cesce.es/seguros-de-credito/cesce-poliza-verde

Energy Service Company Certificates

The Energy Service Company Certificates are also interesting for the purpose of refinancing operation. This certificate provided by ANESE[15] accredits whether a company meets the necessary requirements to carry out an energy services contract and guarantee energy savings per contract.[16]

Demonstrating the existence of contract clauses guaranteeing the amortization of the investment based on energy savings or penalties for non-compliance with savings levels, are some of the requirements that a company must have in order to obtain this certificate.

Thanks to this certificate, customers and financial institutions can increase their confidence in energy service companies, ensuring that the company follows rigorous and demanding work guidelines.

4.1.9 Starting points for Guarantees for EES contracts in Ukraine

Framework of public guarantees

In January 2022 the Government of Ukraine announce and launched a new programme for SME loans guarantees to support the business. There are 11 State and private banks that shared the state guarantee amount UAH 3,9 bln (about EUR 130 mln) and provide guaranteed loans to its clients from small and medium enterprises. The State bank Ukrexim can not only issue loans with a guarantee, but also acts as a government agent in the program. In order to take part in it, the creditor banks sent applications and passed the selection. Currently, Ukreximbank monitors the implementation of the program and will accompany settlements in case of warranty cases. The bank predicts that the program will gain momentum in the near future. EES companies can potentially apply for the guaranteed financing as it provides access to financing without collateral.

Credit guarantees

Credit guarantees are available from the state commercial banks operating in Ukraine, and considered as one of possible collaterals. Its use to refinance an EES project is not common practice yet.

There are various technical international assistance programmes in Ukraine that employ credit guarantee instruments in order to allow financing of businesses in Ukraine in a specific sector/industry or with specific purpose.

Insurance

The traditional insurance market is well developed in Ukraine with stakeholders such as insurance companies operating in the market.

[15] ANESE: Asociación Nacional de Empresas de Servicios Energéticos; https://www.anese.es/

[16] https://www.anese.es/clasificacion/sellos-ese-y-ese-plus/

At the same time based on the interviews with the market players there no such products as energy efficiency or energy savings insurance at the market.

Guarantees for refinancing EES projects

Based on our interviews with the banks and the EES providers who participate in financing or refinancing of EES projects, normally, there are no credit guarantees or insurances used to finance/refinance the EES projects in Ukraine. However, since there are products available for small and medium enterprises with the state loan guarantee programme, we anticipate the development of those products.