# Test Method Description and Overview of Pilot Applications

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REFINE



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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).

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**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**

# **1.1. The REFINE project**

This document has been developed as part of the REFINE project (Mainstreaming of refinancing schemes as enhancer for the implementation of energy efficiency service projects). The project, supported by the European Horizon 2020 programme, aims to contribute to the supply of sufficient and attractive financing sources to EEI (Energy Efficiency Improvement) investments through the enhancement of refinancing schemes which are important amplifiers of the market growth.

The financing of energy efficiency measures is usually characterized by the need for high investments and long payback periods. Depending on the final client's sector, these characteristics can put a huge burden on balance sheets and can be a drawback for the implementation of the EEI measures. Financing agents, such as banks or equity providers, might be reluctant to provide financing for non-core investments, thus making the process of financing efficiency interventions more difficult. Finally, EES (Energy Efficiency Services) providers will saturate their balance sheets, preventing them from undertaking more projects due to the debts that customers have contracted with them.

A refinancing scheme is understood as an approach whereby an EES provider sells to a refinancing institution the receivables to be paid by an EES client. This kind of scheme can help to overcome certain financing barriers that frequently emerge in the EES business in general and in most South and Eastern European countries in particular.

# 1.2. Objective of this document

At the time of designing this testing method, a variety of tools, instruments and services are being developed within the scope of the project to facilitate the refinancing of projects, reduce transaction costs for borrowers, and develop energy efficiency services as an asset class for corporate investors, among other objectives.

This document contains the guidelines to support partners on the testing phase of the refinanceability of pilot projects. This testing method is suitable for the assessment of the features, instruments and services connected to the refinancing that have been previously identified in real-life projects.

To ease testing activity, Creara has developed a **data acquisition template** (an excel template that is provided enclosed). Filling the template for each pilot will serve as a source for learning about the conditions for refinanceability, allowing the comparison among different countries, sectors and allowing conclusions to be drawn (ex-post) on the correlation between certain characteristics of projects and their refinanceability. Afterwards, these conclusions are expected to feed the test reports for each category of refinanceability (D4.2 and D4.3) and the final consolidated report (D4.4).



It is important to note that both this document and the data acquisition template can be subjected to future modifications once users start the testing activity. Especially, considering the information available and the level of concreteness of the pilots, adjustments might be needed to capture the feedback from the rea-life projects.

The following chapters present a description of the testing method along with the guidelines for partners to fill the data acquisition template.



# 2. TEST METHOD

The test method has been designed to analyse the impact on the refinanceability of the pilot projects through the collection of information and data in a structured manner. For that purpose, it contains 4 sections, each section corresponding to the main aspects subject of testing:

- Refinancing concepts: general characteristics of the project, such as the sector of the end-client, the main contractual terms established among parties, among others.
- **Guarantee instruments:** risk sharing and performance risk handling mechanism, collateralization of receivables and other guarantees.
- Rating system: rating system of the three main risk's categories: default risk (L1), project risk (L2), contract risk (L3).
- Facilitation services: standardized brokerage services that can be provided by facilitators to foster EES. They can be core services (e.g.: due diligence of the project) or neighbouring (e.g.: Market development).

The testing method has been designed so that it can be adjusted to projects at different stages of development and so that one or more of the aspects can be evaluated independently (e.g.: a pilot project can be implemented without guarantee instruments or facilitation services, in that case, those sections will not be answered).

The data acquisition template contains a different tab for each of these sections. In addition, a general input tab has been added. This tab must be filled for each pilot project with data regarding the aspects that will be subjected to evaluation (one or more simultaneously). Other fields to be filled in the "general input tab" are related to the data provider (the partner or the pilot counterpart), and the project to be refinanced (location, type of measures implementing, savings). This tab will help to provide some background information of the pilot and the project to be refinanced, however a high level of detail is not needed.

# 2.1. Refinancing concepts

This section focused on the assessment of the most basic aspects and defining characteristics of the refinancing projects.

Below, the distinguishing features that define each type of project have been brought together.

# 2.1.1 End-client sector

There are different profiles of end-client interested in carrying out energy efficiency interventions. The common ground is that they are looking for energy savings and do not wish to make a large down-payment. Despite this, the nature of the end-client is important in the refinancing of an energy efficiency project. Normally, the



more creditworthy the end-client of an EE installation is, the easier it is to refinance the project, as the refinancing institution can be more confident of receiving payments until the project is paid off. The main end-customer profiles identified are:

- Public clients: they usually have a high level of creditworthiness. For them, it is frequently important that the cost of the project does not have an impact on its accountability for public debt<sup>1</sup>.
- **Corporate clients:** the driving interest for this type of customer towards implementing EE Improvements via an EES Provider, is the off-balance sheet financing that can provide them with liquidity to invest in their main business.
- SME: smaller than the corporate client and sometimes counting on less credit worthiness but able to speed up the decision-making process due to their smaller operational structure.
- Private real estate owners: for this type of clients, one of their most frequent activities is the refurbishment of their own building stock. Their own activity makes them experienced in the field and they might be more inclined to accept the refinancing operation easily.
- **Owners of single-family houses:** in this case, the clients are usually small, single-family homeowners. For this client profile the issues of affordability and regulatory frameworks are the most important.
- Neighbourhood communities or homeowners' associations: Case very similar to the previous one but with some additional challenges, such as getting the acceptance of all or a majority of the neighbours, collecting payments or assessing the solvency of the set of clients.

Once the type of client of the EE project has been identified, there are certain questions arise regarding the client's rights and obligations and how this may affect the refinanciability of the project:

- Which level of creditworthiness can be attributed to the client? (Low; Medium; High).
- Which of the following statements better define the rights of the end-client towards refinancing? (The receivables can be transferred to the refinancing institution without the previous authorisation of the end-client; Refinancing is contemplated in the original project contract (for EES), but the end-client

<sup>&</sup>lt;sup>1</sup> The Eurostat Guidance Note for the Statistical Treatment of EPC ('Guidance Note') defines that the balance sheet of the EES client is not impacted if the EES Provider remains the 'economic owner'. If the refinancing arrangement includes a 'no recourse clause' (as this will be the usual case), in principle this separates the performance risk from the credit risk and makes sure that the performance risk remains with the EES Provider. This does not, however, mean that the EES client is no longer the economic owner. Hence, factoring/forfeiting does impact the EES Client's balance sheet, unless very specific modalities are respected. This seems to be confirmed by Article 14.9 of the Guidance Note, which specifically deals with factoring/forfeiting. In any case, quite some uncertainty has been discovered in those interviews conducted within REFINE project that touched this very specific issue.



must be consulted before receivables are transferred; Refinancing is not contemplated from the beginning and the formal acceptance of the end-client is needed to refinance the project).

- Would the inclusion of a refinancing clause already in the original contract (for EES) be acceptable for the client?
- How relevant is the impact of the project on the public debt accountability for the client? (Not important; Moderately important; Highly important). As explained above, this is only relevant for public clients.

The data acquisition template inquiries about the client sector (public, corporate, real state, single house owners and neighbour communities/associations) and the questions stated above.

# 2.1.2 Type of energy efficiency investment and contract duration

The type of project to be carried out may determine the duration of the project and of the refinancing contract; depending on the investment volume and the expected cash flows, shorter or longer contract duration will be necessary. It is possible to distinguish between the following contract types:

- Energy Performance Contracting (EPC): The EPC involves an Energy Service Company (ESCO) which provides various services, such as financing and guaranteed energy savings. The remuneration of the ESCO depends on the achievement of the guaranteed savings. The ESCO stays involved in the measurement and verification process for the energy savings in the repayment period. EPC has a usual contract duration of up to 10 years, in exceptional cases a few years longer.
- Energy Supply Contracting (ESC): This approach is used to provide energy in an efficient way, such as cooling, heating, electricity, steam, etc. In the ESC, investments are not recovered with the savings over time, as happened with the EPC. So, it is related to energy supply rather than achieving energy efficiency improvements, except if it is combined with an EPC in an Integrated Energy Contracting. The contract duration is determined by the specific energy supplied and the particular agreement reached by the parties for each contract.
- Comprehensive building refurbishment: this scheme, which can be an extension of the EPC, is aimed at comprehensive building refurbishment, including structural and aesthetic measures, with a typical contract duration that can reach 20-25 years. Shorter contract durations are only possible if the building owner contributes with an individual investment amount at the beginning of the contract.

With the aim of collecting information related to the type and duration of the contract for each pilot project tested, the following questions are proposed in the data acquisition template:



- What type of contract governs energy efficiency measure? (EPC (Energy Performance Contracting); ESC (Energy Supply Contracting); Comprehensive building refurbishment; Other, please specify).
- Which is the duration of the project (in years)?

# 2.1.3 Payment collection, ownership of the equipment and separation of the repayment

Refinancing processes, in their most basic and common form, are debt purchase operations. Therefore, the management of the payments collection throughout the refinancing operation and the entity that carries it out are distinguishing features.

The collection of payments can follow the following structures:

- The EES provider issues the invoice to the client and is responsible for collecting the payments from the client, even though the project has already been refinanced. Payments are therefore made in two stages, from the final customer to the EES provider, and then from the EES provider to the refinancing institution.
- The EES provider issues one invoice for the total price of the project and includes the payment schedule, when the refinancing occurs, the client starts sending the payments to the FI instead of the EES provider.
- BEEF-like scheme: (kind of) hybrid on-bill repayment mechanism; the renovation fee is added to the utility bill for energy supply. If there is a building manager or a similar, then it acts as a conduit between residents and the financing institution in managing the payment process. If there is no such entity, the EES provider issues a bill directly to the building owners.

Related to the identification of the payment system used in the refinancing process, it is also important to examine other aspects related to the ownership of the installed equipment or the separation of the payments for the different services provided. Therefore, in addition to the identification of the payment collection modality, the data acquisition template poses these questions:

- Who holds the title of the installed equipment during the debt repayment process? (The client; The EES provider; The FI).
- Is there a separation between repayments for the equipment installations and for operational services of the EES provider? (Yes; No; The question does not fit the project model).

#### 2.1.4 Organisational set-up

One of the most important features that needs to be studied, as it determines to a large extent the smoothness and ease of the refinancing process, is the relationship between the EES provider and the financial institution refinancing the EE project.



The most common schemes, in order of highest to lowest stability, are:

- Institutional set-up: it uses a Special Purpose Vehicle or a specialised real estate investment trust. This scheme provides independency to the project and promotes transparency among all the stakeholders involved.
- Long-term collaboration: between an EES provider and a FI, which refinances the projects developed by the EES provider. The creation of this bond of trust promotes the smoothness of the process and provides security for both parties.
- Ad-hoc set up: the EES provider selects a FI after the project implementation and for the purpose of refinancing a particular intervention. It, therefore, seeks an FI that is suitable for a particular project.

The information pursued through the data acquisition template is the definition of the relationship between the financial institution and the EES Provider, and the question is formulated as follows:

• What kind of relationship exists between the EES provider and the refinancing institution? (Institutional set-up; Long-term collaboration; Ad-hoc set up).

# 2.2. Guarantee instruments

EE interventions often demand high investments and carry long-term payback period, increasing the associated risks.

Guarantee instruments have a direct impact on the refinancing institution's assessment of the potentially refinanceable project. This provides additional security and reinsures the financial institution's decision-making process, facilitating the refinancing process and making it smoother for all parties.

In this section of the testing method, after identifying the major risks of the project, guarantee instruments will be tested to check their impact the refinanceability.

#### 2.2.1 Risk categories

The aim of this section of the testing method is to know to which extent each type of risk affects the refinancing process, and who will bear the risk. The risk categories are presented below:

#### Cost related risks

- **Design cost risks** arise from design deficits resulting in higher cost of construction or operation (planning or calculation flaws).
- Component cost risks are due to 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).



#### Technical risks

- **Technical risks**, these risks are related to the performing of the energy savings.
- **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 as 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, since non-performance or underperformance of energy services or energy services may cause reduction or termination of payments by the customer.

#### Market and regulatory risks

- Market risks: energy prices tend to be volatile, impacting the project cash value.
- **Regulatory risks:** prices and costs are influenced and determined by lawmakers and public authorities. This category includes also political risks.

#### Transfer or default risks (financial risks)

By virtue of an Energy Performance Contract the end-user has to pay for the energy efficiency measures at certain due dates and is therefore responsible for having the necessary liquidity in order to make the payments to the EES 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.

After having considered the different risk categories, it is desired to find out for the pilots studied which was the predominant or the most critical risk category at the time of refinancing the project, and how parties agreed to share those risks. For this purpose, the following questions are proposed in the data collection template:

 Out of the proposed risk categories, which was the most critical in the FI's decision to refinance the project? (Cost related risks; Technical risks; Market and regulatory risks; Transfer or default risks-Financial risks).



After refinancing occurs:

- Who bears the cost related risks? (FI; EES Provider; the end-client; the risk is shared; this risk does not apply to this project).
- Who bears the technical risks? (FI; EES Provider; the end-client; the risk is shared; this risk does not apply to this project).
- Who bears the market and regulatory risks? (FI; EES Provider; the end-client; the risk is shared; this risk does not apply to this project).
- Who bears the transfer or default risks (financial risks)? (FI; EES Provider; the risk is shared).

# 2.2.2 Collateralisation of receivables

Collateralisation is an arrangement of security against financial risks, it is enforced by the FI that purchases the receivables, to protect itself against non-payments from the end client. As a risk mitigator can facilitate the refinancing process.

Certain mechanisms allow the financial institution's confidence in the end customer to be reinforced:

- Holding a title of the assets: the EES provider holds the title to the installed assets and transfers it to the FI when selling the receivables.
- Collateralisation through a third party: some organisations like private insurance companies, banks or public institutions may cover part of the credit risks.
- **No collateralisation:** there is no collateral; the FI simply trusts on the client's ability to pay after conducting a credit risk analysis.

On the basis of the collateralization options described, it is intended to know the answers to the following questions:

- Who holds title of the assets after the refinancing is completed? (The client; The FI; Mixed distribution).
- Is there a collateralisation through a third party? (Yes; No)
- If there is a collateralisation through a third party, what kind of organisation provides it? (Insurance company; Bank; Public institution; Other, please specify).

# 2.2.3 Handling of performance risk

To avoid a non-payment by the customer due to a decrease in savings generated by an EE installation, the FI may require certain performance risk guarantees at the time of refinancing:

• The existence of a **non-recourse clause** to ensure that performance risks remain with the EES provider.



- The purchase of credits taking place after a **minimum period of time (1-2 years)** to demonstrate that the savings are being achieved and the overall performance of the installed equipment is correct.
- The FI does not buys only a part of the receivables (50%-80%), to protect itself from performance deficiencies.
- **Step-in-rights** of the FI if the EES provider fails largely to fulfil the service quality.
- Bank guarantee to be provided by the EES provider to the FI.

In order to find out what measures have been taken to handle performance risks; the following questions have been posed in the data acquisition template:

- Is there a non-recourse clause in the refinancing contract that ensures that performance risks remain with the EES provider? (Yes; No; Other, please specify).
- Has a period of time elapsed between the completion of the installation and the purchase of the receivables? (No; Less than six months; Up to one year; Up to one year and a half; Two years or more).
- Which percentage of the receivables acquired the refinancing institution?
- Are there any step-in-rights to replace the EES provider in case of major quality failures? (Yes; No; Other, please specify).
- Is there a third-party collateral to cover performance risks? (Yes; No; Other, please specify),
- If there is a third-party collateral to cover performance risks, what kind of organisation provides it? (Insurance company; Bank; Public institution; Other, please specify)

Finally, it would be desirable to characterise some specific aspects of guarantee systems with the following questions:

- What is the amount of the guaranteed fee (% of the project)?
- What is the purpose of the guaranteed scheme that has been applied for the test case? (To cover default risk; To cover technical risk; To cover other risks)

# 2.3. Rating System

The third section of this testing method aims to analyse the reliability and accuracy of the Rating System on refinanceability of EES projects that has been already designed through a task led by e7 and supported by other project partners.

The ultimate objective to which the rating system is expected to contribute is to reduce the analysis and transaction costs that a financial institution must face when refinancing an EE project. This leads to an overall reduction of refinancing costs.

The system is divided into 3 different risk levels:



- L1- Standard Financial Institution Default Risk Evaluation: It refers to the everyday traditional default probability evaluation of any financing operation being analysed by a financial institution. It takes into account risks such as: credit risk, operational risk, legal risk, contractual risk, fraud risk, country risk, etc.
- L2- Energy Efficiency Project Risk Evaluation: It refers to the specific risks and mitigants associated to a project that has the inherent goal of providing the customer with energy consumption savings that will reflect on a cash surplus that will in turn be used to repay the investment associated to the project.
- L3- Energy Efficiency Service Contract Risk Evaluation: It refers to the project not being refinanced risk that may arise from the absence of recommended standard EES contract stipulations. The recommended EES contract stipulations relate closely to the risk items in L2.

Each of the risk levels is assessed independently and receives a rating based on the answers to certain questions. In order to test this rating system, it is requested to enter the obtained rating of each pilot project for each of the risk levels in the corresponding tab of the data acquisition template:

- What rating did the project receive at risk level L1 (Standard Financial Institution Default Risk Evaluation)? (Numerical answer).
- What rating did the project receive at risk level L2 (Energy Efficiency Project Risk Evaluation)? (Numerical answer).
- What rating did the project receive at risk level L3 (Energy Efficiency Service Contract Risk Evaluation)? (Numerical answer).
- Have the testers observed any missing categories/aspects in the rating system proposed?
- If yes, which additional aspects have been or should be incorporated in the rating?

Afterwards, each data provider can critically analyse how aligned is this rating to his own risk perception based on other parameters: his own experience, other risk assessing methods, etc. The following question has been posed in the excel template regarding to reflect this issue:

- Do you think that the risk level L1 calculated through the Rating System is realistic/adequate? (Yes; No, it underestimates the risks; No, it overestimates the risks; Other, please specify below).
- Do you think that the risk level L2 calculated through the Rating System is realistic/adequate? (Yes; No, it underestimates the risks; No, it overestimates the risks; Other, please specify below).



 Do you think that the risk level L3 calculated through the Rating System is realistic/adequate? (Yes; No, it underestimates the risks; No, it overestimates the risks; Other, please specify below).

# 2.4. Facilitation services

Facilitation services can be understood as standardised brokerage services provided by facilitators to foster EES. That said, there are two types of facilitation services:

- Core brokerage services: those services that are essential for the realization of the refinancing operation.
- Neighbouring facilitation services: those services which are connected to the refinancing operation but not essential.

The table below shows the most relevant facilitation services that could be needed during the refinancing process.

Stage of the process	Description	Type of service
Market Development	During the pre-financing stage, facilitation services help to dynamize the market promoting the use of EPC as a financing service. Both financers and IEE services are often looking for good opportunities and they could benefit from a matchmaking support and related activities.	Neighbouring
Project appraisal	<ul> <li>A refinancing operation starts often with a project appraisal.</li> <li>This document must include: <ul> <li>Introduction of the business opportunity and overall context of the operation in its sector</li> <li>Operation and financial structuring: Alignment of interests between parties, determining the volume to be refinanced, expected revenues and timeline, CAPEX and OPEX, compatibility with public subsidies if available.</li> <li>Timing and status: how much has been executed and which is the volume left for refinancing)</li> <li>Client's profile: who is the beneficiary of the refinancing.</li> </ul> </li> </ul>	Neighbouring
Search for refinancers	Facilitation services can help to identify potential buyers (refinancers) and contribute to the overall alignment of their interests with the client's refinancing needs. This phase, if successful can end with the signature of a Non- Disclosure Agreement (NDA).	Core

#### Table 1: Identification of facilitation services.



Stage of the process	Description	Type of service
Estimation of the operation returns	A profitability calculation model will be needed for its distribution among potential buyers and price negotiation. This model will include (at least) the expected revenues, costs and IRR at least. Guarantees can be added to the model.	Neighbouring
Due diligence during the refinanciability check	Due diligence of the project is crucial in the refinancing process. Normally banks will perform their own risk assessment on the client, but facilitation can be useful to understand is the risks of the project. Depending on the circumstances, due diligence of the contractor might be also requested. It can also include the eligibility of the project based on EU Taxonomy. <sup>2</sup>	Core
Concluding the operation	Standardized contracts offered by facilitators can help in the final stage of the refinancing operation. The operation concludes with the contract elaboration and its signature.	Neighbouring

The purpose of this section is to assess the demand and adequacy of these facilitation services for the success of the refinancing process.

The following questions are asked in the corresponding tab:

- Search for refinancers: how relevant is it for the refinancing process (Facilitation services were used for this task; No facilitation services were needed but it would have been useful to have them; No need of facilitation services for this)
- Estimation of the operation returns: how relevant is it for the refinancing process (Facilitation services were used for this task; No facilitation services were needed but it would have been useful to have them; No need of facilitation services for this)
- Due diligence during the refinanceability check: how relevant is it for the refinancing process (Facilitation services were used for this task; No facilitation services were needed but it would have been useful to have them; No need of facilitation services for this)
- Concluding the operation: how relevant is it for the refinancing process (Facilitation services were used for this task; No facilitation services were needed but it would have been useful to have them; No need of facilitation services for this)

<sup>&</sup>lt;sup>2</sup> The EU taxonomy is a classification system, establishing a list of environmentally sustainable economic activities. Further information on EU Taxonomy, please consult https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eutaxonomy-sustainable-activities\_en



# 3. OVERVIEW ON PILOT APPLICATIONS

This chapter summarizes the preliminary set of pilot applications that are tested during the REFINE project in each country. In this work step partners communicated with market stakeholder and made preliminary agreements on the implementation of pilot applications of the tools developed during the REFINE project, mainly in the conceptual phase in WP3.

In some countries, various tools are tested on the same EES project, e.g., refinancing instrument, rating system, contract stipulations. Furthermore, some of the EES project are at different stages when pilot applications are implemented. For each partner country the most suitable refinancing instrument concepts and tools are selected for pilot applications.

The below summary descriptions and tables with more details on selected pilot applications per partner country present a first overview on the activities that will be implemented in WP4 (Implementation, impact generation and evaluation) of the REFINE project. In the further course of the project the set of pilot application will be adapted and completed.

# 3.1. Summary of the set of test applications in Austria

#### Overview on envisaged test applications

The first area of activities related to testing the REFINE concepts refers to the sector of **EES providers**. Mediated by DECA, the Austrian Association of Energy Service Companies, a first round of bilateral discussions has been conducted with three different Austrian EES providers leading to the following interim conclusions:

- The pilot applications are required to increase the overall understanding among EES providers how refinancing schemes can help them to grow their business.
- Mainly with respect to Energy Supply Contracting which is gaining increasing importance in the context of decarbonizing heat supply - EES providers are not well prepared to use the refinancing schemes.
- Some elements of the EES contracts which they use are not suitable for refinancing. Therefore, e7 will support them in improving these parts of the contracts in order to make them refinanceable.
- EES providers are also interested in the cost of refinancing compared to conventional loan financing. Also, the integration of guarantee instruments into the financing approach is relevant in this context.

A second field of activities addresses alternative investment funds. The REFINE team had two initial discussions with investment funds from Lichtenstein and Germany. Both funds expressed their interest in an approach including EES projects across several EU-countries. Furthermore, they highlighted the need to understand better the EU market volume for refinancing schemes in general, and their demand for a fixed project pipeline of at least € 10-15 million in order to be able to start



activities. Therefore, it was agreed that the REFINE team will set up a survey to estimate the market potential.

As a third field of activity e7 - together with the sub-contractors Reenag and DECA - has supported the Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK) in developing an approach how the politically concerted instrument of climate guarantees can be set up in a way that it contributes to growth in the EES business. In January 2022 a ministerial agreement has been reached on the terms and condition of application this public guarantee instrument. e7 will further support this process by testing the practicability of the instrument and by involving commercial banks as providers of credit guarantees that can be backed by the public guarantee instrument.

Pilot Application Title	#1Austria
Country	Austria
REFINE partner (including possible sub- contractors)	e7
Partner(s) for Pilot Application	Ing. Aigner Energie Contract GmbH
Stakeholder group of the pilot partner	EES provider (ESC)
Which concepts/tools will be tested	Generic refinancing concepts, standardised contract provisions, rating system
Category of refinancing scheme (see Appendix)	C3, C4
Short description of the pilot application	The company implements ESC related to "decarbonization investments" mainly in industry. The expected market growth in the upcoming years requires additional financing, and refinancing schemes may become an important element in the financing structure.
Status of agreement with pilot partner	Initial discussions
Envisaged timeframe of implementation	during 2022

#### Summary tables of selected test applications

Pilot Application Title	#2Austria
Country	Austria
REFINE partner (including possible sub- contractors)	e7 (subcontractor RFU)
Partner(s) for Pilot Application	2 alternative investment funds (it was promised to keep company names



	confidential at this point)
Stakeholder group of the pilot partner	Financial institutions
Which concepts/tools will be tested	Standardised contract provisions, rating system, facilitation services
Category of refinancing scheme (see Appendix)	not defined yet
Short description of the pilot application	The funds are interested to broaden their green portfolio, but they require a better understand of the possible market volume. Furthermore, they support in setting up an initial project pipeline.
Status of agreement with pilot partner	Initial discussions
Envisaged timeframe of implementation	during 2022

Pilot Application Title	#3Austria	
Country	Austria	
REFINE partner (including possible sub- contractors)	e7 (sub-contractors Reenag, DECA)	
Partner(s) for Pilot Application	BMK, aws	
Stakeholder group of the pilot partner	public authority, public development bank	
Which concepts/tools will be tested	Guarantee instrument in combination with refinancing schemes	
Category of refinancing scheme (see Appendix)	Guarantee instrument covering all categories of refinancing schemes	
Short description of the pilot application	The activity aims at testing the practicability of the "climate guarantee" which is expected to become operative in early 2022. Various stakeholder events are planned to disseminate the experience made in the testing phase.	
Status of agreement with pilot partner	e7 was already involved as EES expert in the phase of defining the rules for the "climate guarantee".	
Envisaged timeframe of implementation	during 2022	



# 3.2. Summary of the set of test applications in Greece

#### Overview on envisaged test applications

Following the staging of the REFINE 1<sup>st</sup> Stakeholder Workshop and also numerous contacts with market stakeholders it was ascertained that the energy services market in Greece is currently at a standstill.

Although there are several Energy Service Providers active in the market that have both the technical expertise and the technical know-how of energy services, it seems that, aside from a few pilot projects implemented (in most cases with own equity) within the framework of EU-funded projects (i.e. the HORIZON 2020 EPC+ and QualitEE projects), there are currently an extremely limited number of potential future projects in the pipeline.

This is even more pronounced in the building sector. The only sector in which there seems to be progress is in the municipal public lighting sector, in which there have been several projects implemented by Energy Service Providers with either shared savings or guaranteed savings contracts.

The main barriers for the implementation of energy efficiency projects with energy performance contracting in the building sector, of either the public or the private sector, seem to be mainly related to the initial financing of projects. Refinancing, although also extremely important to Energy Service Providers, seems to be an issue of secondary importance.

More specifically:

- Performance risk Covering the performance risk of an investment seems to be a primary obstacle, unless the Energy Service Provider finances the project with its own equity and signs a shared savings contract. In all other cases, Energy Service Providers seem to find it difficult to provide the client with the necessary guarantees that will cover the performance risk. The main reasons for this difficulty are that there are: (a) no insurance products available for such services in the market and (b) financial institutions either charge expensive rates for letters of guarantee or refuse to issue them due to high due diligence costs compared to the project turnover and profit margins involved in energy efficiency projects in the building sector.
- Financial risk Even if a solution is available for covering the performance risk, a secondary problem is the guarantees required to cover the financial risk of a project from either the client or the energy service provider. However, one must note that the financial institutions perceive that the performance risk is also a crucial determinant of the financial risk and, in those cases where the Energy Service Providers has not found a solution for covering the performance risk, the financial institutions is usually unwilling to provide a loan due to the difficulties in assessing and evaluating the performance risk.

Due to the above, it was decided that the primary effort should be dedicated towards the institutionalization of a Public Guarantee Fund that would provide guarantees for both the performance and financial risks involved in the financing of



energy services with energy performance contracts. The guarantee fund shall also foresee a suitable mechanism for the refinancing of said energy services (e.g., sale of claims).

Moreover, a suitable pilot project in the public sector in which refinancing clauses will be included in the energy performance contract will be sought in order to demonstrate and show-case the potential of refinancing.

Pilot Application Title	#1Greece
Country	Greece
REFINE partner (including possible sub- contractors)	CRES
Partners for Pilot Application	Hellenic Ministry of Energy and Environment, Hellenic Development Bank, Hellenic Loan and Consignments Fund.
Stakeholder group of the pilot partner	Facilitators
Which concepts/tools will be tested	Guarantee Instruments
Category of refinancing scheme	B2-B3-B4, C2-C3-C4
Short description of the pilot project	Institutionalization of a Public Guarantee Fund for covering both the performance and financial risks of energy services with energy performance contracts
Status of agreement with pilot partner	Initial talks will be held with the pilot partners at the 2 <sup>nd</sup> Stakeholder Workshop on the 15 <sup>th</sup> December 2021.
Envisaged timeframe of implementation	The aim will be to set up this Guarantee Fund by December 2022.

#### Summary tables of selected test applications

Pilot Application Title	#2Greece
Country	Greece
REFINE partner (including possible sub- contractors)	CRES



Partners for Pilot Application	CRES
Stakeholder group of the pilot partner	Facilitator, Client
Which concepts/tools will be tested	Contract Stipulations
Category of refinancing scheme	B2
Short description of the pilot project	Energy upgrade of the HVAC installations of the CRES central building with a Tender for the provision of energy services with an energy performance contract.
Status of agreement with pilot partner	A preliminary energy audit was undertaken by CRES in September 2021. Discussions are currently being held with the CRES Board of Directors in order to decide on the content of the Tender.
Envisaged timeframe of implementation	The aim will be to publish the Tender by June 2022 and implement the project by December 2022.

# 3.3. Summary of the set of test applications in Spain

#### Overview on envisaged test applications

In Spain, the partner responsible for the identification and selection of the test applications was Caixabank (formerly known as Bankia). Since they announced their intention to leave the project in Summer 2021, the consortium has been looking for alternatives to cover this part. Creara accepted to take over this task supported by ANESE (Spanish Energy Efficiency Association). ANESE has been subcontracted to facilitate interviews with companies potentially interested in refinancing and, therefore, suitable for the testing purposes (among other tasks).

Only very recently (December 1st), the consortium achieved the final green light for the amendment on the GA that would allow for this subcontracting. Therefore, until now, no pilot applications have been identified. Despite the delay with respect to the work plan for the reasons explained above, both companies, Creara and ANESE are ready to start working together with the pilot identification.



# 3.4. Summary of the set of test applications in Latvia

#### Overview on envisaged test applications

Funding for Future plans to test all of the concepts and tools developed in the REFINE project, except contract stipulations (LABEEF already operates with standardized contracts developed based on best market practices). With the current plan, facilitation services will be tested in two pilot projects - with RENESCO who is an EES provider and with which there has been previous cooperation, and Eku birojs, who has been assigned as authorized person for one building renovation. Guarantee instrument specifically designed for deep building renovations is being discussed with Directorate-general Regio, which has the power to include this type of product in off-the-shelf financial instruments package, and would be easily implemented by financial intermediaries in any member state where guarantee instruments are expensive or non-existing for working capital. Refinancing concept will be tested with ALTUM, a national development bank so that LABEEF would be able to refinance a new portfolio of buildings which have gone through deep renovation. Rating system will be adapted with LABEEF guidelines, so that any market operator in Latvia would be able to use the tool to self-assess their projects' refinanceability.

Pilot Application Title	#1Latvia
Country	Latvia
REFINE partner (including possible sub- contractors)	F3
Partners for Pilot Application	Renesco
Stakeholder group of the pilot partner	EES provider
Which concepts/tools will be tested	Facilitation service business models and rating system
Category of refinancing scheme (see Appendix)	A1
Short description of the pilot project	Funding for Future will provide the following facilitation services: market development and search for refinancers and in additional test the rating system will be performed for existing renovated buildings, to help EES provider to assess their project's referenceability

#### Summary tables of selected envisaged test applications



Status of agreement with pilot partner	/
Envisaged timeframe of implementation	2022 Q1

Pilot Application Title	#2Latvia
Country	Latvia
REFINE partner (including possible sub- contractors)	F3
Partners for Pilot Application	DGregio
Stakeholder group of the pilot partner	Policy maker (regional and urban)
Which concepts/tools will be tested	Guarantee instruments
Category of refinancing scheme (see Appendix)	A1
Short description of the pilot project	Funding for Future is preparing an off- the-shelf financial instrument (guarantee) to be discussed with DGregio as an instrument which could be used in any Member state, through financial intermediaries to implement and offer to banks a guarantee when financing WC for deep building renovation projects through Energy Efficiency Service Providers.
Status of agreement with pilot partner (descriptive)	There has been an initial agreement, that Funding for Future comes up with a proposal for such an instrument, which would address financing barriers for EES projects (focus on deep building renovation) in the EU for discussion and eventual approval by relevant commission authorities.
Envisaged timeframe of implementation	2022 Q1



Pilot Application Title	#3Latvia
Country	Latvia
REFINE partner (including possible sub- contractors)	F3
Partners for Pilot Application	Eku briojs
Stakeholder group of the pilot partner (e.g. Commercial banks, EES providers, facilitators, clients)	Facilitator
Which concepts/tools will be tested (e.g., Refinancing instrument concepts, Contract stipulations, Guarantee instruments, Facilitation service business models, Rating systems)	Facilitation services
Category of refinancing scheme (see Appendix)	A1
Short description of the pilot project (summary 2-3 sentences)	Funding for Future will test the facilitation services through the facilitator, NGO Eku birojs, for building that will go through deep building renovation once the procurement is approved by the national development bank. Project appraisal and search for refinancers will be tested.
Status of agreement with pilot partner (descriptive)	Proposal Submitted
Envisaged timeframe of implementation	2021 Q4

Pilot Application Title	#4Latvia
Country	Latvia
REFINE partner (including possible sub- contractors)	F3
Partners for Pilot Application	ALTUM



Stakeholder group of the pilot partner (e.g. Commercial banks, EES providers, facilitators, clients)	Latvia's development bank
Which concepts/tools will be tested (e.g. Refinancing instrument concepts, Contract stipulations, Guarantee instruments, Facilitation service business models, Rating systems)	Refinancing instrument concept
Category of refinancing scheme (see Appendix)	A1
Short description of the pilot project (summary 2-3 sentences)	Funding for Future through LABEEF is currently in the process of refinancing new portfolio of buildings by using ALTUM loan
Status of agreement with pilot partner (descriptive)	Term sheet has been signed with ALTUM, but LABEEF is waiting for approval by EBRD for subordination agreement
Envisaged timeframe of implementation	2022 Q1

Pilot Application Title	#5Latvia
Country	Latvia
REFINE partner (including possible sub- contractors)	F3
Partners for Pilot Application	Companies in Latvia
Stakeholder group of the pilot partner	EES providers
Which concepts/tools will be tested	Rating system
Category of refinancing scheme (see Appendix)	A1
Short description of the pilot project	Funding for Future will test the rating system in Latvia, by adapting the rating module and making it aligned with LABEEF guidelines to allow any market operators in Latvia to test their



	projects' refinanceability. The developed tool will be sent out and presented to market operators in Latvia.
Status of agreement with pilot partner	There has not been any agreement. Once the rating tool will be adapted and transformed into a self-assessment tool, F3 will look for market operators both in Latvia and outside of Latvia who are willing to test the tool.
Envisaged timeframe of implementation	2022

# 3.5. Summary of the set of test applications in Italy

#### Overview on envisaged test applications

Federesco selected 3 use cases where associated ESCOs and technical partners are involved and can grant a effective access to the information about project and EES. These 3 use cases are the main Italian Pilots where to test REFINE instruments and concepts. On the 3 pilots it will be possible to test both Rating System and Facilitation Services for Refinancing. Also, the analysis of EPC stipulations can be completed for the 3 pilots, where the clients are of different types (public, private and public-private in the case of Castello di Rivoli Fondazione). In one case (Savona Province) the contract is in the early stage and it is possible to suggest improvement in the EPC.

Furthermore, it is possible to analyse a case studies of Refinancing (ENELX - Infracapital) where we have (limited) access to the information concerning the cession of an SPV dedicated to the EEI. This use case cannot be considered a Pilot.

A different kind of pilots are related to clusters of projects, one where ESCOs have access to the Conto Termico (GSE) incentive stipulating an EPC, the second cluster where ESCOs can use the Go-Safe insurance (see ESI Eu funded project) to enforce their EPC. In the first case FED and GSE have an agreement for analysing barriers to refinancing and eventually define a set of improvement to be promoted at national level. In the second case FED and FIRE are going to agree on a cooperation activity to test guarantee instruments and in particular insurance for aggregated projects.

Some other use cases are at the initial stage of discussion, between FED and the specific stakeholders, or they need some confirmation before being considered REFINE pilots.

In the following matrix the Italian pilots/use cases are presented in relation to the type of client and to the REFINE tools which will be tested. The total occurrences correspond to the number of testing applications, so higher than the number of pilots.



ITALY	Refinancing Schemes	Guarantees	Rating System	Facilitation Services	EPC stipulations
PU (1,6)	1		1	1	1
PR (2,3,4)	2	2	2	2	2
UC (5)	1				
PF (7,8)	1	1	1		2
Total	5	3	4	3	5

Legend: **PU** public client, **PR** private client, **PF** Project framework or cluster, **UC** Use case (limited access to information).

#### Summary tables of selected envisaged test applications

Four Pilots are presented and summarized in the tables, while for other Pilots and Use Cases which are still being evaluated in terms of feasibility and interest, see also PPT:

Pilot Application Title	#1Italy (PU1)
Country	ITALY
REFINE partner (including possible sub-contractors)	FEDERESCO (VPE - MPM LEGAL)
Partners for Pilot Application	<ol> <li>Aura Energy - 2. Province Savona - 3. VPE</li> </ol>
Stakeholder group of the pilot partner	2. ESCO - 2. beneficiary (Public Client) - 3. facilitators (advisor)
Which concepts/tools will be tested	Contract stipulations +
	Facilitation service, Rating systems
Category of refinancing scheme (see Appendix)	B2
Short description of the pilot project	EE Project is at Year = 0 (contracted).
	The ESCO is contracted for 11 public buildings of Savona Province for 3.8 ML€ investment in EE. VPE is supporting



	AURAENERGY in the validation of the EPC with the public entity Province Savona. tWork on the EPC stipulations for refinancing is done (T3.2) with the support of MPM Legal. VPE can start working on testing Rating System.
Status of agreement with pilot partner	Agreement with VPE and Aura Energy; in progress with the client. Full documentation available.
	VPE is the first entity in Italy accredited (ACCREDIA) to operate in compliance with the UNI CEI EN ISO / IEC 17020 standard, for technical inspection and assessment services for the EE interventions design and financial plans in relation to mandatory requirements and regulations, mainly for public projects. VPE and MPM Legal are Federesco subcontractors in REFINE.
Envisaged timeframe of implementation	June 2021 - October 2022

Pilot Application Title	#2Italy (PR2)
Country	ITALY
REFINE partner (including possible sub-contractors)	FEDERESCO (VPE - MPM LEGAL)
Partners for Pilot Application	1. JPE2010 2. Castello di Rivoli Fondazione
Stakeholder group of the pilot partner	1. ESCO - 2. beneficiary (Private Client)
Which concepts/tools will be tested	Guarantee instruments (Performance Bond), Facilitation service (business models, due-diligence for credit sale), Rating systems; Refinancing instrument concepts (simulation)



Category of refinancing scheme (see Appendix)	В3
Short description of the pilot project	EE Project is at Year = 3. The ESCO offered a performance bond. A leasing is in the scheme. FEDERESCO with VPE can start working on testing Facilitation Services and Rating System. A full simulation of refinancing scheme is feasible.
Status of agreement with pilot partner	JPE is Associated member of Federesco JPE is interested in testing Refine tools and giving visibility to his EES (site visits and web).
Envisaged timeframe of implementation	October 2021 - October 2022

Pilot Application Title	#3Italy (PR3)
Country	ITALY
REFINE partner (including possible sub-contractors)	FEDERESCO (VPE - MPM LEGAL)
Partners for Pilot Application	1. Escoltalia – 2. Banca Prossima (IntesaSanPaolo) 3. CISBROKER
Stakeholder group of the pilot partner	1. EES providers (ESCO) - 2.Commercial bank - 3. insurance
Which concepts/tools will be tested	Refinancing instrument concepts; Guarantee instruments/insurance (performance bond); EPC stipulations
Category of refinancing scheme (see Appendix)	В3
Short description of the pilot project	EE Project is at Year = 4 The ESCO.



	VPE can start working on testing Rating System. MPM Legal analysed the contract with a focus on refinancing.
Status of agreement with pilot partner	Agreement with Escoitalia (Fed. Associated), with Banca Prossima (Intesa San Paolo) and with CISBROKER. VPE and MPM Legal are Federesco subcontractors in REFINE.
Envisaged timeframe of implementation	June 2021 - October 2022

Pilot Application Title	#4Italy (PF7)
Country	ITALY
REFINE partner (including possible sub-contractors)	FEDERESCO (VPE - MPM LEGAL)
Partners for Pilot Application	<ol> <li>Escoltalia and other ESCOs</li> <li>GSE- Gestore Servizi Energetici</li> </ol>
Stakeholder group of the pilot partner	1. EES providers (ESCOs) - 2. Nat. Incentives Authority
Which concepts/tools will be tested	(Framework Approach) Refinancing instrument concepts; EPC stipulations
Category of refinancing scheme (see Appendix)	B2, B3, B4
Short description of the pilot project	Federesco and GSE agreed to cooperate for analysing BARRIERS for refinancing in EPC mandatory schemes within CONTO TERMICO incentives (Framework level approach) looking at some Use Cases (see PR3). FED intends to promote a new EPC scheme improved in terms of refinancing opportunities. FED and MPM Legal will work on contract stipulations. VPE can work on Rating System to analyse risks and refinancing opportunities



Status of a partner	agreement with	pilot	GSE signed LOI presented by Federesco; One (see PR3) or more ESCOs (to be identified) engaged in GSE Conto Termico. VPE and MPM Legal are Federesco subcontractors in REFINE.
Envisaged implementati	timeframe on	of	November 2021 - october 2022

# 3.6. Summary of the set of test applications in Croatia

#### Overview on envisaged test applications

REGEA aims to implement a total of 4 pilot applications to test the refinancing and other auxiliary concepts developed within the REFINE project. As the ESCO market in Croatia is in the embryonic stage, the number of ongoing EPC projects, as well as the interest of the relevant stakeholder is insufficient for testing the refinancing concept in its full scope. The refinancing mechanism in Croatia can only come to life with the large EPC project pipeline, standardized risk evaluation that would empower both ESCOs and financial institutions, to enter into such agreements.

The EPC projects are expected to have strong growth in the next few years, as Croatia has allocated ca. 33 million EUR within the Recovery and Resilience Facility for the renovation of public buildings using the EPC model. Therefore, REGEA will focus on laying the groundwork for the adoption of a refinancing scheme once the renovation of public infrastructure using the EPC model picks up the pace.

For that purpose, the following test applications are planned:

- a. Introduction of a refinancing scheme on a national scale through a regulatory framework,
- b. Evaluation of the EPC contract for the public lighting project to examine the refinanceability of the contract,
- c. Cost-effectiveness analysis of using the EPC contract for the renovation of a public building that would support public stakeholders in their decision-making,
- d. Due diligence during the refinanceability check for the financial institutions.

During the testing and implementation process, REGEA will collaborate with a wide range of stakeholders, thus encouraging the use of the refinancing scheme after the available grant funds are exhausted.



Summarv	tables	of se	lected	envisaged	test	applications
Jannary	cubics		ICCCC G	chrisagea	cc sc	apprications

Pilot Application Title	<b>#1Croatia</b> - Setting up the foundation for implementing refinancing scheme on a national scale through the regulatory framework
Country	Croatia
REFINE partner (including possible sub- contractors)	REGEA
Partners for Pilot Application	Ministry responsible for the Renovation Programme
Stakeholder group of the pilot partner	Regulatory body (ministry)
Which concepts/tools will be tested	Refinancing instrument concepts
Category of refinancing scheme (see Appendix)	A2, B2, C2
Short description of the pilot project	A refinancing scheme will be suggested to be included in the national Energy renovation programme for public sector buildings in the period up to 2030, as one of the financing options after grants from the Recovery and Resilience Facility are exhausted. This programme represents an implementation document and includes an analysis of current and previous obstacles in energy renovation of public sectors buildings and the suggestions on tackling those issues together with outlining the financing possibilities and methods, as well as models and scenarios of reconstruction. The content of the programme will feed into the public calls published by the governmental bodies, as well as shape the direction and financial solutions of the energy renovation of public buildings in Croatia. The Programme supports the ESCO model for the renovation of public buildings and the refinancing scheme via forfaiting mechanisms that will be



	suggested to be included in the programme presents a viable option for ensuring the faster development of the Croatian ESCO market, as well as the application of the refinancing in the future.
Status of agreement with pilot partner (descriptive)	REGEA was one of the contributors/authors of the Energy renovation programme for public sector buildings that will be adopted by the Croatian government in 2022. The Ministry of Physical Planning, Construction and State Assets developed the programme and will suggest it to the Government to adopt it in the formal procedure.
Envisaged timeframe of implementation	The first half of 2022.

Pilot Application Title	<b>#2Croatia -</b> Evaluation of the EPC contract for the public lighting project
Country	Croatia
REFINE partner (including possible sub- contractors)	REGEA
Partners for Pilot Application	City of Zagreb
Stakeholder group of the pilot partner	Clients
Which concepts/tools will be tested	Rating systems
Category of refinancing scheme (see Appendix)	ΝΑ
Short description of the pilot project	REGEA will evaluate the refinanceability of a public lighting project to be implemented in the City of Zagreb using the EPC model and the risks linked with it. Around 40% of the existing public lighting in Zagreb is expected to be modernized under this project by utilizing the EPC model. Although the EPC model in public lighting is already used in Croatia, this



	project represents the largest EPC model undertaking in public lighting of a single city. Due to its size and valuation, a large interest from both, ESCOs and financial institutions, is expected.
Status of agreement with pilot partner	The talks with the City of Zagreb are initiated and once confirmed that the contract can be evaluated for refinanceability, REGEA will start the evaluation.
Envisaged timeframe of implementation	End of 2022.

Pilot Application Title	<b>#3Croatia</b> - Cost-effectiveness analysis of using the EPC contract for the renovation of a public building
Country	Croatia
REFINE partner (including possible sub- contractors)	REGEA
Partners for Pilot Application	Public sector clients (schools, hospitals)
Stakeholder group of the pilot partner	Clients
Which concepts/tools will be tested	Facilitation service business model
Category of refinancing scheme (see Appendix)	NA
Short description of the pilot project	REGEA will analyse the ESCO contract clauses of a public sector stakeholder to determine the potential for refinanceability and the cost- effectiveness of the EPC model in comparison with traditional financing. This service will help in promoting the EPC model in the public sector and provide a clear overview of the positive and negative sides of implementing the EPC model.



	This service can be offered even after the project ends and can be expanded and adapted for different financial mechanisms.
Status of agreement with pilot partner	Talks are underway with several public sector clients
Envisaged timeframe of implementation	Q1 2023.

Pilot Application Title	<b>#4Croatia -</b> Due diligence service during the refinanceability check for the financial institutions
Country	Croatia
REFINE partner (including possible sub- contractors)	REGEA
Partners for Pilot Application	Commercial bank
Stakeholder group of the pilot partner	Commercial banks
Which concepts/tools will be tested	Facilitation service business model
Category of refinancing scheme (see Appendix)	NA
Short description of the pilot project	Supporting commercial banks in determining the project risks linked to financing the ESCO project and together with the commercial banks determining the scope of the necessary due diligence services.
	This service can be offered even after the project ends and can be expanded and adapted for different financial mechanisms related to energy efficiency projects.
Status of agreement with pilot partner	Talks are underway with two commercial banks.
Envisaged timeframe of implementation	Q1 2023.



# 3.7. Summary of the set of test applications in the Czech Republic

#### Overview on envisaged test applications

The test applications in the Czech Republic will be conducted on the projects combining EPC with subsidies to finance comprehensive building renovations in two psychiatric hospitals in Bohnice and Kosmonosy. SEVEn will co-operate with the contributory organizations, which are operating the hospitals. These contributory organisations are managed by the budgetary organization Ministry of Health.

The new **refinancing model** tailored for combining the EPC with subsidies for contributory organizations will be tested as well as the **contractual stipulations**. It must be ensured that the financing structure of the project is viable, i.e. fulfil the requirements of the budgetary organization, subsidy fund and project economy.

The comprehensive building renovations will consist of the following two main parts:

- co-ordinated implementation of both building envelope measures (including insulation and window/door replacement) financed mostly with subsidies, but also partially using EPC model;
- technology measures, including interventions on heating, ventilating, and air conditioning (HVAC) systems financed by subsidies and energy cost savings using EPC model.

The test applications will test a new model of refinancing EES projects at the sites operated by contributory organizations. Features of the **refinancing model** are the following:

- Financing of the EES project includes subsidy, thus particular set of EEI measures must fulfil the requirement of 30% energy savings to be eligible for the subsidy program. The scheme below includes two financial flows firstly, the Fund provides subsidy to the EES client and secondly, later, the EES client pays the same financial amount to the EES provider.
- Supplier credit, which will be later refinanced is limited by maximum threshold allowed by the budgetary organization, who manages the contributory organization. Contributory organisations, i.e. institutions receiving contributions from the State Budget but which have its own legal personality are allowed to accept a supplier credit only under special allowance of the Ministry of Finance.
- Own resources of the clients may be also used to co-finance the project (this is usually up to 10-20% of the total investments.)



New contractual stipulations will be tested when adjusting the existing standard EPC contract:

 Standard Czech EPC contract must include new clauses dealing with the subsidy and new refinancing model and requirements set by the Ministry of Health and Ministry of Finance.

Pilot Application Title	#1Czech Republic	
Country	Czech Republic	
REFINE partner (including possible sub- contractors)	SEVEn	
Partners for Pilot Application	Bohnice Psychiatric Hospital	
Stakeholder group of the pilot partner	EES client	
Which concepts/tools will be tested	Refinancing instrument concept, Contract stipulations	
Category of refinancing scheme (see Appendix)	A2	
Short description of the pilot project	Comprehensive renovations of buildings in the Bohnice Psychiatric Hospital.	
	Construction measures:	
	<ul> <li>replacement or refurbishment of all windows;</li> </ul>	
	<ul> <li>only thermal insulation of attics possible due to monument protection.</li> </ul>	
	Technology measures:	
	<ul> <li>reconstruction of all distribution network including heat pipes exchange and renovation of heat exchange stations;</li> </ul>	
	<ul> <li>new energy management control system;</li> </ul>	
	new lighting system, HVAC, IRC.	

#### Summary tables of selected envisaged test applications



Status of agreement with pilot partner	The contributory organisation operating the hospital agreed to co-operate with SEVEN on the test applications.
Envisaged timeframe of implementation	EES contract signature: March 2022 Implementation of the EEI measures: September 2023 Contract length: 10 years

Pilot Application Title	#2Czech Republic
Country	Czech Republic
REFINE partner (including possible sub- contractors)	SEVEn
Partners for Pilot Application	Kosmonosy Psychiatric Hospital
Stakeholder group of the pilot partner	EES client
Which concepts/tools will be tested	Refinancing instrument concept, Contract stipulations
Category of refinancing scheme (see Appendix)	A2
Short description of the pilot project	<ul> <li>Comprehensive renovations of buildings in the Kosmonosy Psychiatric Hospital.</li> <li>Construction measures: <ul> <li>only thermal insulation of attics possible due to monument protection;</li> <li>window replacement.</li> </ul> </li> <li>Technology measures: <ul> <li>new boiler house including gas condensation boilers, renovation of distribution network</li> <li>new lighting system, HVAC, IRC</li> </ul> </li> </ul>
Status of agreement with pilot partner	The contributory organisation operating the hospital agreed to co-operate with SEVEN on the test applications.



Envisaged timeframe of implementation	EES contract signature: February 2022
	Implementation of the EEI measures: July 2023
	Contract length: 10 years

# 3.8. Summary of the set of test applications in Slovenia

Pilot Application Title	#1Slovenia - Sava Turizem - Heat Pump
Country	Slovenia
REFINE partner	Jožef Stefan Institute
Partners for Pilot Application	Resalta
Stakeholder group of the pilot partner	EES provider
Which concepts/tools will be tested	Refinancing instrument concepts Guarantee instruments
Category of refinancing scheme	C3
Short description of the pilot project	Installation and operation of a large heat pump for heating/cooling of the Sava Turizem hotel, project to be implemented via SPV vehicle
Status of agreement with pilot partner	Agreed
Envisaged timeframe of implementation	Contract signature June 2022, implementation October 2022 - December 2022

# Summary tables of selected envisaged test applications

Pilot Application Title	<b>#2Slovenia</b> - Municipality Kranj E- mobility
Country	Slovenia
REFINE partner	Jožef Stefan Institute



Partners for Pilot Application	Vizije mobilnosti
Stakeholder group of the pilot partner	EES provider
	Refinancing instrument concepts Contract stipulations
Category of refinancing scheme	B2
Short description of the pilot project	The replacement of ICE vehicles of the municipal administration, public institutions and a public company with electric vehicles, installation of charging stations, installation of PV plants and battery storages providing RES electricity for e-mobility.
Status of agreement with pilot partner	Agreed
Envisaged timeframe of implementation	June 2022 - December 2022

Pilot Application Title	<b>#3Slovenia</b> - School Centre Nova Gorica Deep Renovation
Country	Slovenia
REFINE partner	Jožef Stefan Institute
Partners for Pilot Application	Goriška lokalna energetska agencija (GOLEA)
Stakeholder group of the pilot partner	EPC/ESC/EE/RES facilitator
Which concepts/tools will be tested	Contract stipulations Facilitation service business models Rating system
Category of refinancing scheme	A2
Short description of the pilot project	Deep (comprehensive) renovation of four public buildings in the framework of public private partnership (EPC/ESC, financing: 49% grant + 51 % ESCO)
Status of agreement with pilot partner	Agreed



Envisaged timeframe of implementation	EPC imple 2023	contract ementation	signature July 2022	July - Dec	2022, cember

Pilot Application Title	<b>#4Slovenia</b> - Central Government Buildings Deep Renovation - Revolving Fund
Country	Slovenia
REFINE partner	Jožef Stefan Institute
Partners for Pilot Application	Ministry of Infrastructure
Stakeholder group of the pilot partner	FI facilitator, client
Which concepts/tools will be tested	Facilitation service business models Rating system
Category of refinancing scheme	B2
Short description of the pilot project	Programming of deep (comprehensive) renovation of central government buildings, renovations to be financed through state budget revolving fund not established yet
Status of agreement with pilot partner	Second round of discussions, agreement subject to the next financing perspective (2021-2027) programming
Envisaged timeframe of implementation	January 2022 - March 2023

Pilot Application Title	#5Slovenia - Refinancing scheme
Country	Slovenia
REFINE partner	Jožef Stefan Institute
Partners for Pilot Application	Eco Fund
Stakeholder group of the pilot partner	Financing institution
Which concepts/tools will be tested	Refinancing instrument concepts



Category of refinancing scheme	A1, C2
Short description of the pilot project	ESCOs refinancing scheme for residential buildings deep renovations, ESC and RES projects
Status of agreement with pilot partner	Initial discussions
Envisaged timeframe of implementation	N/A

# 3.9. Summary of the set of test applications in Ukraine

#### Summary table of selected envisaged test applications

Pilot Application Title	financing and refinancing products development by Oschadbank		
Country	Ukraine		
REFINE partner (including possible sub- contractors)	NGO HMRSC		
Partners for Pilot Application	Oschadbank		
Stakeholder group of the pilot partner (e.g. Commercial banks, EES providers, facilitators, clients)	EES providers, facilitators, clients		
Which concepts/tools will be tested (e.g. Refinancing instrument concepts, Contract stipulations, Guarantee instruments, Facilitation service business models, Rating systems)	Refinancing instrument concepts, Contract stipulations, Facilitation service business models,		
Category of refinancing scheme (see Appendix)	A1, A2, C1, C2, C4		
Short description of the pilot project (summary 2-3 sentences)	Oschadbank is the biggest state bank in Ukraine is willing to develop a concept and further on the loan product and refinancing product to test in the market and to offer its existing and potential clients to finance EES.		
Status of agreement with pilot partner (descriptive)	2 working meetings conducted, no agreements signed yet		



Envisaged timeframe of implementation D	Dec 2021 - Dec 2022
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# **APPENDIX**

The below categorization matrix for refinancing schemes is described in detail in the REFINE publication "Generic Concepts of Refinancing Schemes for Energy Efficiency Services" (D3.1), which is accessible through the REFINE website.

The matrix is defined by two dimensions:

- Client sector
- Type of investment

Each intersection point in the matrix defines a specific application field which requires a suitable design of the refinancing scheme.

	Comprehensive refurbishment	EEI measures	ESC
Residential buildings (MFH)	A1	(B1)	C1
Public buildings / facilities	A2	B2	C2
Commercial buildings	A3	В3	C3
SMEs/industry	(A4)	B4	C4

#### Table 1: Basic categorisation matrix for refinancing schemes

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

