



MAP OF STRUCTURED FINANCIAL SOLUTIONS FOR CFS4EE FINANCING SCHEMES

WP3 - Analysis and support actions for the design of Cfs4EE Financing Schemes

T3.2 - Benchmark and evaluation of existing and addressable Cfs4EE Financing Schemes

D3.2 - Map of Structured Financial Solutions for Cfs4EE Financing Schemes

Energinvest

CitizEE

*Scaling up Public Energy Efficiency Investments via Standardising
Citizen Financing Schemes*

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TECHNICAL REFERENCES

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INTRODUCTION/BACKGROUND

Objective and structure of the guidance

This guidance document aims to help CitizEE Pilot Regions to select a suitable Public Financing Instrument (PFI) to be set-up to support the development of their CFs4EE Financing Scheme for Energy Efficient Buildings. The document explores the different existing Public Financing Instruments (PFIs) that the CitizEE Pilot Regions can implement to build their CFs4EE Financing Scheme, with the objective of launching large scale investment program in the energy renovation of buildings and attracting greater levels of private-sector investments, including Citizen Funding. The guidance document builds on the previous analysis on the set-up of EFSI-backed Investment Platforms (Deliverable D2.1. Institutional, organizational and procedural report) and the market analysis developed by the Pilot Regions (Deliverable D2.11. Report on market characterization: segment and boundaries analysis) and supports Pilot Regions in analyzing how financing instruments could be structured within an Investment Platform that can address the market failures and potential related financing gaps existing within the Energy Efficient Buildings sector, and particularly, those existing within the Pilot Regions markets. The result is a Structured Financial Solutions Map, a set of eight different Structure Financial Solutions able to answer the potential needs of the Pilot Regions, including the leverage of Citizen Funding. The guidance document has been conceived as a roadmap/process to evaluate and select which of the Structured Financial Solutions is the most appropriate for the Pilot Regions CFs4EE Financing Scheme scope and market situations.

Methodology used to develop the Structured Financial Solutions Map

Task 3.2 Benchmark and evaluation of existing and addressable CFs4EE Financing Schemes was to study and benchmark Public Financing Instruments (PFIs) addressing the scaling up of investment in the field of Energy Efficient Buildings in order to have a clear understanding of their mechanisms, their objectives and characteristics, their design and implementation requirements, their market impact and the lessons learned on past projects. The study was first based on a desk research by which the team collected, compiled and analyzed the documentation and reports available on Public Financing Instruments (PFMs). A benchmark of these PFMs was then carried out in order to identify the most effective and the most adapted to the situation of the CitizEE Pilot Regions. Building on the previous analysis on the set-up of EFSI-backed Investment Platforms (Deliverable D2.1. Institutional, organizational and procedural report), the study has finally analyzed how financing instruments could be structured within the specific architecture of an Investment Platform, including Citizen Funding, in order to develop a Structured Financing Solutions Map to be used by the Pilot Regions in the evaluation of the CFs4EE Financing Scheme. The result is a set of eight different Structured Financial Solutions able to answer the potential needs of the Pilot Regions, including the leverage of Citizen Funding, to be potentially deployed by the Pilot Regions depending their market conditions, the key financial barriers and market failures to be removed and the policy objectives within those Pilot Regions.

The building blocks used for the analysis and the evaluation process are defined in the figure 1. They are further described in the document.

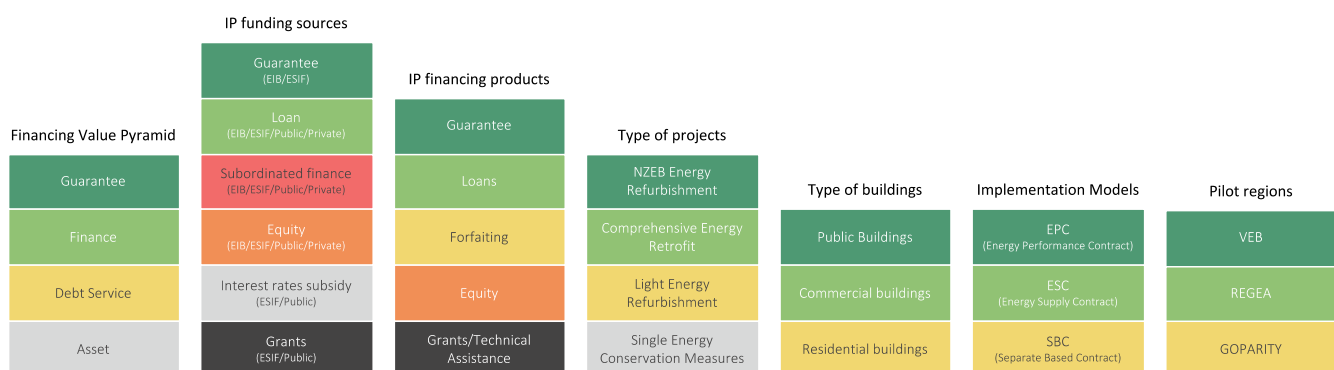
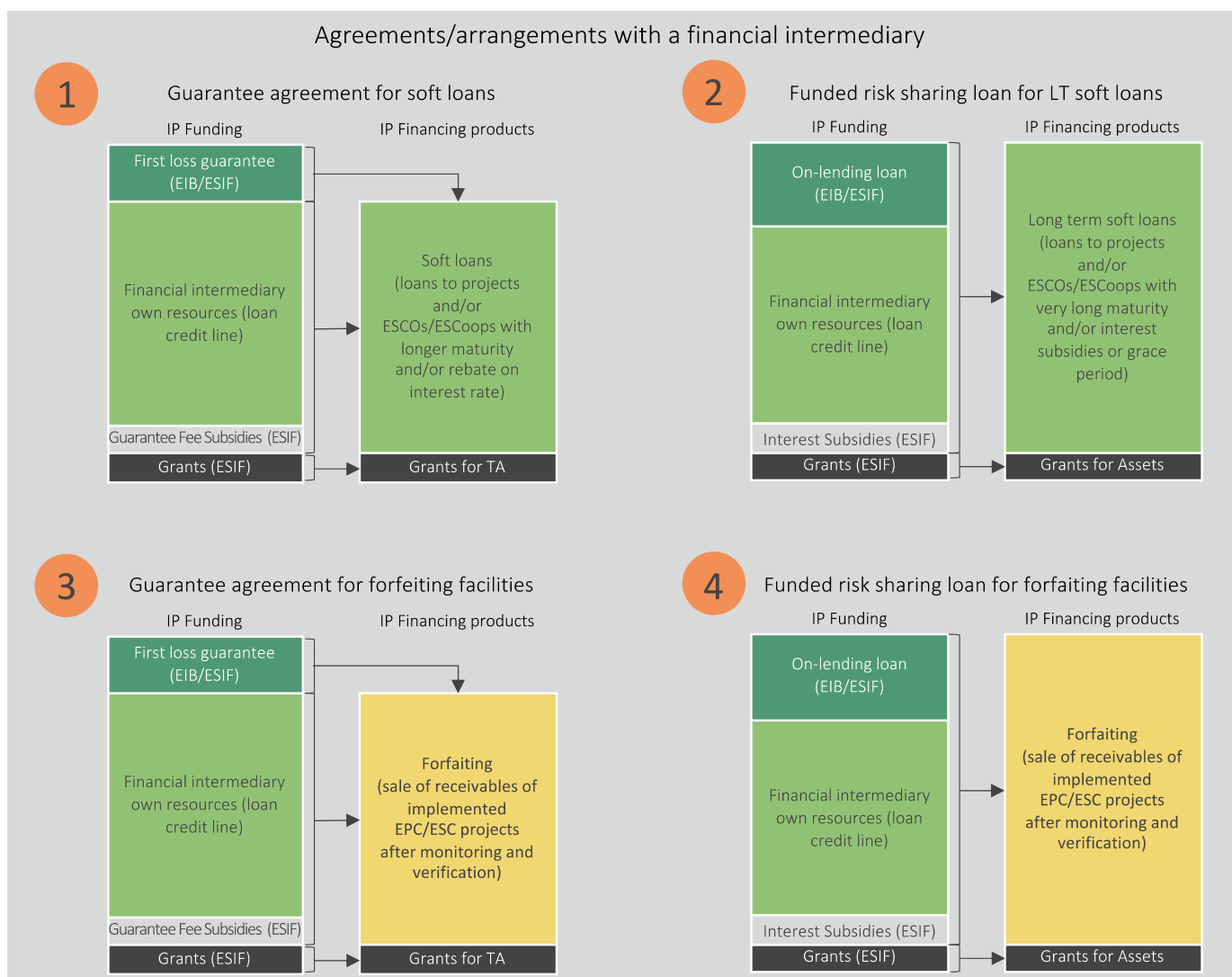


Figure 1- Building blocks used for the Structured Financial Solutions Map

The Structured Financial Solutions Map

Figure 2 provides a summary of the Structured Financial Solutions options available to CitizEE Pilot Regions depending on the scope of their CFs4EE Financing Scheme (further described in Step 4).

1. Guarantee agreement for soft loans,
2. Funded risk sharing loan arrangement for LT soft loans,
3. Guarantee agreement for forfeiting facilities,
4. Funded risk sharing loan arrangement for forfeiting facilities,
5. Forfeiting facility for off-balance ESCO/ESCOop financing,
6. Equity facility for off-balance SPV financing,
7. Energy Efficiency Fund for multipurpose objectives,
8. Energy Efficiency Fund with off-balance ESCO/ESCOop financing option.



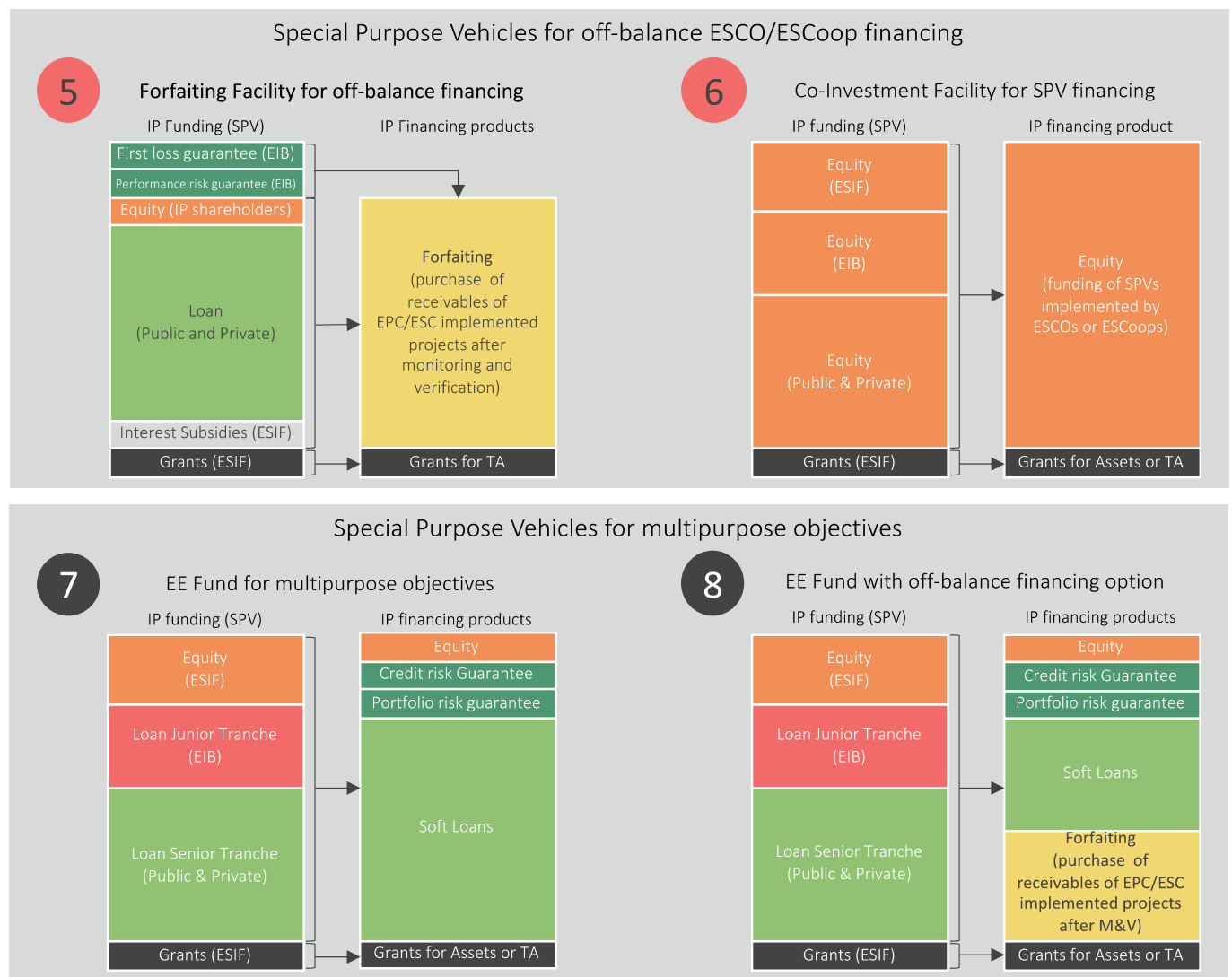


Figure 2 - Structured Financial Solutions Map: eight Financial Instrument proposals

Depending on the local context, the type of buildings and Final Recipients targeted, the type of implementation model and the Citizen Funding options to be used, Pilot Regions should evaluate the appropriateness of using certain Structured Financial Solutions versus others. The following decision-support diagram (fig. 3) illustrates where financial mechanisms can be deployed to ensure an efficient use of public funds and optimal pilot project outcomes.

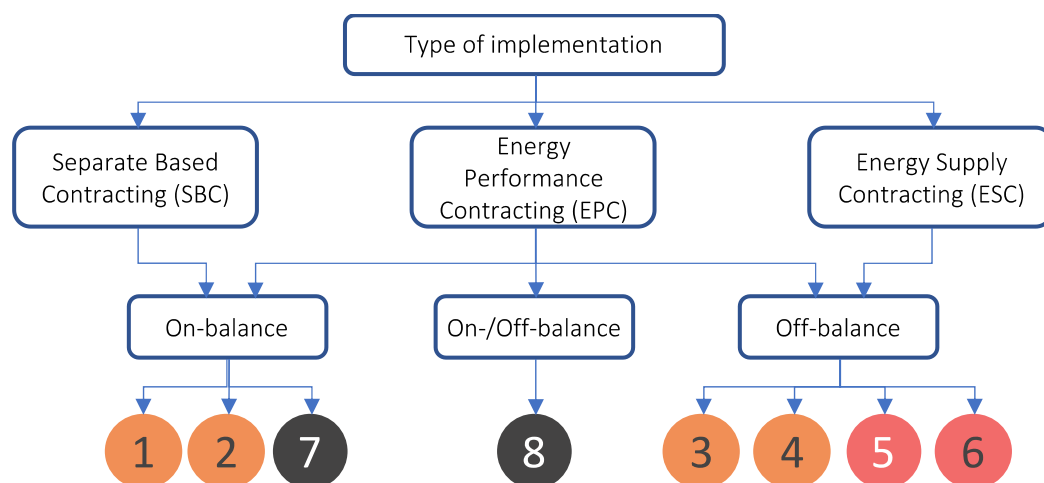


Figure 3 - Structured Financial Solutions Map: Decision support diagram

Key steps addressed by the guide

The following figure presents the key steps CitizEE Pilot Regions should follow when evaluating and selecting the Structured Financial Solution that could best answer to their needs. These steps are thoughtfully described in the following chapters.

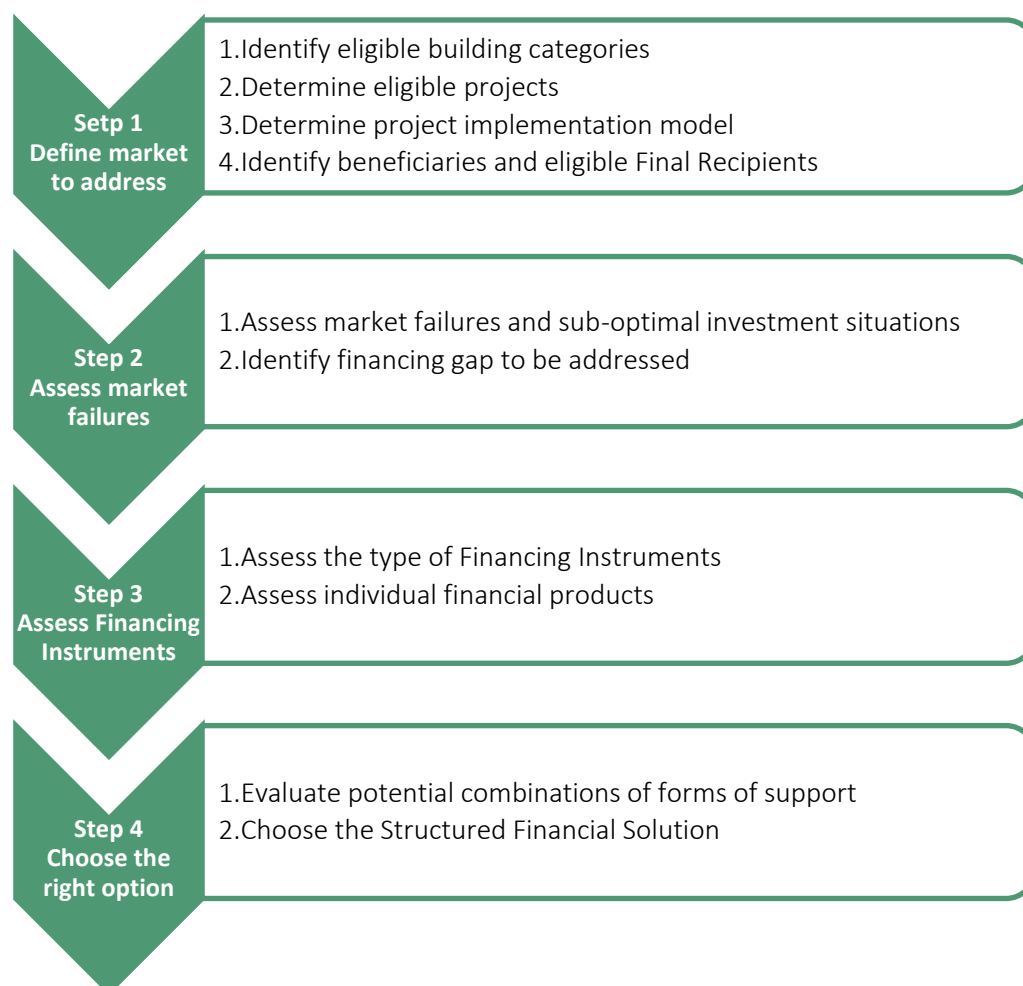


Figure 4 - Roadmap/process to evaluate the CFs4EE Financing Scheme

1. Step 1 - Define the market to address

1. Identify eligible building categories
2. Determine eligible projects
3. Determine project implementation model
4. Identify beneficiaries and eligible Final Recipients

1.1. Define eligible building categories

Identifying the building types that will be eligible for receiving funding is the first step in the decision-making process for evaluating the CFs4EE Financing Scheme. For the purpose of this guidance document, and following the scope of the Pilot Regions, buildings can be classified into 3 main groups:

- Commercial buildings (leased or owner-occupied)
- Public buildings (leased or owner-occupied)
- Residential buildings (leased or owner-occupied)

Within each building category, Pilot Regions can then select specific building types, as this will condition the type of intervention that can be applied. For instance, for public buildings, Energy Conservation Measures and financing mechanisms that can be implemented will vary depending on whether the program targets administrative or educational buildings or leased or owner-occupied buildings. Similarly, for the housing sector, it might be appropriate to distinguish between single-family houses and multi-residential dwellings. After deciding what type of buildings should be targeted by the CFs4EE Financing Scheme, the Pilot Regions can further specify the specific target group of buildings in terms of age band or energy performance rating for instance.

1.2. Determine eligible projects

The second key element that might condition the type of intervention depending the cost and the Key Performance Indicators of the projects is the level of ambition of the envisaged renovation and energy savings. Pilot Regions will have to decide which target level of renovation and energy savings they intend to support with the CFs4EE Financing Scheme. The level of ambition will determine the performance thresholds and/or eligibility criteria for packages of measures that need to be established and that will determine the type of eligible projects. For the purpose of this guidance document, and following the scope of the Pilot Regions project, the categorization of level of renovation and energy savings have been classified into 4 packages of measures and performance thresholds: Single Measures, Light Energy Refurbishment, Comprehensive Energy Refurbishment, NEZB Energy Refurbishment.

- **Implementation of single or non-combined energy conservation measures**, such as improving the building envelope and thermal insulation (windows replacement, roof insulation, etc.), replacing or improving technical buildings systems for heating, domestic hot water, ventilation or cooling and lighting upgrades. This package may include measures relating to the deployment of renewable energies such as solar photovoltaic, solar heating and geothermal, biomass heating or cogeneration.
- **Light Energy Refurbishment** involves the simultaneous and combined implementation of a certain number of individual energy conservation measures. Typically, this level of renovation aims to reach energy savings ranging from 20 to 40%, depending on the climate conditions and the energy performance of the building prior to renovation. This package may also be combined with measures relating to the deployment of renewable energies such as solar photovoltaic, solar heating and geothermal, biomass heating or cogeneration.
- **Comprehensive Energy Refurbishment** or deep energy renovation refers to renovations that include integrated energy conservation measures on the building envelope and the technical building systems in order to achieve very high energy performance levels. Typically, this level of renovation aims to reach the national EPBD level for low energy buildings and/or energy savings up to 60% depending on the climate

conditions and the energy performance of the building prior to renovation. This package often also includes measures relating to the deployment of renewable energies such as solar photovoltaic, solar heating and geothermal, biomass heating or cogeneration.

- **NZEB energy refurbishment** refers to renovations that includes integrated energy conservation measures on the building envelope and the technical building systems in order to achieve the highest levels of energy performance with the remaining levels of energy needs required to be covered by energy from renewable sources (Near Zero Energy Buildings). Typically, this level of renovation aims to reach the national EPBD level for Near Zero Energy Buildings and/or energy savings up to 80% depending on the climate conditions and the energy performance of the building prior to renovation.

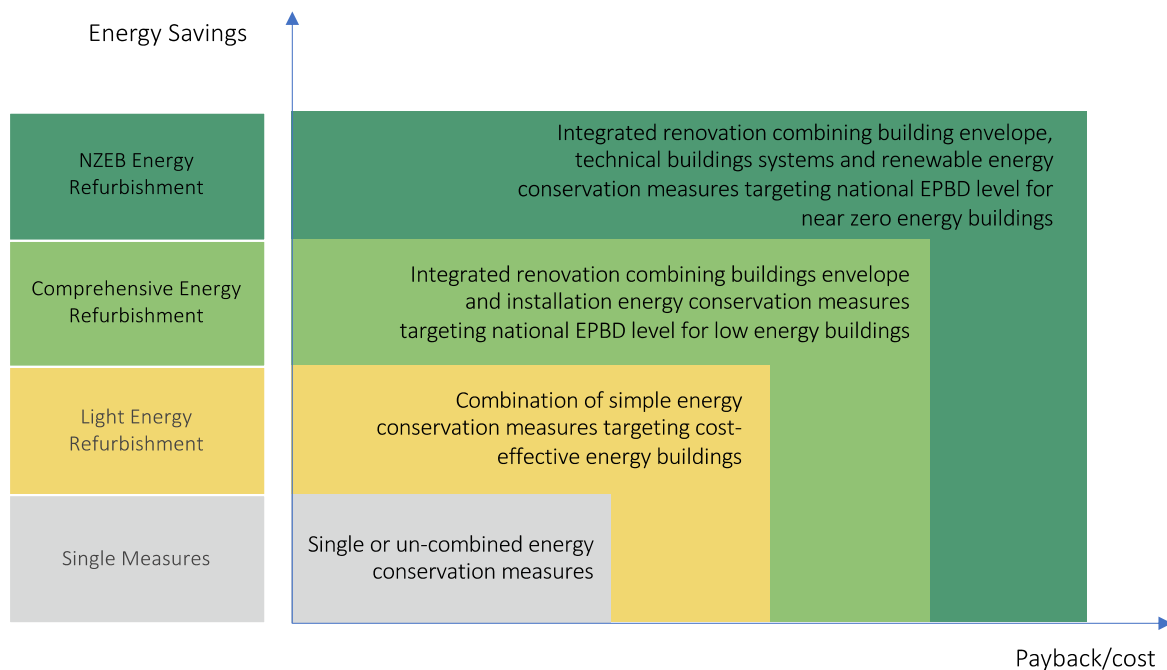


Figure 5 - Categorization of level of renovation and energy savings packages

1.3. Determine project implementation model

The implementation model is the method by which the projects are technically and operationally implemented in the field, most often by using engineering consultants, contractors or subcontractors. The implementation model is the key element in determining the potential Final Recipient of funding and therefore has a significant impact on the design of the funding scheme. Typical implementation models in the Energy Efficient Buildings sector are Energy Performance Contracting (EPC), Energy Supply Contracting (ESC) and Separate Based Contracting (SBC).

- **Energy Performance Contracting (EPC) model:** Energy Performance Contracting is a global service contract by which an ESCO (Energy Services Company) or an ESCoP (Energy Services Cooperative) acts as an integrated renovation works contractor to deliver energy savings and assures all the technical and performance risks of the contract. The ESCO/ESCOp offers to the contracting beneficiary a defined performance guarantee on the energy savings (EPC). This guaranteed performance secures the stream of savings allowing to reimburse or partially reimburse the investment. The EPC model is the key condition to access to ESCO/ESCOp financing and/or Third Party Financing (TPF), in which the private sector provides financing for the works in opposition to “owner financing” in which financing is provided by the project owner, usually through his own equity and/or by external loans. Under certain conditions, ESCO/ESCOp financing EPCs might be accounted for off-balance sheet, thus not increasing the debt ratio of the project owner, but this depends on the details of the contract and, for the public sector, on national accounting rules.

- **Energy Supply Contracting (ESC) model:** Energy Supply Contracting (ESC) is a global service contract in which an ESCO (Energy Services Company), an ESCoop (Energy Services Cooperative) or an Energy Supplier acts as an integrated contractor for the design, construction, operation and maintenance of on-site energy production facilities in order to supply “useful” energy such as heat, chilling, compressed air or electricity for a contractually agreed price per kWh delivered. The focus of the ESC service model is on the efficiency of the energy supply only and is by definition an ESCO/ESCoop financing and/or Third-Party Financing (TPF) contract, in which the private sector provides financing for the works. CHP plants and renewable energy solutions are frequently included in energy supply contracts.
- **Separate Based Contractor (SBC) model:** Separate contracting is a method to implement multi-technique Energy Efficiency or Renewable Energy projects, by which each step of the process is dealt with by a separate party (engineering, design, planning, constructing, operation and maintenance) and by which individual measures (e.g. boiler replacement, relighting, isolation, etc.) are executed by separate contractors for each technique or by a general contractor. In the Separate contracting model, the beneficiary takes on the technical risks of the project. In this model, there is also little room to access ESCO/ESCoop financing and/or Third-Party Financing (TPF) meaning that the project owner provides financing for the works, usually through his own equity and/or by external loans.

1.4. Identify beneficiaries and eligible Final Recipients

Pilot Regions can set conditions as to which type of Final Recipients or beneficiaries should be eligible to receive funding and to what level, although, once eligible building types and implementation models are defined, the beneficiaries and Final Recipients will be to a large extent determined (e.g. whether funding should go to the project holders or the project developers, such as the ESCOs/ESCOops). However, this may not always be straightforward, and it will be important, depending on Pilot Regions local situation, to consider the following identification approaches in order to allow, later on, a robust scheme design process depending on the market failures analysis and suboptimal investment situation to be addressed with the CFs4EE Financing Scheme.

- **Identify and select public and/or private beneficiaries:** beneficiaries refer to natural or legal persons or entities defined as the project holders that are eligible to access the or benefit from the CFs4EE Financing Scheme.
- **Identify and select public and/or private Final Recipients:** Final Recipients are natural or legal persons or entities that are eligible to receive financial support under the CFs4EE Financing Scheme, either to finance or co-finance the projects on behalf of the beneficiaries, either to overcome market failures leading to specific suboptimal investment situations.
- **Identify and select specific Final Recipients** that can or should be eligible to receive financial support under the CFs4EE Financing Scheme not to directly finance or co-finance the projects but to overcome market failures leading to specific suboptimal situations (e.g. offering equity finance to under-capitalized small and medium size project developers such as ESCOs/ESCOops with the objective to support their project development capacity).

2. Step 2- Assess market failures

1. Assess market failures and sub-optimal investment situations
2. Identify financing gap to be addressed

2.1. Assess market failures and sub-optimal investment situations

As mentioned in the Institutional, Organizational and Procedural Report (Deliverable D2.1), the presence of market failures and sub-optimal investment situations are essential components when designing a Financing Instrument. Furthermore, addressing market failures or sub-optimal investment situations is a key condition to set-up an EU-backed Investment Platform.

The concept of market failures refers to aspects of the market that do not function properly, which results in an inefficient allocation of resources while sub-optimal investment situations represent a specific type of market failure that lead to under-performance of investment activities resulting in unmet investment needs (namely the financing gap). Numerous market failures prevent improvements to the energy performance of buildings, ranging from technical and financial barriers to informational and behavioral obstacles. But what truly matters when designing Financing Instruments is rather the financial barriers that prevent access to appropriate financing, either because they affect the financial viability, the bankability and/or the creditworthiness of the projects or they limit the offer of private financing on the market. In this evaluation, we will thus mainly focus on those financial barriers that lead to such sub-optimal investment situations within the targeted market defined in section 1.

Note: Other market failures and/or barriers are also relevant, such as experience or lack of capacity, limited institutional experience, limited technical knowledge, lack of awareness, market immaturity or regulatory constraints. If the projects of the Pilot Regions are confronted with such obstacles, they are advised to carry out an in-depth analysis of these barriers according to the ex-ante analysis methodology developed in the FI-Compass guide: Ex-ante assessment methodology for financial instruments, General Methodology, Volume 1.

2.1.1. Understanding key financial barriers

Key financial barriers for any type of project can be classified in three categories :

- High (perceived) risk
- Limited access to capital
- Limited financial viability

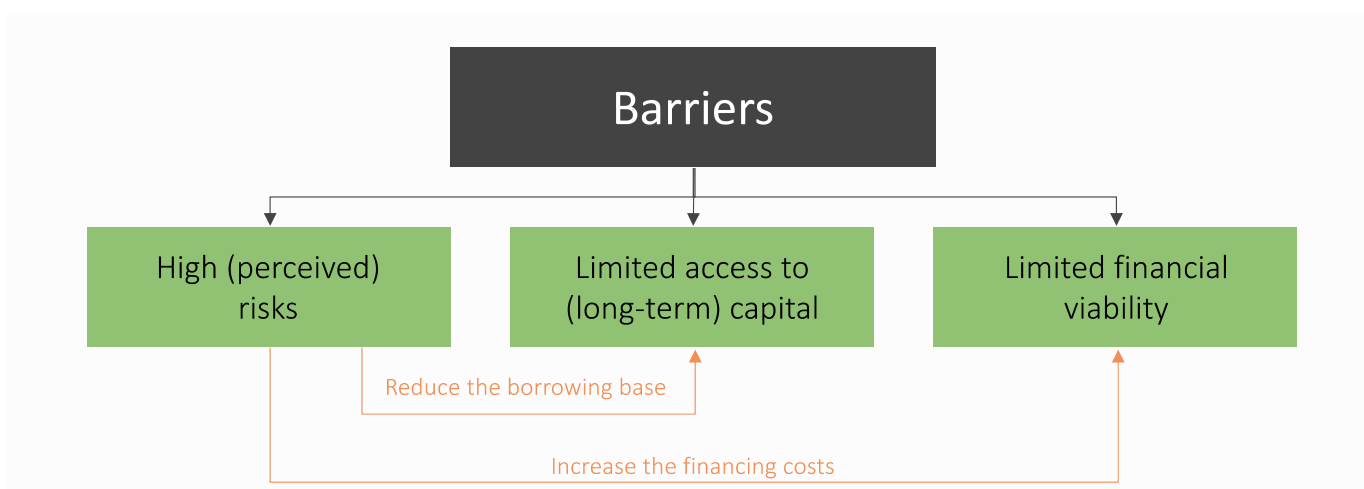


Figure 6 - Key financial barriers.

Source: NAMA Facility Webinar: Financial Mechanisms and the NAMA support project

Risk (real or perceived) is the most critical element that prevents any kind of investment project from realization and acts as a partial driver for the other barriers:

- **Higher risks reduce the borrowing base:** the risks reduce the amount of money that a lender is willing to lend to a project (namely the borrowing base). As a consequence, the lack of access to an “appropriate” level of capital for a particular sector, type of projects or Final Recipients is mainly due to the perception of risks amongst lenders.
- **Higher risks increase the financing costs:** the interest rate may go up due to the increased perception of risk leading to higher financing costs, thereby reducing the financial viability of the projects or may even lead to cancelling any supply of financing.

Basically, suboptimal investment situations and financing gaps will exist if one or a combination of these barriers are the major factor preventing projects from materializing on the targeted market.

2.1.2. Most common financial barriers in the Energy Efficiency building sector

Some of the most common financial barriers leading to sub-optimal investment situations in the Energy Efficient Buildings sector are detailed below:

- **High upfront costs:** Although Energy Efficiency projects in buildings are often profitable over time, they usually have high initial investment costs. This is particularly the case for projects that concentrate on the renovation of the entire building. This may prevent investments in Energy Efficiency, notably by low-income households and small firms or municipalities, which have limited capital and/or limited access to the external financing of these upfront costs.
- **Long payback terms:** Energy Efficiency projects in buildings can lead to long payback terms, in particular projects that focus on renovating the entire building. The payback time is an indicator showing how many months or years are needed before a project breaks even (at this point the project has produced enough cash flows to repay the initial investment) and possibly becomes profitable. In other words, it indicates how long funds stay in a project. The payback time is primarily a risk measure, e.g. a low payback time would indicate lower risk and possibly higher profitability. The longer the payback period the higher the uncertainty related to the project the more reluctant lenders will be to offer long-term loan maturities without risk covering.
- **Low IRR/profitability of projects:** Many Energy Efficiency projects show low-level returns evidenced by low IRR indicators. Although the IRR can be positive in the long term, lenders are not attracted to these projects because these same projects offer lower returns than the alternative options available on the market. Furthermore, low IRR of Energy Efficiency projects makes the borrower ability to meet debt service payments riskier for the lenders. Low profitability may be due to energy prices that can be significantly low or upfront costs that can be significantly high depending the level of the buildings retrofit, thereby adversely affecting energy savings. As many Energy Efficiency projects have a long-term horizon and might be perceived as riskier, project holders or project developers will require higher (too high) discount rates (and per definition higher IRR) in order to discount future energy savings. Together with requirements of rather short payback times this disadvantages projects with energy savings over longer periods. This is particularly the case for projects that concentrate on the renovation of the entire building.
- **Uncertain returns and unsecured assets:** Energy Efficiency projects in buildings do not have conventional cash flows, as they are generated through energy savings (difficult to estimate and verify) rather than revenues. Besides, the underlying assets of Energy Efficiency projects are not traditional kind of assets that can easily be used as collateral. This makes the borrower ability to meet debt service payments riskier for the lenders which are therefore either not willing to provide project financing or would offer it at higher interest rates, limited maturity of loans and high collateral requirements.
- **Low creditworthiness of the Final Recipients:** most Energy Efficiency project holders or project developers such as ESCOs/ESCOops are small and medium-size enterprises (SMEs). SMEs face unique barriers in their access to long-term financing because of their inherent low creditworthiness resulting from low level of

equity capital, high debt to equity ratio and/or limited collateral. Most commercial banks usually rely on balance sheet financing, which requires that borrowers either have good credit ratings or can provide high levels of collateral.

- **Limited on-balance sheet financing capacity** : project holders or project developers are regularly reluctant or confronted with limited capacity to finance on-balance sheet due to limited internal funds (equity), budgetary priorities, debt to equity ratio capacity or debt ceiling preventing them from accessing financing for their Energy Efficiency projects. This is particularly the case in the public sector which is governed by the Maastricht Treaty though this issue is also present in the residential and private sectors. Also, private sector project holders or project developers are unwilling to commit their balance sheets as collateral for Energy Efficiency projects borrowing because of the potential impacts such commitments may have on their total borrowing capacity for their core business investments. This is particularly the case for project developers such as ESCOs/ESCOops that are reluctant to finance long-term project on-balance sheet.
- **High interest rates**: high interest rates have an immediate impact on the feasibility of Energy Efficiency projects and, in some circumstances, may simply kill the savings potential of the projects. High interest rates may be due to local lending market conditions, but most of the time the underlying reasons are the real or perceived risk perception for lenders and the low creditworthiness of the Final Recipients resulting from limited collateral and/or a high debt to equity ratio.
- **Small size of projects with high transaction costs**: for the project holders, Energy Efficiency projects have a relatively high proportion of "soft delivery costs", including costs of project evaluation, project development or facilitation and contract negotiation. These delivery costs can represent a significant part of the potential energy savings resulting from the implementation of projects and thus impacting their financial viability. For the lending sector, the relatively small size of Energy Efficiency projects tends to make them costly to finance due to inadequate or unsuitable bank regulations and lending policies, often designed for conventional larger projects. Finally, the project developers, such as ESCOs/ESCOops, are also facing high pre-investment development and transaction costs partially due to the small size of projects, lack of standardization and long and expensive sales cycle. This barrier prevents ESCOs/ESCOops from investing their own resources in projects, which in turn lowers the capacity of banks to invest in these projects. In every case, the global transaction costs remain an issue in the sector.
- **Misplaced or split incentive**: This is usually called the "landlords-tenants" problem where the landlords (or the project holders) are responsible for investments in Energy Efficiency while the tenants (or the occupiers) who pay the energy bill benefit from the resulting energy savings. Because the landlords are not rewarded for the investment, they are not likely to invest in Energy Efficiency measures. Tenants are also reluctant because they are not sure they can recover the costs of Energy Efficiency investments once they decide to relocate. This issue can occur in all building/beneficiary categories (public, commercial, residential).

2.1.3. Specific challenges of financing/refinancing ESCOs/ESCOops, EPCs and "Maastricht neutral EPCs"

Project developers such as ESCOs/ESCOops are facing additional financial challenges also potentially leading to sub-optimal investment situations as described below:

- **Double risks effect**: In most countries, large well capitalized ESCOs have access to debt to finance their projects. Notwithstanding, the lending sector remains reluctant to finance or refinance long term EPC assets held by ESCOs because of the double risk exposure: the credit risk on the project beneficiary's side (the one who pays the contractual fees) and the risk of underperformance on the ESCO's side. In this case, the lender has to evaluate not only the project beneficiary credit risk, but also project economics, project engineering and technical performance, ESCO financials and equity contribution and the ESCO's management and performance track record, and all project contracts. This is particularly the case for "Maastricht neutral" EPC assets for which contractual fees are fully performance-based meaning that the majority of risks are shifted to the ESCOs, contrary to traditional off- or on-balance EPCs.
- **Lack of equity/undercapitalization**: For small and medium ESCOs/ESCOops, the risk perception for lenders is further increased due to their low creditworthiness and/or undercapitalization.



Note: However, one of the main barriers to scaling up investment in the Energy Efficient Buildings sector is the scarcity of investment-ready projects. This can result from various factors such as a limited availability of skilled personnel to initiate, develop and implement Energy Efficiency projects. Identifying the key barriers preventing the development of a pipeline of financially attractive projects is the first key challenge that must be addressed. Pilot Regions should identify the level of support currently available in their region for Energy Efficiency projects and portfolio development within available public and private funding facilities.

2.2. Identify financing gaps to address

The analysis for the existence of markets failures and sub-optimal investment situations within the targeted market allows to determine the financing gaps to be filled by the Financing Instrument and later on the type of appropriate financing mechanism to be put in place to cover the gap. This can result from the following:

- **Viability gap:** in the case where a project or group of projects shows returns below market requirements necessary to attract funding although these projects are economically justified and necessary. These are projects that may not be commercially viable due to the long development period and/or low-income flows in the future. An example of a viability gap can be found in the renewable energy sector where public funding mechanisms such as the feed-in tariff or the green certificate have been put in place to fill the gap resulting from the high production cost of renewable technologies compared to fossil and nuclear production. Looking into the categorization of projects referred to above, a viability gap will probably be of existence in the NZEB Refurbishment category where payback times of projects are particularly long (over 20 years and more) and investment potentially not fully refundable through energy savings.
- **A financing gap:** in the case where a certain type of projects or a sector as a whole shows evidence of unmet financing demand due to a limited access to capital. This is typically the case in the Energy Efficiency sector as a whole and in buildings particularly.
- **A combination of viability and financing gaps.**

2.2.1. Classification of the potential financing gaps

The table here below synthetizes the potential financing gaps that could exist within the Energy Efficient Buildings sector.

Table 2.1 - Classification of the potential financing gaps

	Main issue		Potential cause	Financing gaps
VIABILITY GAPS	The profitability of the projects is not in line with the market requirements despite a positive ERR (Economical Rate of Return)	Form low to high impact	High upfront costs affecting the profitability	Despite a good economic return, the high upfront (over-) costs of the projects make the IRR unattractive for the private sector financing.
			Tenor not suited to long payback periods of projects	The market tenors are too short to make the projects affordable for the Final Recipients.
			High financing costs affecting the profitability	The market interest rates are too high to make the projects affordable for the Final Recipients.
FINANCING GAPS	The projects are bankable but local financing	Form low to high	Lack of commercial finance/liquidity	The amount of finance available in the market is not enough to cover the demand for reaching the targets in the long term.

	options are limited or unsuited		Limited balance sheet/borrowing capacity	The Final Recipients have no access to off-balance sheet financing options (with “Maastricht neutrality” in case of public sector).
			Limited access to commercial finance	The Final Recipients have difficulties to access to appropriate financing due to: <ul style="list-style-type: none"> • a lack of appropriate commercial debt financing products for EE projects; • and/or high interest rates for commercial debt financing of EE projects; • and/or short loan tenors for commercial debt financing of EE projects.
			High transaction costs	The transaction costs supported by the market players limit their capacities to increase the number of projects. This (could) affect either the project holders, the project developers and/or the lenders.
	The private sector avoids investments due to high real or perceived risks of project failures	Form low to high impact	Performance & technical risks of the projects	The lenders are reluctant to finance Energy Efficiency projects where they are exposed to performance risks. This will be particularly the case for EPC/ESC projects and more particularly for “Maastricht Neutral” EPCs.
			Low creditworthiness of the Final Recipients	The Final Recipients have difficulties to access appropriate financing due to low creditworthiness.
			Lack of financing offering	There is no offer of financing available on the market for Energy Efficiency projects due to the risk perception or the available offering of financing is rather limited and subject to high interest rates and high collateral requirements.

2.2.2. Key questions to address for pilot regions

- Does the initial investment of the projects make the profitability negative or too low to attract lenders?
- Are the market interest rates too high to make the projects affordable?
- Are market loan tenors too short to make the projects affordable?
- To what extent Final Recipients with bankable projects have easily access to commercial finance?
 - Is there a lack of liquidity on the commercial debt financing market, among private lenders such as commercial banks limiting their offer of financing for Energy Efficiency projects?
 - Is there a lack of suitable financing products for Energy Efficiency projects on the commercial debt financing market?
 - Are there (well-developed) existing off-balance sheet financing options on the market?
 - Do transaction costs (to prepare, to finance, to execute) limit market development or growth? For which market player?

- Is there a lack of financing offering for Energy Efficiency projects due to high risk perception on the lender's side?
- Do Final Recipients have difficulties accessing appropriate funding due to their poor creditworthiness?
- Does exposure to performance and technical risks limit the access to financing and particularly to ESCO/ESCOop financing?

Note: Ex-ante assessment requires evidence and quantification of the gaps based on analysis of the demand and supply of finance within the targeted market. The gap has to be identified and quantified between the existing level of investment and a quantitative objective defined by the Pilot Regions for their CFs4EE Financing Scheme that should at least be based on existing national policy objectives. In most of the cases, the reference should be an analysis of current investment trends, which shows the extent to which the objectives could be attained without additional support schemes. Within the CitizEE project, this analysis in the purpose of evidence and quantification will be done later when designing the CFs4EE Financing Scheme (WP4).



3. Step 3- Assess Financing Instruments

1. Assess the type of Financing Instruments
2. Assess individual financial products

3.1. Assess the type of Financing Instruments

Once the financing gaps are identified, the Pilot Regions have to assess which type of Financing Instrument can be used to enable investments in Energy Efficient Buildings and close the gaps. Public Financing Instruments (PFIs) aim to address and overcome the dominating financial barriers that prevents the realization of investment projects by influencing their financial profile and, by doing so, leverage additional public and private financing in order to cover the financing gaps. The most established Financing Instruments could be classified as follow:

- Risk mitigation instruments: mechanisms to remove or reduce risks;
- Financing/refinancing instruments: mechanisms to supply additional long-term finance;
- Grants (and assimilated) instruments: mechanisms to cover gaps in financial viability.

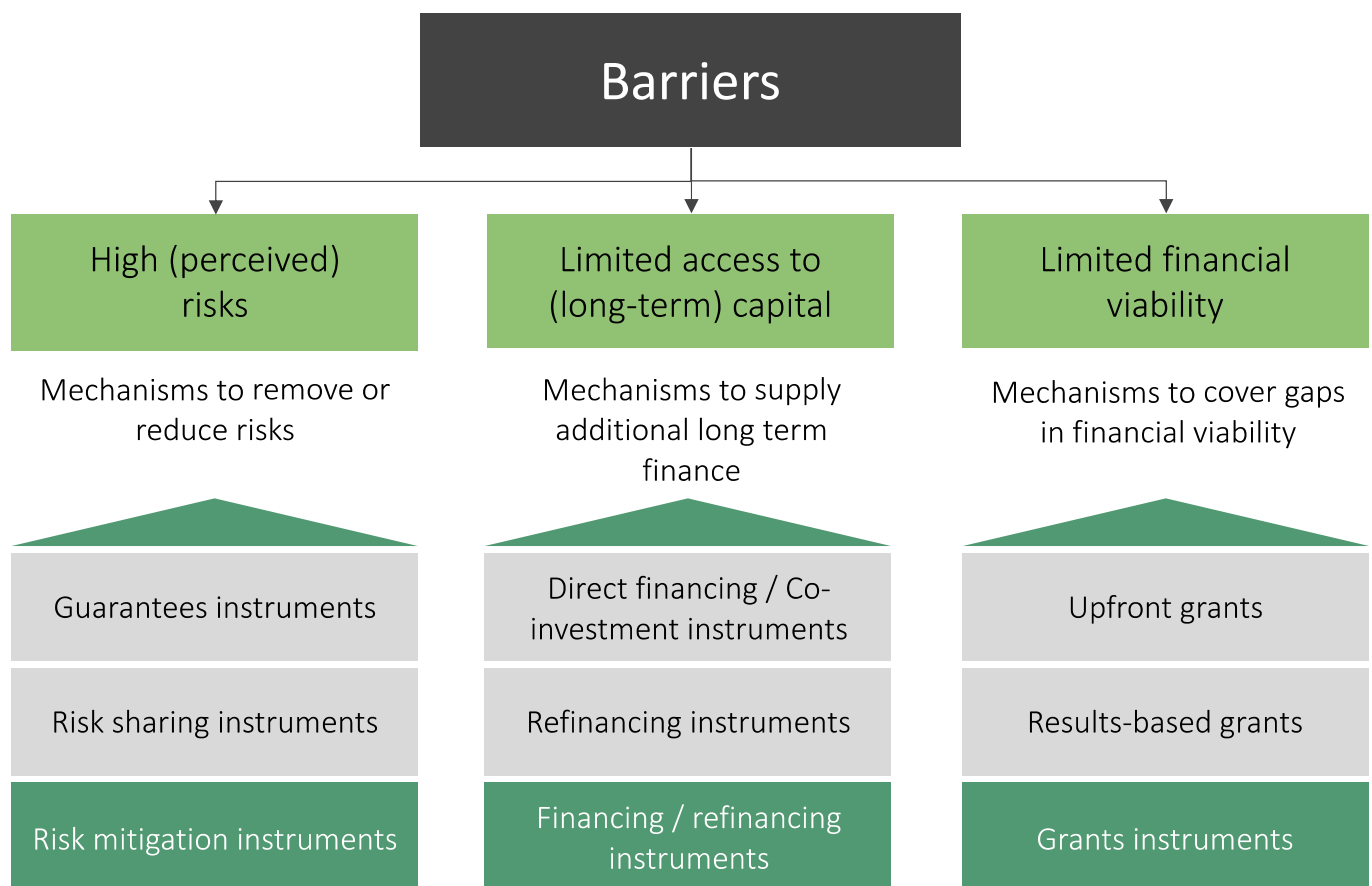


Figure 7 - Key financial barriers and related financing mechanisms

As shown in the figure 7, there is an immediate relationship between the financial barriers to address and the financing mechanism options to be used.

3.1.1. Risk mitigation instruments

Risk mitigation instruments address the barrier of high (real or perceived) risks for lenders by covering part of the risk of payment default, either through a guarantee or first-loss absorption. They positively influence the financing costs (for both debt and equity), the loan maturities and the size of the debt component (key instrument to increase

the amount a bank or an investor is willing to lend to Energy Efficiency projects). There are various ways to structure risk mitigation instruments for Energy Efficiency projects, either through:

- Guarantees agreements;
- Risk-sharing loans;
- Subordinated debt, structured finance and layered funds.

3.1.1.1. Guarantee agreements

Partial risk and credit guarantees are the most suitable instruments to address risk perceptions among lenders, in particular in markets where collateral requirements are high but where liquidity is no longer an issue.

- Partial risk guarantees: cover losses caused by specific risks such political, regulatory risks but also operational and technology risks.
- Partial credit guarantees : cover losses in the event of a debt service default regardless of the cause of default.

Description

A guarantee agreement includes a public funder that will guarantee all or some part of the risk of loans (or equity) provided by local financial institutions to Energy Efficiency projects in the event that the Final Recipient does not repay the debt. Guarantees can be given for specific large-scale projects with the guarantee agreement adapted to the specific project design or to a portfolio of similar projects, *i.e.* all loans to a certain class of borrowers (portfolio guarantee). Guarantees could be issued directly to banks but also to project beneficiaries and/or project developers (ESCOs/ESCOops) in order to facilitate access to external finance. They could also be issued as counter-guarantees for a commercial guarantor who guarantees the loans given to a Final Recipient by a commercial lender. Losses can be taken over fully or partially by the public funder under various ways:

- Equal risk sharing (“*pari-passu*”): each partner takes on an equal share of the loss.
- Pro-rata or capped guarantee: the loss is shared according to a predefined percentage between the partners; a typical share of the public party can range between 50% and 80%.
- First-loss guarantee: all losses up to a predetermined maximum amount will be covered by the public institution, while the private institution pays for losses above this amount.
- Second-loss guarantee: all losses exceeding a predefined amount are paid for by the public institution. Potential losses of the private institution are thus capped and cannot exceed the determined amount.

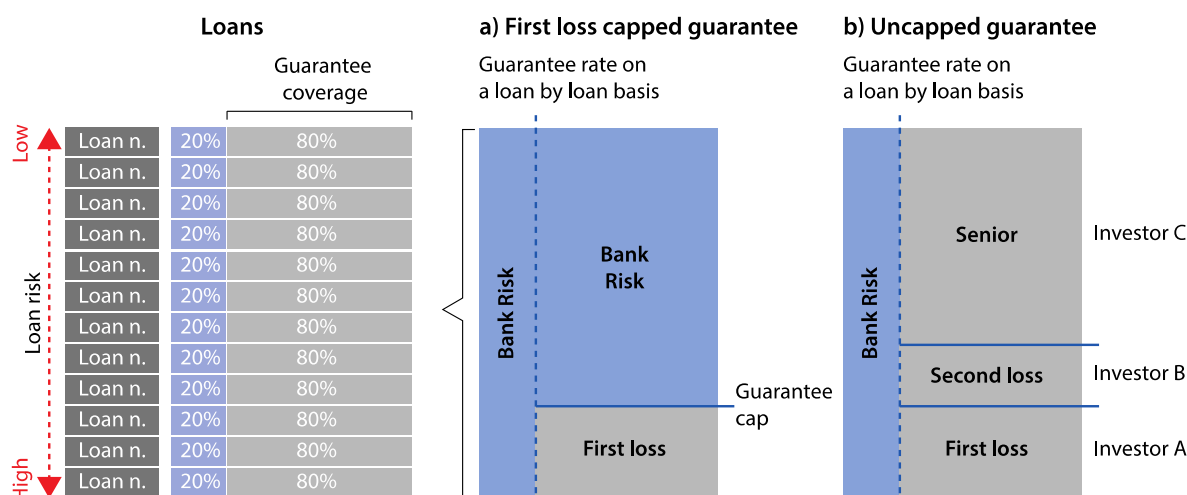


Figure 8 - Illustration of how a guarantee agreement works at portfolio level

Source: Joint Initiative for improving access to funding for European Union Young Farmers, FI-Compass, EIB 2019.

Advantages

- Reduces the risks for lenders and enables them to lend greater amounts of finance to Energy Efficiency projects.
- Enables lenders to lend to marginally creditworthy clients presenting attractive Energy Efficiency projects.
- Enables the loan tenor or the grace periods to be extended and the interest rate to be reduced, thus improving project cash flow and viability.
- Increases debt-to-equity ratios, enhancing returns to Final Recipients.
- Actual disbursement is done only in case of default.
- Revolving effect, ability to recycle remaining funds.

Instrument impacts

- Extended debt volume with high leverage effect
- Reduction of interest rate (depending the reduction of risk related margin)
- Extension of debt maturity
- Favorable debt amortization/repayment schedule
- Easement of debt covenants
- Extended list of available lenders
- Introduction of new borrowers to the market

Best practice references

- ESIF « off-the-shelf » Financial Instrument: Guarantee fund for SMEs (Capped Guarantee Portfolio). Provide credit risk protection in the form of a first loss portfolio capped guarantee which reduces the barriers that SMEs face in accessing finance. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0964&from=EN>
- EFSI backed Investment Platforms : e.g. BPI France Midcap Investment Platform, French Overseas Territories (RUP) Risk Sharing
- Other references: IFC's Commercializing Energy Efficiency Finance (CEEFF) program in Hungary, Czech Republic, Estonia, Latvia, Lithuania and Slovakia. The objective of the program was to encourage financial intermediaries to finance Energy Efficiency and Renewable Energy investments by partially guaranteeing their loans in this area, and by providing technical assistance. - <http://documents.worldbank.org/curated/en/354531468034750409/pdf/761490BRI0IFC000Box374367B00PUBLIC0.pdf>

3.1.1.2. Risk sharing loans (on-lending)

A risk sharing loan is a loan blending together public and private funds to provide better access to finance to targeted projects and credit risk sharing to financial intermediaries. Risk sharing loans are suited in markets combining risk aversion and credit resources constraints of the private intermediaries (lack of liquidity) leading to high interest rates.

Description

In this structure, public funds are provided to a financial intermediary for on-lending to Final Recipients and blended together with the financial intermediary own's funds to generate a new portfolio of loans with a predetermined limited period of time. From a risk perspective, each loan is made up of a public and a private component. The risk on the public component of the loan is retained by the public operator, reducing the financial losses of the intermediaries in case of default. This reduced risk cost is used to improve the characteristics of the loan (for example grace period, extended maturity, reduced interest rate) agreed in the financing agreement. Losses, recoveries and

benefits are borne and shared by the public operator and the financial intermediary in an agreed proportion, most of the time on a pari-passu base.

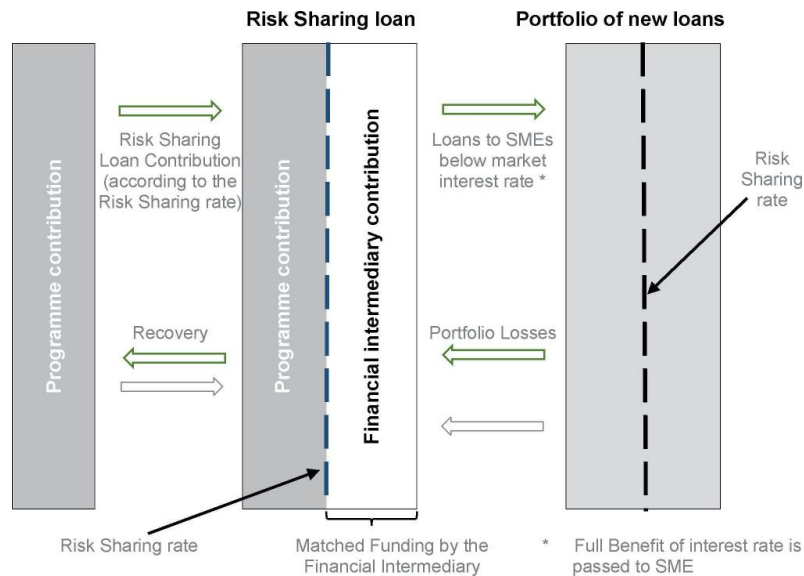


Figure 9 - Illustration of how a funded Risk Sharing Loan works

Source: Commission Implementing Regulation (EU) N° 964/2014 of 11 September 2014

Advantages

- Provides liquidity to financial markets and reduce the cost of financing for Final Recipients.
- Enables lenders to lend to marginally creditworthy clients presenting attractive Energy Efficiency projects.
- Enables the loan tenor or the grace periods to be extended and the interest rate to be reduced, thus improving project cash flow and viability.
- Increases debt-to-equity ratios, enhancing returns to Final Recipients.
- Revolving effect, ability to recycle reimbursed and recovered funds.

Instrument impacts

- Extended debt volume but with lower leverage effect
- Larger reduction of interest rate (at least 50%)
- Larger extension of debt maturity
- More favorable debt amortization/repayment schedule
- Easement of debt covenants
- Introduction of new borrowers to the market
- Implementation of more ambitious projects with lesser risk

Best practice/references examples

- ESIF « off-the-shelf » Financial Instrument: Loan fund for SMEs based on a portfolio risk-sharing model (Risk-sharing loan) - <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0964&from=EN>
- EFSI backed Investment Platforms : e.g. Réseau Canopé Logement social
- Other references: IFRRU 2020 (Instrumento Financeiro para a Reabilitação e Revitalização Urbanas) is a financial instrument that has been established to support urban renewal across the entire Portuguese

territory. - https://www.fi-compass.eu/sites/default/files/publications/Financial%20instruments%20for%20urban%20development%20in%20Portugal%20-%20IFRRU%202020_2.pdf

Table 3.1 - Comparing the guarantee and the funded risk-sharing loan instruments

Comparing the guarantee and the funded risk-sharing loan instruments		
Options	PRO	CON
Funded risk-sharing Loan	<ul style="list-style-type: none"> Provides at the same time liquidity and risk protection to the financial institutions. Higher impact on the interest rate. Can provide reduction of collateral requirements. 	<ul style="list-style-type: none"> Lower leverage (i.e. higher public resources absorption).
Credit guarantee instruments	<ul style="list-style-type: none"> Provide risk protection to the financial institutions. Provides reduction of collateral requirements. Higher leverage (i.e. high impact with low public resources absorption). 	<ul style="list-style-type: none"> Does not provide liquidity to financial institutions (i.e. they have to use entirely private funds to provide loans). Impact on the cost of financing (i.e. interest rate) is limited. Slower reflow of the resources.

Source: Joint Initiative for improving access to funding for European Union Young Farmers, FI-Compass, EIB 2019.

3.1.1.3. Risk sharing structures through subordinated debt, structured finance and layered funds

Establishing a senior/subordinated structure or risk tranching structure is an effective mechanism to create a security that helps attract new investors to projects, allowing investors with different risk-return profiles to invest in the same project or in an aggregation of pooled projects through a fund structure. The structure shields investors from losses incurred by the project or the portfolio of projects.

Description

In this mechanism, subordinated debt is placed by a public finance provider along-side senior debt from a lender, absorbing all default losses up to the amount of the subordinate debt. By covering all losses until it is exhausted, the subordinated debt takes on the majority of the loan default risks and acts as a credit enhancement for senior debt. In the case of a portfolio of assets, the subordination provides credit enhancement by creating multiple tranches or layers with different levels of seniority as relate to the cash flows generated by the project (often structured as a special purpose vehicle (SPV)) to pay the notes, starting with the most senior notes and only repaying subordinated tranches thereafter (mezzanine, junior or first-loss-piece tranche). This is the so-called “waterfall structure” or the “layered structure” (figure 10). In blended finance, public finance providers usually hold the first-loss-piece in order to provide cushion to more senior, commercial investors.

ESI funds as first- loss-piece

In the context of Investment platforms, the ESI Funds can be used to support the risk-bearing capacity of an EFSI Investment Platform in the form of a “layered fund”, and leverage other sources of finance, most notably private investors as well as NPBs. The layered fund would typically be structured in 3 classes of risk, clearly segregated in terms of risk and return:

- Senior debt tranche (low-risk-taking): to leverage private and institutional investors.
- Mezzanine tranche: financed by EIB (using EFSI). Open to NPBs and private investors.

- First-loss-piece/equity tranche (high risk-taking): financed by ESI funds or other national/regional public budget funds. Open to NPBs and private investors.

The remuneration and/or reimbursement of the first-loss-piece/Equity tranche will only take place after remuneration and/or reimbursement for the Senior tranche holders and the Mezzanine tranche holders respectively, as per normal market practice.

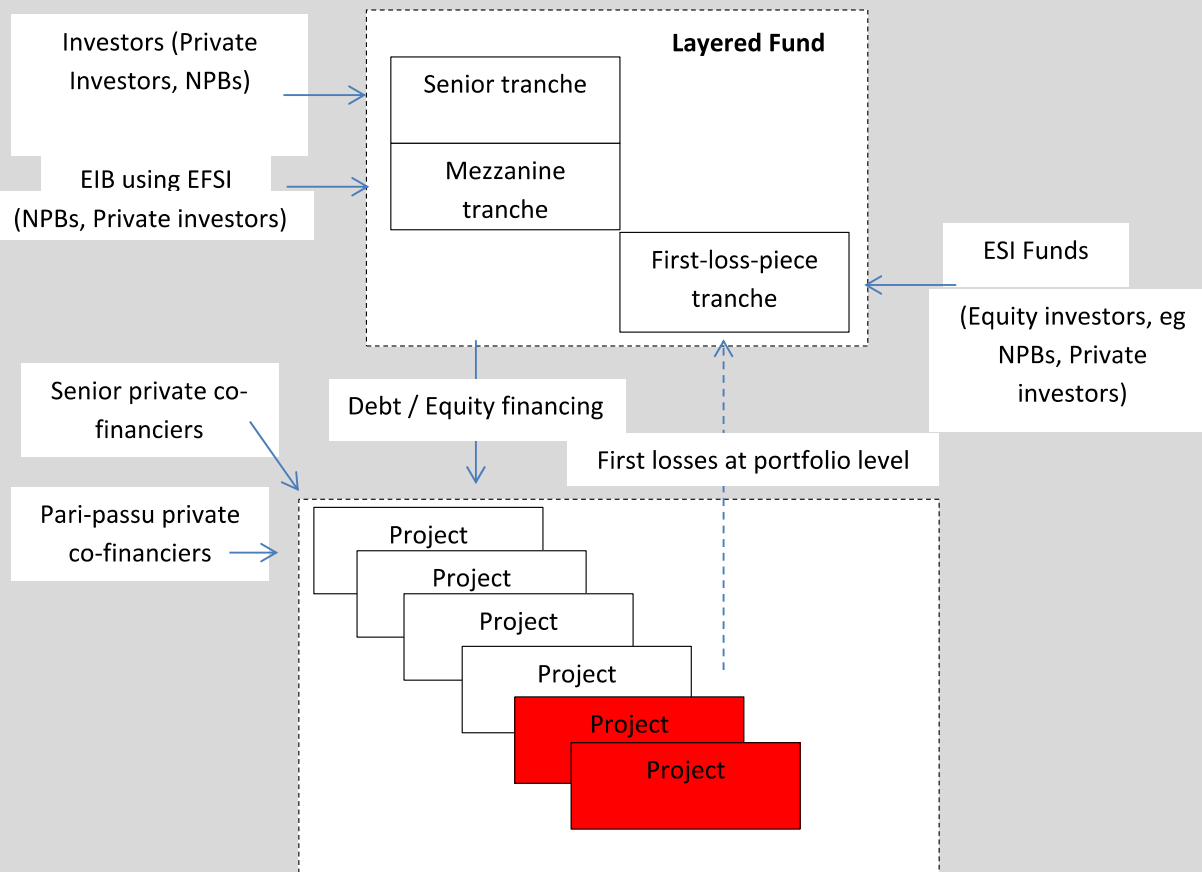


Figure 10 - Illustrative scheme of a “layered fund” combining ESI Funds and EFSI

Source: European Structural and Investment Funds (ESIF) and European Fund for Strategic Investments (EFSI) complementarities - Ensuring coordination, synergies and complementarity, European Commission, 2016

The ESI Funds would be committed as first-loss-piece coverage, clearly distinct from the use of EFSI resources via separate records and covering distinct expenditures: in practice, ESI Funds would only be used to absorb the first losses arising from underlying projects up to the limit of the committed amount, whereas EFSI resources would only be used to absorb further losses, clearly distinct from those covered by the ESI Funds.

The combined use of ESI Funds and EFSI can be sought in cases where there is a market failure in risk-absorption capacity and where EIB/EFSI risk-pricing would not market it sufficiently attractive to finance projects mobilizing other private or public sources of funds.

Advantages

- Reduces risk for private investors and can attract various types of investors with different risk-appetites.
- Reduces the level of returns expected by private investors (lowering the cost of the funds)
- Extend the amount and volume of investment relative to the capital (achieving higher impact through financial leverage)
- Significant credit enhancement capacity thanks to layered structure



- Preferential structure to set-up dedicated or multi-purpose debt and/or equity funds
- Allows maximum flexibility in financing projects as layered funds can be structured to deliver guarantees, loans, quasi-equity or equity directly to Final Recipients or through financial intermediaries or a mix of.
- The targeted projects financed by layered funds would typically be further co-financed by private sector entities at senior level (debt) or pari-passu (equity), leveraging additional private finance at project level.

Instrument impacts

- Extended debt volume with high leverage effect
- Potential reduction of interest rate
- Potential extension of debt maturity
- More favorable debt amortization/repayment schedule
- Introduction of new investors to the market
- Implementation of more ambitious projects with lesser risk
- Reduction of transaction costs

Best practice/references examples

- EFSI backed Investment Platform : e.g. CAP TRI Nord Pas de Calais.
- Other references: The Green for Growth Fund (GGF), a layered-debt fund initiated by the EIB and KfW, the German Development bank. This fund leverages risk-capital provided by public institutions with additional private capital to foster Energy Efficiency in South-East Europe, the Eastern Neighborhood and Turkey. The fund provides financing to business and households, mostly through financial institutions - <https://www.ggf.lu/about-green-for-growth-fund>

3.1.2. Financing and refinancing instruments

Financing and refinancing instruments address the barrier of limited access to capital with the objectives to supply additional cost-effective and/or long-term financing to projects. In the field of Energy Efficiency, the most common financing and refinancing instruments used by public financing institutions are the following:

- Concessional loans
- Fund and holding structures
- Forfeiting facilities

3.1.2.1. Concessional loans

Concessional loans also called soft loans are traditional Financial Instruments used by public funders to decrease financing costs for Energy Efficiency loans and therefore improve access to finance. Concessional terms may include lowering interest rates, extending loan terms, or taking higher risk portions of an investment. They typically offer longer amortization schedules (in some cases up to 40 years) than conventional bank loans. This type of financing is often used in new or less established Energy Efficiency sectors, where a reduction in costs or greater flexibility can support the financial viability of projects.

Description

Concessional loans include flexible features like low interest rates and/or long/flexible repayment schedules, including grace period. These features allow to align the debt-service repayment to the project cash flows. By providing this type of concessional finance, the public sector can also leverage private capital investment at project level by signaling confidence in a project. Concessional finance also lowers a project's overall capital financing costs, thus increasing its profitability. This increased profitability allows a project to more easily pay back other lenders. Concessional loans are generally routed either through financial intermediaries, such as commercial banks with

public funds that are on-lent to Final Recipients or through a debt fund (see next chapter) that is lent directly to the Final Recipients. This type of structuring is therefore similar to the risk-sharing loans instruments, where the public funds are blended with the financial intermediaries own's funds. But concessional loans may also include additional support notably by having an interest rate subsidy component in a single financial package as a partial debt relief instrument that could further decrease the cost of financing for the Final Recipients. Public subsidies used for interest rate relief have a similar effect as a grant, but as they are tied to a loan, they can be used to leverage investments of a greater size compared with grants. Debt relief is generally only granted once the remaining loan debt has been paid off, but it can also be subject to specific criteria such as achieving a certain level of thermal performance in the case of a building retrofit. The German KfW Energy Efficiency Loan Programs for instance provides such partial debt relief which increase with the level of thermal performance for new buildings and renovation for instance. It ranges from 2.5% to 17.5% of the original loan principal, dependent on the achieved efficiency standard and the type of retrofitting (comprehensive or individual measures).

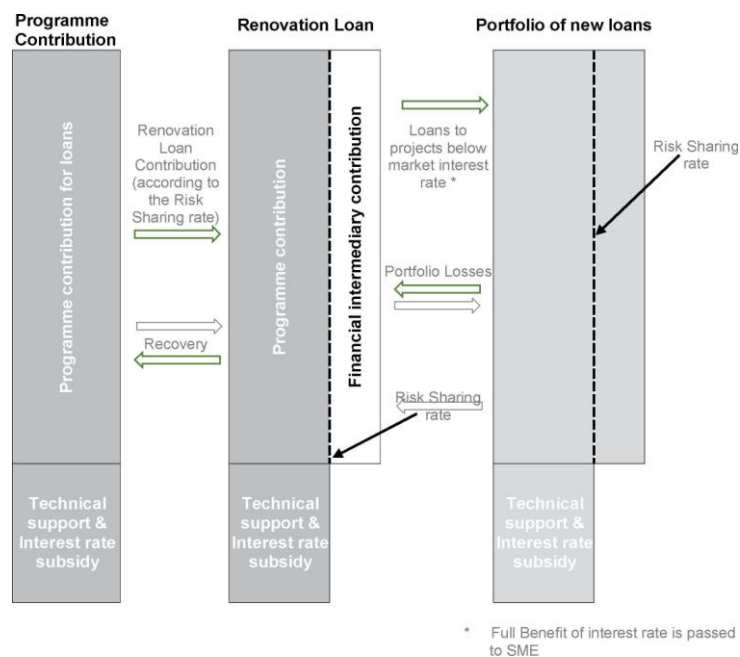


Figure 11 - Illustration of how a Concessional Loan works

Source: Commission Implementing Regulation (EU) N° 964/2014 of 11 September 2014

Advantages

- Enables lenders to lend to marginally creditworthy clients presenting attractive Energy Efficiency projects.
- Enables the loan tenor or the grace periods to be extended and the interest rate to be reduced, thus improving project cash flow and viability.
- Increases debt-to-equity ratios, enhancing returns to Final Recipients.
- Potential to achieve higher, but limited leverage effect.
- Revolving effect, ability to recycle reimbursed and recovered funds.

Instrument impacts

- Extended debt volume but lower leverage effect
- Larger reduction of interest rate (up to 100%)
- Larger extension of debt maturity (in some cases, up to 50 years)
- More favorable debt amortization/repayment schedule

- Easement of debt covenants
- Introduction of new borrowers to the market
- Implementation of more ambitious projects with lesser risk

Best practice/references examples

- ESIF « off-the-shelf » Financial Instrument: Renovation loan, dedicated to residential building sector, based on a loan fund set-up by a financial intermediary with public contributions - <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0964&from=EN>
- EFSI backed Investment Platforms : France Efficacité Énergétique Logement Social
- Other references: KFW Energy Efficiency Loan Programs in the housing and non-residential sectors – https://www.i4ce.org/wp-core/wp-content/uploads/2015/10/14-09_kfw_case_study.pdf

3.1.2.2. Fund and holding structures

Crowding in private investments through fund and holding structures, such as funds of funds (FOFs), loan funds or equity funds, is another instrument to leverage private investments and bring additional long-term finance to projects. Fund structures are also key models for the aggregation of small and medium-sized projects together to achieve the required size and risks profiles sought by third-party investors as well as to lower the costs of transaction.

Description

Fund structures can be used to aggregate small- and medium-scale projects into a single asset portfolio. This portfolio can combine projects with different risks profiles as well as include projects financed through financial intermediaries or directly by the fund. This allow to reduce the risks at the portfolio level while it increases the flexibility of deployment as fund structures can operate either directly or through intermediaries. As previously discussed, when set-up as layered funds, they can also allow for the aggregation of different investor types with different risk-return profile appetites, allowing investors to choose between more junior or more senior tranches. This ability of layered fund structures to aggregate both projects and investors with varying risk-return requirements allows to overcome under one roof a number of existing investment barriers linked to sub-investment grade projects, particularly for small- and medium-size projects. Fund and holding structures can be set-up for capital provision ranging from debt to pure equity provision or a mix of the two, increasing there again flexibility.

In the case of debt funds, they can be used to provide risk-sharing loans or concessional loans to Final Recipients through financial intermediaries, creating additional leverage in the market. They could also grant direct loans to Final Recipients on preferential terms.

In the case of equity funds, there are two possible investment strategies. Either the equity fund takes a refinancing approach, i.e. freeing up capital of project developers for them to invest in other projects, once the risk of the construction phase is behind them. This approach consists of attracting private investors to invest in near completed and operational projects. Or at the contrary, the equity fund takes over some early construction risks to make sure commercial banks will lend as well. In this case, the equity fund focuses on the injection of capital in small- and medium-sized companies or special purpose vehicles (SPVs) to foster the development of market actors as well as to provide the financial base for these companies or SPVs to move projects forward and access other forms of financing (debt, etc.).

Multipurpose investment funds can also be set-up to deliver various financial products such as guarantees, loans, equity and quasi-equity to various type of Final Recipients such as project beneficiaries, project developers or financial intermediaries.

Advantages

- Enables to aggregate projects and private investors with various risk return profiles.
- Flexibility of deployment
- Potential to achieve higher results, but limited leverage effect.



- Revolving effect, ability to recycle reimbursed and recovered funds (except equity funds)

Best practice/references examples

- ESIF « off-the-shelf » Financial Instrument: the Urban Development Fund, a debt fund to finance loans for urban development projects, the Co-Investment Facility, an equity fund to invest in the equity of SMEs. Equity Investment fund for SMEs - <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R1157&from=EN>
- EFSI backed Investment Platforms : CAP TRI Nord-Pas-de-Calais (equity and quasi-equity layered fund), Limburgs Energie Fonds (equity and quasi equity layered fund), Inven Capital (equity fund), Marguerite Fund II (equity fund), Pearl Environmental Infrastructure Fund (equity fund)
- Other references: European Energy Efficiency Fund (multipurpose Energy Efficiency fund), Bulgarian Energy Efficiency and Renewable Fund (multipurpose Energy Efficiency fund for ESCOs) - <http://econoler.com/wp-content/uploads/2017/10/EconolerBulgarie2017FINALentier.pdf>

3.1.2.3. Forfeiting facilities

Refinancing is a key public financing mechanism to leverage additional private finance and regularly used by International Financing Institutions to provide liquidity to the financial market. It allows a financial operator to sell the claim it holds on a client or on a project to another entity against a discounted cash payment representing the future cash flows of the claim, in order to free up its balance sheet and be able to finance new clients or projects. Recent development in the Energy Efficiency sector has seen the emergence of forfeiting facilities, whereby an ESCO/ESCOop refinances its debt by selling the future receivables from its EPC assets. Forfeiting is seen today as a key mechanism for developing off-balance sheet Financing Instruments to leverage private investments in Energy Efficiency, particularly for the public sector.

Description

Under a forfeiting arrangement, an ESCO/ESCOop enters into energy performance contracts (EPCs) with its clients, both public and private. When the projects are implemented and savings cash flows are secured by the ESCO/ESCOop, the forfeiter buys the receivables against a discount rate from the ESCO/ESCOop, at an agreed rate for the full credit period covered by the receivables, thereby refinancing its portfolio and allowing the ESCO/ESCOop to finance more projects. The forfeiter replaces the ESCO/ESCOop in collecting payments from its clients for the duration of the contracts and uses the payments to amortize the ESCO/ESCOop debt. This innovative financing option is developing along with the growth of the EPC/ESC market in Europe.

There are different ways to develop a forfeiting facility :

- The public funds could be used to leverage a portfolio of EPC/ESC assets receivables to be acquired by a private financial institution, where financial institutions are experienced with ESCO/ESCOop financing and EPCs and are willing to develop forfeiting products. Two options can be implemented, either offering a guarantee to the financial intermediary in order to secure the forfeiting portfolio, either to enter in a risk-sharing loan arrangement with additional on-lending capacity for the financial intermediary. A few commercial banks in Europe are already offering forfeiting products to ESCOs/ESCOops, notably through the Private Finance for Energy Efficiency (PF4EE), an EIB/EC co-funded fund offering funding to commercial banks with the objective to support the growth of Energy Efficiency financing for private project beneficiaries and/or project developers.
- Another solution consists in the creation of a forfeiting fund combining private and public equity, with a public guarantee on the first losses or a public intervention with lower return on equity requirements for instance. The fund would then act as a financial intermediary to buy future receivables from ESCOs/ESCOops and, when reaching the critical size, refinance its aggregate portfolio of receivables through the emission of long-term bonds on the debt capital markets. Bond emission would enable to raise funds at lower cost than through a usual loan, and thus offer ESCOs/ESCOops better refinancing conditions. However, the critical size to issue bond of aggregate portfolio of EPC/ESC assets receivables is estimated at 150 million €. A few funds are already offering forfeiting products to ESCOs/ESCOops, such as the European Energy Efficiency Fund

(EEEEF) and the Bulgarian Energy Efficiency and Renewable Energy Fund (EERSF) or the Labeef forfeiting facility in Latvia (figure 12) which target to reach a first portfolio of EPC receivables of 160m € to issue bonds on the institutional market.

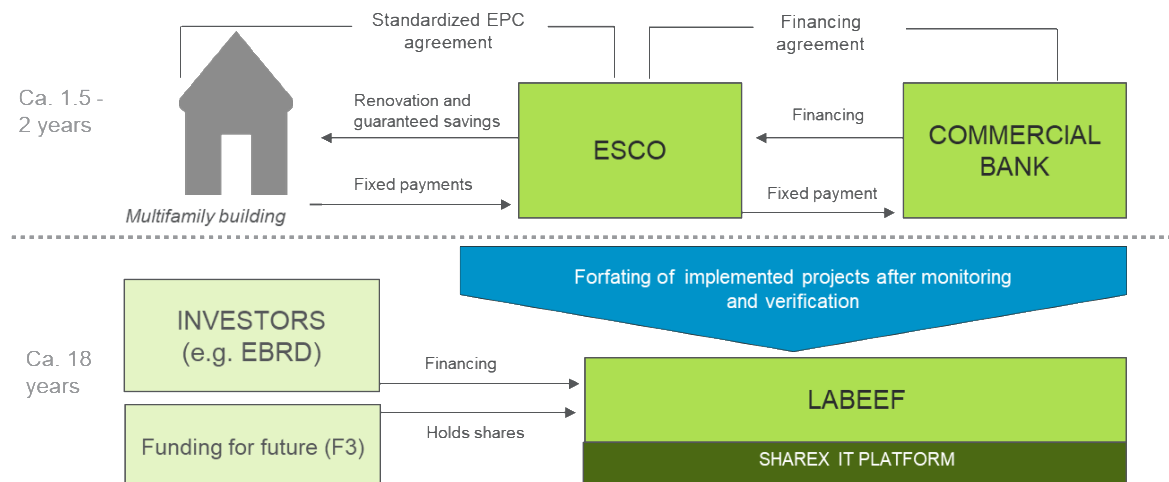


Figure 12 - Illustration of how a forfeiting facility works (Labeef case)

Source: Labeef in Latvia, Fact sheet. Ecofys 2018.

This type of solutions could help to overcome multiple financing gaps on the Energy Efficiency market:

- the lack of equity by allowing ESCOs/ESCOops to enter the market without huge up-front capital and thus contributes to lowering the cost of capital;
- the limited balance sheet/borrowing capacity by providing an off-balance sheet financing solution for project developers as well as project beneficiaries, including a “Maastricht neutral” EPC option for the public sector;
- the viability gaps by providing affordable long-term financing through securitization of EPC/ESC receivables

Advantages

- Enables to offer full off-balance sheet financing (for the project beneficiary as well as the project developer)
- Risks for the forfeiter can be significantly reduced as they purchase verified and secured assets
- Potential to achieve leverage effect
- Revolving effect, ability to recycle reimbursed and recovered funds.

Best practice/references examples

- Labeef: <https://www.euki.de/wp-content/uploads/2018/12/Fact-Sheet-LABEEF-Latvian-Energy-Efficiency-Facility-LV.pdf>
- Bulgarian Energy Efficiency and Renewable Energy Fund (EERSF): http://cityinvest.eu/sites/default/files/library-documents/Model%2019_Energy%20Efficiency%20and%20Renewable%20Sources%20Fund%20-EERSF_final.pdf

3.1.3. Grants instruments

Grants address the barrier of limited financial viability of projects by supporting part of the investments and/or cash flows. In the context of Financial Instruments, they are mainly used as « hybrid capital » in blended instruments whereby grants are combined with loans, soft loans, guarantees or equity, including convertible loans to grants, convertible grants to loans (if certain conditions are not met) or partially repayable loans. Blending instruments are

used for projects that have a positive economic rate of return, but that are not attractive to financiers without a grant element.

There are a number of different grant instruments that can potentially be used in blended instruments. They are briefly discussed below:

- **Direct investments grants:** Investment grants can be used to cover specific parts of a project, which can be highlighted as items needing grant support. Grants help to reduce the overall cost of a project in a transparent manner. Investment grants can be used particularly for specific social (e.g. low-income households) or environmental (e.g. deep retrofit) aspects of projects. Investment grants can be used upfront to accelerate projects giving them a kick-start, or at closure as a kind of incentive to the Final Recipient. The format of a grant should depend on the project.
- **Conditionality/performance-based grants:** these are grants linked to conditionalities, such as thermal performance levels in Energy Efficient Buildings. Grant conditions are defined which the beneficiary must fulfill in order to obtain the subsidy or the elements of the subsidy according to the level of service or performance objectives. This enhances the efficiency of project implementation and increases the alignment of the interests of the beneficiaries with the development objectives pursued by the public funder.
- **Interest rate subsidies:** by relieving the burden of debt service they help bring down the cost of financing, making projects more bankable and less onerous. They can also increase the borrowing base, helping projects to take more debt. Interest rate subsidies can therefore play an important role to make ambitious sustainable projects (e.g. deep renovation) more attractive than lower-cost alternatives, which might be more advantageous on commercial loan terms.
- **Guarantee fee subsidies:** they have the same function and effect as interest rate subsidies but attached to the cost of guarantees.

Blended instruments with a grant component can also include the following:

- **Convertible grants:** they make it possible to shift funding from a grant to a loan, or from a loan to a grant, depending on the objectives pursued. In a convertible grant operation, the financing consists of a loan which can turn into a grant on predefined conditions, the switch being based either on the fulfillment of the conditions (the loan turns into a grant in case of success) or not (the grant turns into a loan in case of failure).
- **Technical Assistance (TA):** TA grants are one of the main instruments in the facilities. They are considered successful to improve project preparation and planning, accelerate the start of projects, project implementation and management as well as the sustainability of the investment. Technical Assistance can also help to further speed up the start of projects by supporting the preparation of the appropriate financial package.

Maximize the grant effect

The combination of grants and repayable financial products can be modulated according to different types of projects and/or Final Recipients, with variable aid intensities depending on the objectives of the Pilot Regions. For instance, grants could be used to improve the financial viability of deep renovation projects or to stimulate Final Recipients to achieve higher energy savings (by linking the grant to the level of energy savings or thermal performance achieved). This could also be modulated with different levels of grants linked to different levels of performance. Another possibility is also to direct aid towards Final Recipients who have more difficulty accessing traditional financing, such as low-income households or small municipalities.

3.2. Assess individual financing products

The choice of the financing mechanism will depend of the financial gaps to address and the suitable financing products to be delivered to the Final Recipients in order to cover the identified gaps as well as the level of leverage effect of private finance the Pilot Regions are willing to achieve (depending of the size of the gaps).

3.2.1. Suitable financing products for the Final Recipients

The choice of financing products to be offered to Final Recipients is briefly presented below:

- **Loans.** By far the most common option in Energy Efficiency projects is the use of loans that can support a large range of applications such as on-balance sheet financing to project beneficiaries, working capital loans to project developers or refinancing loans through the forfeiting of EPC/ESC assets receivables from completed projects. Loans could be offered at market terms, below market terms (preferential loans with lower interest rates and flexible terms such as flexible repayment schedule, interest-only or grace period) or subsidized (concessional loans with additional interest rate subsidies or grant element) depending on the market barrier to address and the size of the gap to overcome. Loans are best suited for bankable projects in markets where commercial financing options are limited or unsuited or for projects facing a viability gap (at concessional terms).
- **Guarantees.** Where sufficient liquidity in the market exists, leveraging existing commercial financing for Energy Efficiency projects, including EPC/ESC assets, using partial credit or risk guarantees remains a first option. Such an approach is suited where the perceived risks related to Energy Efficiency projects and EPC/ESC projects are high, the target market includes greater credit risks (e.g., small and medium enterprises or SMEs, housing cooperatives), or the credit market terms (loan tenors, collateral requirements) make Energy Efficiency projects unattractive. Guarantees are usually administered by commercial banks, but they could also be offered directly to the project beneficiaries or project developers through a fund structure, in order to enhance their creditworthiness.
- **Quasi equity and equity:** The use of equity and quasi-equity as direct financing products for Energy Efficiency projects is less common besides for larger projects which requires a structural financing through the company's capital structure or a very long-term financing. Most of the time, equity and quasi-equity will be used to invest alongside other private sector investors in existing or newly to create aggregation structures or project development structures of Energy Efficiency assets such as SPVs, ESCOs/ESCOops or Real Estate Companies in order to allow them to raise additional financing and expand their projects portfolio.

The table below provides an analysis of the advantages and disadvantages of different financial products.

Table 3.2 - Analysis of the advantages and disadvantages of different financial products

Financial product	Advantages	Disadvantages	Key considerations
Guarantee	<ul style="list-style-type: none"> • Addresses specific risk capacity constraints in a given market segment • Actual disbursement takes place only in case of default • Allows consolidating the financing structure of a large number of projects with relatively little resources • Allows reducing the risk premium for the request of further financing 	<ul style="list-style-type: none"> • The main problem of all unfunded instruments is the control of the liabilities in case the guarantees become striking. This can be mitigated • by a prudent analysis of the risk and measures to limit potential liabilities • Proving the incentive effect of FIs using this type of financial product might be more complex than that of others • Assessing the value-added needs more efforts 	<ul style="list-style-type: none"> • It is crucial to define an appropriate and prudent multiplier ratio between the public contributions set aside to cover expected and unexpected losses and the corresponding loans or other risk-sharing instruments covered by the guarantees
Loan	<ul style="list-style-type: none"> • Addresses specific liquidity and risk capacity constraints in a given market segment 	<ul style="list-style-type: none"> • Funded products such as loans require more initial support than unfunded products such 	<ul style="list-style-type: none"> • Key issues are the definition of the terms of the loan (e.g. soft loan in a revolving fund) and its

	<ul style="list-style-type: none"> Limited management cost (yet higher than guarantees in case the due diligence of the financial intermediary receiving the guarantee can be accepted as a delegated process – so no own diligence is necessary) 	as guarantees. On the other hand, as loans assume part of the risk and provide liquidity at the same time, there are no uncovered liabilities	eligibility, the required interest rates and potential losses from insolvency risk of Final Recipients.
Mezzanine (quasi-equity)	<ul style="list-style-type: none"> Allows bridging the equity gap needed for leveraging additional loans Reduced exposure to loss in case of insolvency (compared to equity) 	<ul style="list-style-type: none"> High risk borne by the financial intermediary (yet reduced compared to equity) No active role in the project management or the management of the target companies High transaction costs related to the complexity of these products 	<ul style="list-style-type: none"> Silent participations and other forms of mezzanine loans require a very detailed due diligence, an ad hoc contract and a very specific scheme for the exit phase One of the opportunities lies in an upside ('equity kicker') participation, which could be agreed upon by the fund
Equity and venture capital	<ul style="list-style-type: none"> Active role in project management and access to shareholder's information Allows high impact per EUR invested (projects with sufficient level of equity are able to gather other types of finance) 	<ul style="list-style-type: none"> High risk borne by the financial intermediary (full insolvency risk for the invested capital in the target companies) Venture capital (early stage) investments are time-consuming and cost intensive (due diligence is carried out for several potential business plans before investment) 	<ul style="list-style-type: none"> High involvement of the fund in the project management or the management of the target companies. The due diligence already includes considerations on it.

Source: Ex-ante assessment methodology for financial instruments in the 2014-2020 programming period. General methodology. FI-Compass

3.2.2. Suitable financing product options depending on the gaps to address

The table below provides a logical model of suitable financing products for lenders, project developers and project beneficiaries depending on the gaps to address and the structuring of the Financial Instrument.

Table 3.3 - Logical model of suitable financing products for lenders, project developers and project beneficiaries depending gaps to address

Gaps to address	Funds as financial intermediary	Lenders as financial intermediary
The profitability of the projects is not in line with the market requirements		
High upfront costs affecting the profitability	Provide Final Recipients with capital grants for the asset, subordinated loans or loans with interest rate subsidies	Provide lenders with long term low cost on-lending and/or risk-sharing loans to lower interest rates and/or extend loan terms for the Final Recipients with a grant component for interest rate subsidies
Tenor not suited to long payback periods of projects	Provide Final Recipients with long-term direct soft loans (tenor as long as the payback terms/contract duration)	Provide lenders with long term low cost on-lending and/or risk-sharing loans to lower interest rates and/or extend loan terms for the Final Recipients



High financing costs affecting the profitability	Provide Final Recipients with direct soft loans at below-market interest rates or with grace period (or a combination of)	Provide lenders with low cost on-lending and/or risk-sharing loans to lower interest rates and/or extend loan terms for the Final Recipients
The projects are bankable but local financing options are limited or unsuited		
Lack of commercial finance/Liquidity	Provide Final Recipients with low-cost loans	Provide lenders with low-cost on-lending and/or risk-sharing loans to increase the availability of funds, lower interest rates and/or extend loan terms for the Final Recipients
Limited balance sheet/borrowing capacity	Provide Final Recipients with off-balance sheet financing to off-load debt from their balance sheet (with “Maastricht neutral” option for the public sector)	Provide lenders with risk-sharing loans and/or guarantees to cover the risks of forfeiting EPC/ESC receivables assets (with “Maastricht neutral” option for the public sector)
Limited access to commercial finance	Provide Final Recipients with low-cost loans	Provide lenders with low-cost on-lending and/or risk-sharing loans to increase the availability of funds, lower interest rates and/or extend loan terms for the Final Recipients
High transaction costs	Provide Final Recipients with grants for Technical Assistance	Provide lenders with grants for Technical Assistance
The private sector avoids investments due to high real or perceived risks of project failures		
Performance & associated risks of the projects	Provide Final Recipients with guarantees to cover credit risks of (portfolio of) projects	Provide lenders with guarantees to cover credit risks (and potentially lower interest rates and/or extend loan terms)
Low creditworthiness of the Final Recipients		
Lack of financing offering		

4. Step 4 – Choose the right option

1. Evaluate potential combinations of forms of support
2. Choose the Structured Financial Solution

4.2. Evaluate potential combinations of forms of support and funding sources

In order to attract additional resources from private investors and to reinforce the economic and financial viability of the supported projects, Pilot Regions may consider combining and/or blending funding sources and/or support instruments within a same Financial Instrument. This could be achieved by combining ESI Funds with EFSI, but also by combining Financial Instruments with grants. They should also consider the opportunity to combine several financing products under the same structure, in order to tailor the solution to their market needs.

4.2.1. Combining forms of support

When considering Financing Instruments, it is essential to look for where public funds can leverage existing funding sources in order to free up as much as possible the volume of funding already available in relation with the financing gaps to cover. Another key consideration is also to look for applying more than one type of financing in order to take advantage of their combined leverage capacity within a complete financial package. As illustrated in the financing value pyramid or chain (figure XX), the public finance toolkit offers four possible stacked support levers : the risks, the finance, the debt service and the asset.

- **Reduce risks** : provision of guarantees or risk-sharing mechanisms as a first step help to reduce or remove the risks and improve access to financing while it may help reducing the cost of financing.
- **Support the finance** : provision of low-cost loans (mixed/blended loans, softs loans or concessional loans), quasi-equity or equity further improves access to capital and reduce the cost of financing while improving the debt-service capacity. Support of the finance with low-cost financing may also materialize as the provision of access to market-based financing such as bonds on terms that are otherwise reserved for other purposes or clients.
- **Support the debt service** : alternative grants approach such as interest subsidies further reduce the financing costs which ultimately enhance returns of the projects and improve the debt-to-equity ratios.
- **Support the asset** : traditional grants approach where the initial costs of the projects are borne by public funds naturally improve the bankability of the projects while they lessen the burden of debt service because the debt is smaller.

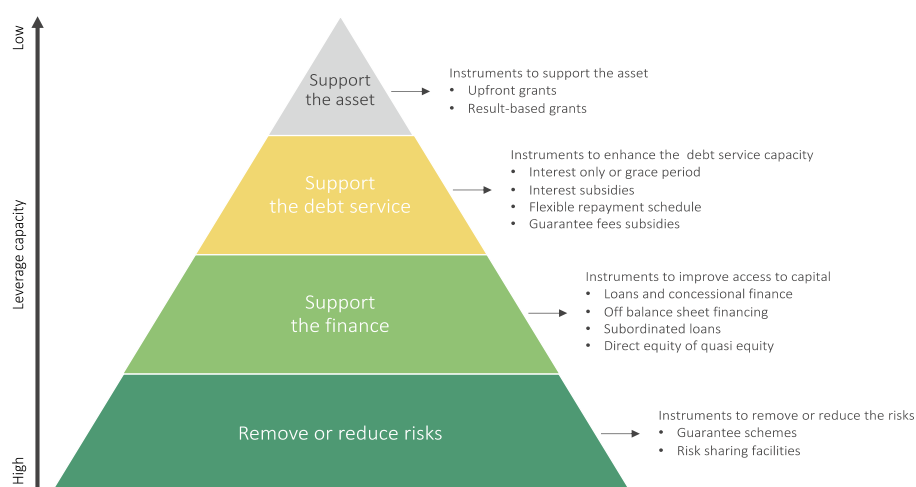


Figure 13 - The financing value pyramid

Source: Adapted from “Financing Nationally Appropriate Mitigation Actions, A primer on the financial engineering of NAMAs”, UNEP, September 2014



While each level of support provides leverage to the others, the pyramid representation offers also a good reflection of the potential leverage between the four levels as well as the cost of the support instruments. The higher you go up the pyramid, the less leverage is achieved, the higher the cost.

Note: Under a fund structure, Investment platforms also offer the possibility to combine various financing products addressing various financing gaps within the same structure, helping to tailor the financing scheme to the market constraints. This can cover a wide range of combinations, not only of Financial Instruments with grants, but more commonly different types of financing products together: equity and quasi equity, loans and guarantees, as well as guarantee fee and interest rate subsidies, equity and loans and financing products with 'soft support' such as technical assistance.

4.2.2. Combine ESI Funds and EFSI

Investment platforms offer the possibility to combine and/or blend ESI Funds and EFSI under a same umbrella, opening a large range of opportunities:

- to lower the risk profile of projects and/or facilitate more affordable funding by blending EFSI and ESI Funds contributions to the Financial Instrument;
- to further reduce the cost of funding for the financial recipient using non-refundable grants in combination with the Financial Instrument.

There are two ways to blend ESIF and EFSI funds within the same financial instrument:

- ESIF could complement the EFSI funding either in the form of grants or co-investments in order to improve the leverage effect of the financial instrument;
- ESIF could take a subordinated position to EFSI, assuming the first losses in risk mitigation instruments such as guarantee or layered funds.

For the combination of Financial Instruments with grants or other assistance from ESI Funds, there are also two possibilities:

- certain types of grants (interest rate subsidy, guarantee fee subsidy or technical assistance) and financial products can be combined within the same operation and can be treated as a financial instrument.
- the grant operation and financial instrument operation support can be combined to finance the same investment at the level of Final Recipient as separate operations.

4.3. Choose the right Structured Financial Solution

Following the analysis of the Pilot Regions projects, we have identified eight possible ways of structuring Financial Instruments under Investment Platforms. The table below provides a summary of these Structured Financial Solutions options available to CitizEE Pilot Regions depending on the scope of their CFs4EE Financing Scheme:

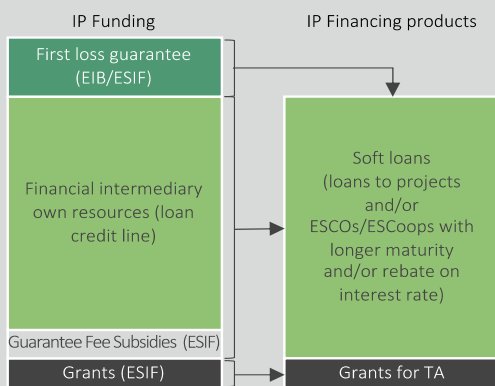
1. Guarantee agreement for soft loans,
2. Funded risk sharing loan arrangement for LT soft loans,
3. Guarantee agreement for forfeiting facilities,
4. Funded risk sharing loan arrangement for forfeiting facilities,
5. Forfeiting facility for off-balance ESCO/ESCOop financing,
6. Equity facility for off-balance SPV financing,
7. Energy Efficiency Fund for multipurpose objectives,
8. Energy Efficiency Fund with off-balance ESCO/ESCOop financing option.



Agreements/arrangements with a financial intermediary

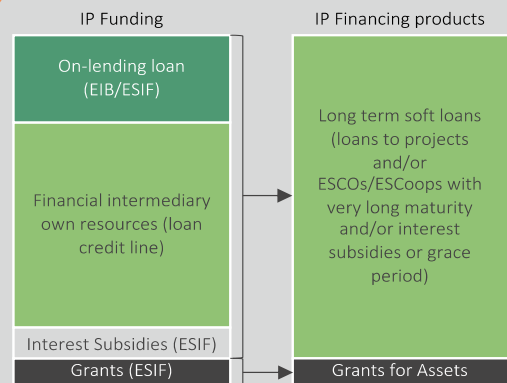
1

Guarantee agreement for soft loans



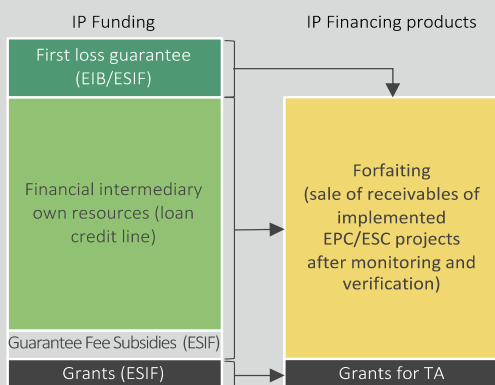
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Funded risk sharing loan for LT soft loans



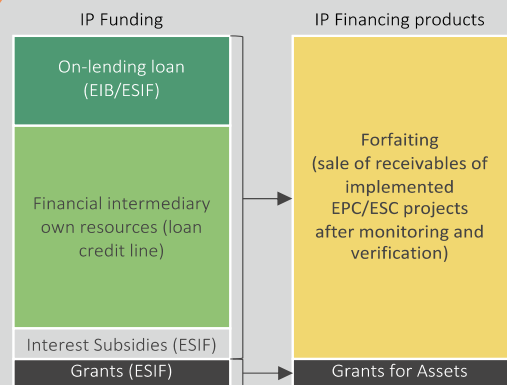
3

Guarantee agreement for forfeiting facilities



4

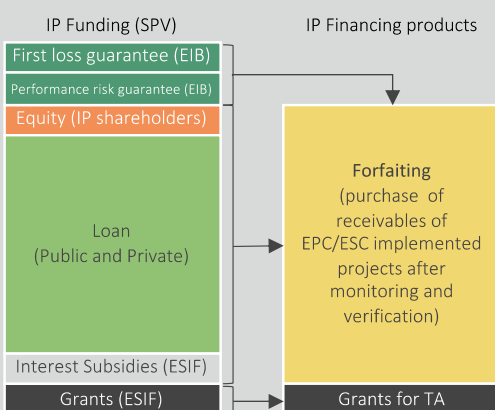
Funded risk sharing loan for forfeiting facilities



Special Purpose Vehicles for off-balance ESCO/ESCOop financing

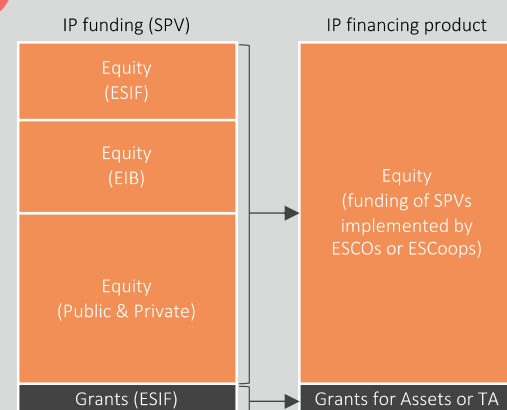
5

Forfeiting Facility for off-balance financing



6

Co-Investment Facility for SPV financing



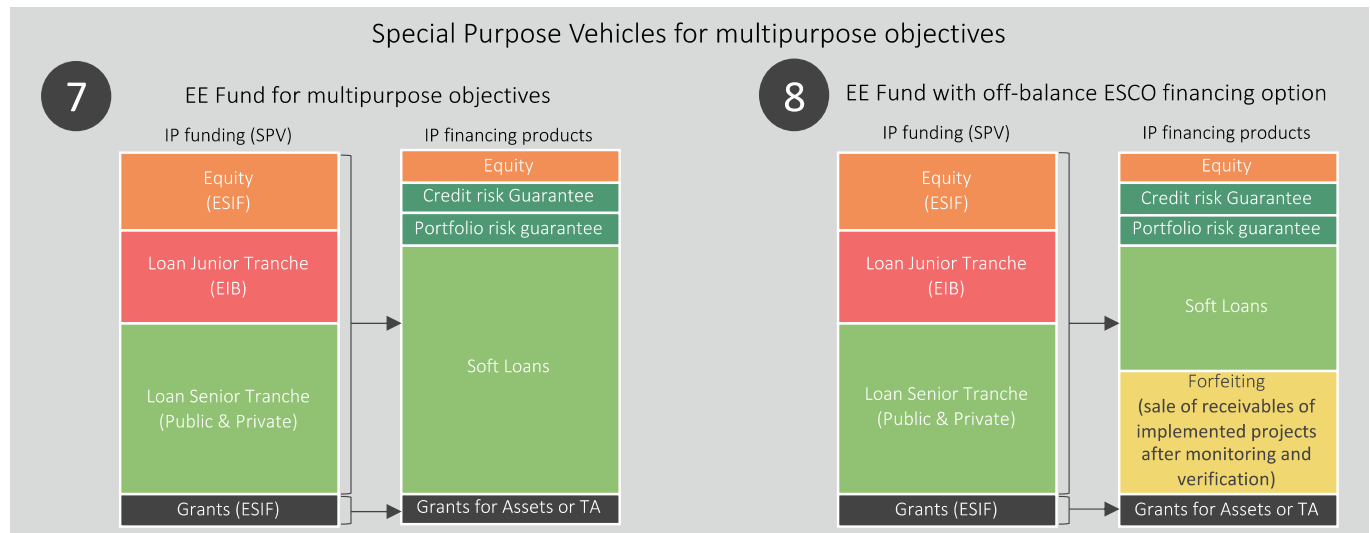


Figure 14 - Structured Financial Solutions Map: eight Financial Instrument proposals

Depending on the local context, the type of buildings and Final Recipients targeted, the type of implementation model and the citizen funding options to be used, Pilot Regions should evaluate the appropriateness of using certain Structured Financial Solutions versus others. The following decision-support diagram illustrates where financial solutions can be deployed to ensure an efficient use of public funds and optimal pilot project outcomes.

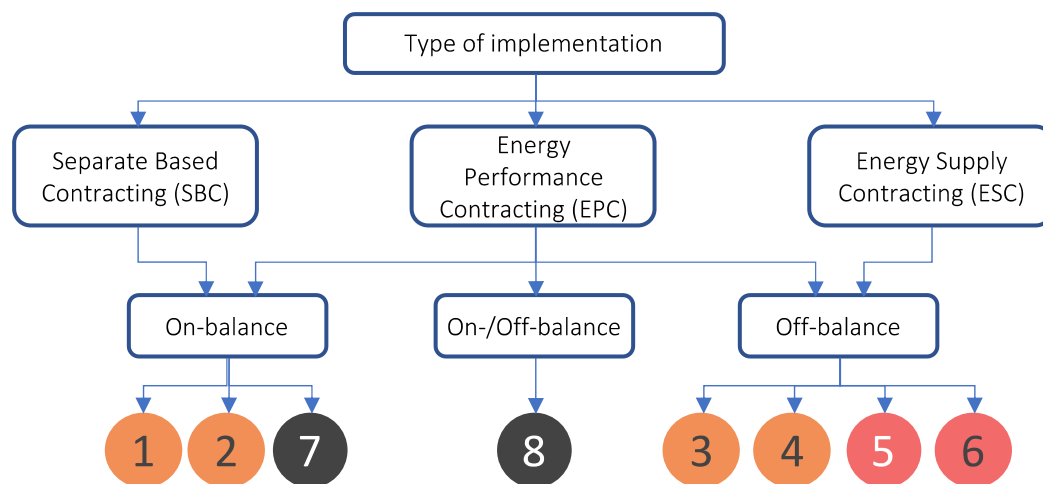


Figure 15 - Structured Financial Solutions Map: Decision support diagram

4.3.1. Soft loans and concessional loans options through Financial Intermediaries

If the Pilot Regions investment program does not require off-balance financing, these Structured Financial Solutions are first to be explored:

- Guarantee agreement for soft loans or concessional loans
- Risk-sharing loans for LT soft or concessional loans

4.3.1.1. *Guarantee agreement for soft loans*

A Guarantee Agreement is an appropriate financial instrument to support financial institutions such as commercial banks to increase their portfolio of loans for Energy Efficiency projects. By securing loan portfolios, the Guarantee Agreement should develop the local commercial debt market and help to attract additional debt or equity investments in ESCOs/ESCOops or additional debt at the project level.

Guarantee agreement for soft loans

To fund ESCOs/ESCOops and/or projects

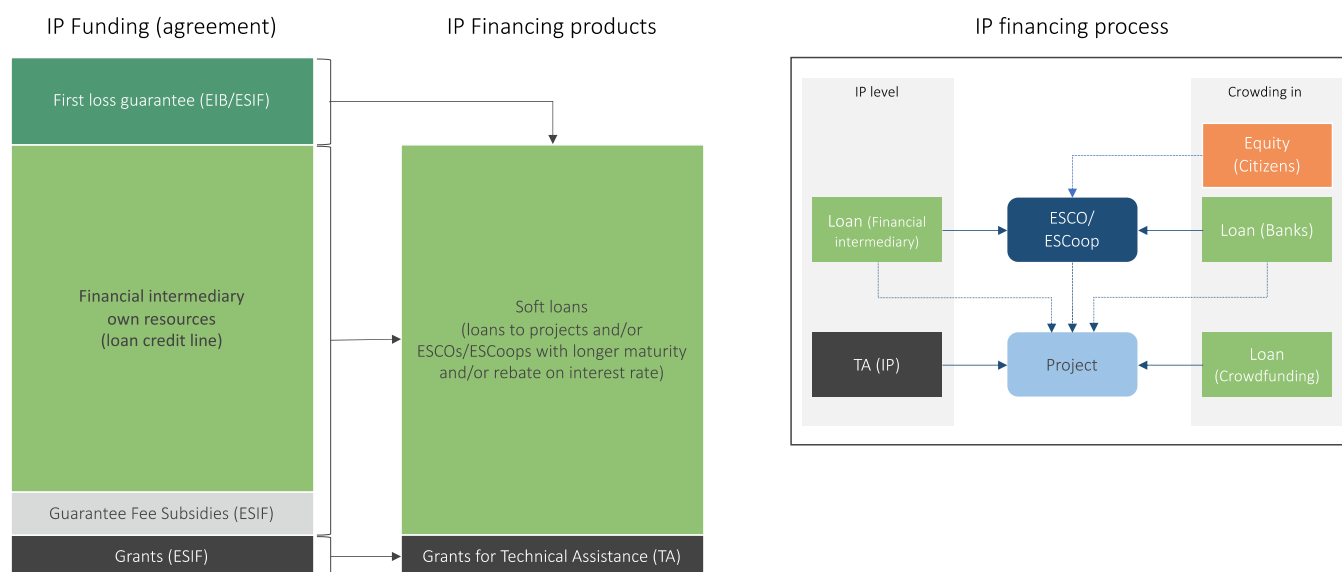


Figure 16 - Schematic representation of the Risk-sharing loan arrangement Investment Platform

Description of the Financial Instrument	
Structure of the FI	<ul style="list-style-type: none"> The Guarantee agreement shall provide credit risk coverage to one or more financial institutions, on a loan by loan basis or at loan portfolio, for the creation of a portfolio of newly originated loans for Energy Efficiency projects, ESCOs/ESCOops. The loan portfolios are set-up and managed by the financial institutions bringing their own loan credit line contribution. The financial institutions building up portfolios of new loans shall count on a partial guarantee covering losses up to a capped amount when providing loans to eligible projects. The financial advantage of the guarantee must be passed on to the Final Recipients (e.g. as a reduction of the interest rate of the loans or/and collateral reduction but with a full financial advantage of the public contribution passed on to the final recipients). Loans provided by the financial institutions shall leverage additional financing through commercial loans with other private banks and/or crowdfunding, either at the ESCO/ESCOop level or at the project level.
Aims of the instrument	<ul style="list-style-type: none"> Provide project beneficiaries and/or ESCOs/ESCOops with easier access to finance by providing loans at below market terms (interest rate reduction, loan terms extension and/or collateral reduction).
Final Recipients	<ul style="list-style-type: none"> Project beneficiaries and/or Project Developers (ESCOs and/or ESCoops). ESCoops shall be either full operational Energy Services Cooperatives or Financial Cooperatives (FINCoop) engaged into an agreement with operational ESCOs.
Projects Beneficiaries	<ul style="list-style-type: none"> Shall be defined in accordance with the Investment Program of the Pilot Regions. Project Beneficiaries are not the Final Recipients.
Eligible projects	<ul style="list-style-type: none"> SBC/EPC/ESC projects which shall be defined in accordance with the Investment Program of the Pilot Regions.

Citizen Funding leverage	<ul style="list-style-type: none"> • ESCoos shall leverage Citizen Funding through member share capital and/or alternatives long-term funding such as one-time membership fees, individual member contributions with no individual ownership attached or individual member deposits which may be used for business. • Projects shall leverage additional Citizen Funding through crowdfunding at the project level.
Addressable financing gaps	<ul style="list-style-type: none"> • Limited balance sheet/borrowing capacity • Lack of financing offering • Low creditworthiness of the final recipients • Performance & associated risks of the projects • Limited access to commercial finance
Suitable for	<ul style="list-style-type: none"> • VEB Pilot Region • Regea Pilot Region • GoParity Pilot Region

4.3.1.2. Risk-Sharing loans for LT soft loans or concessional loans

A Risk-sharing loan arrangement is an appropriate financial instrument to support financial institutions such as commercial banks to increase their loan portfolio for Energy Efficiency projects. By blending public and private fund into a loan portfolio, the Risk-sharing loan arrangement should develop the local commercial debt market and help to attract additional debt or equity investments in ESCOs/ESCoops or additional debt at the project level.

Funded Risk-sharing loan arrangement for LT loans

To fund ESCOs/ESCoops and/or projects

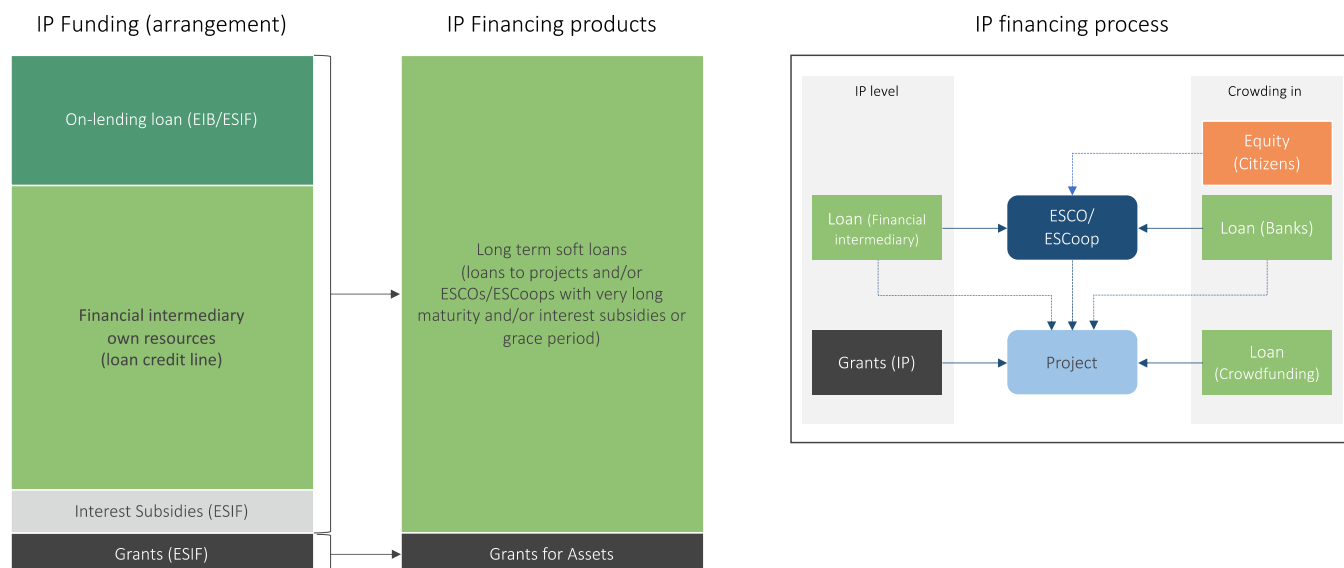


Figure 17 - Schematic representation of the Risk-sharing loan arrangement Investment Platform

Description of the Financial Instrument	
Structure of the FI	<ul style="list-style-type: none"> • The Risk-sharing loan shall take the form of a loan fund to be set up by a financial intermediary with contributions of the EFSI/ESI Funds and the financial intermediary to finance a portfolio of newly originated loans for Energy Efficiency projects, ESCOs/ESCoops. Loans provided by the Financial Institution shall be soft loans (loans below market terms, with reduced interest rates, reduced collaterals and/or extended loan terms). The overall interest rate, to be charged to the eligible Final Recipients

	<p>included in the portfolio shall be reduced proportionally to the allocation provided by the public contribution. A grant component with a contribution of the ESI Funds can be included as a blended product alongside the loan credit line and could serve as interest rate subsidies (to move from soft loans to concessional loans), grants to assets and/or grants for Technical Assistance.</p> <ul style="list-style-type: none"> • The loan portfolio is set-up and managed by the financial intermediaries bringing their own loan credit line contribution. • Blended loans provided by the financial intermediary shall leverage additional financing through commercial loans with other private banks and/or crowdfunding, either at the ESCO/ESCOop level or at the project level.
Aims of the instrument	<ul style="list-style-type: none"> • Provide project beneficiaries and/or ESCOs/ESCOops with easier access to finance by providing soft loans at preferential conditions in terms of interest rate reduction, loan terms extension and/or collateral reduction. • Provide project beneficiaries and/or ESCOs/ESCOops with long term finance by providing concessional loans with additional Interest Rate Subsidies.
Final Recipients	<ul style="list-style-type: none"> • Project beneficiaries and/or Project Developers (ESCOs and/or ESCOops). ESCOops shall be either full operational Energy Services Cooperatives or Financial Cooperatives (FINCoop) engaged into an agreement with operational ESCOs.
Projects Beneficiaries	<ul style="list-style-type: none"> • Shall be defined in accordance with the Investment Program of the Pilot Regions.
Eligible projects	<ul style="list-style-type: none"> • SBC/EPC/ESC projects which shall be defined in accordance with the Investment Program of the Pilot Regions.
Citizen Funding leverage	<ul style="list-style-type: none"> • ESCOops shall leverage Citizen Funding through member share capital and/or alternatives long-term funding such as one-time membership fees, individual member contributions with no individual ownership attached or individual member deposits which may be used for business. • Projects shall leverage additional Citizen Funding through crowdfunding at the project level.
Addressable financing gaps	<ul style="list-style-type: none"> • Lack of commercial finance/liquidity • Limited access to commercial finance • High transaction costs (if blending loans with grants) • High financing costs affecting the profitability • Tenor not suited to long payback periods • High upfront costs affecting the profitability (with additional interest rate subsidies)
Suitable for	<ul style="list-style-type: none"> • VEB Pilot Region • Regea Pilot Region • GoParity Pilot Region

4.3.2. Off-balance ESCO/ESCOop financing options through Financial Intermediaries

If the Pilot Regions investment program does require off-balance financing with commercial banks willing to offer forfeiting products, these Structured Financial Solutions are first to be explored:

- Guarantee agreement for forfeiting facilities
- Risk-sharing loans for forfeiting facilities



4.3.2.1. Guarantee agreement for forfeiting facilities

A guarantee agreement could also be used to support financial institutions to develop a forfeiting facility for the purchase of receivables from EPC/ESC implemented projects. The objectives are similar to the loan guarantee agreement - developing the local commercial debt market - but with an off-balance sheet mechanism aiming to off-load debt from ESCOs/ESCOops and/or project beneficiaries (with “Maastricht Neutral” options for the public sector). The option is described in the figure 17.

Guarantee agreement for forfeiting facilities

To fund ESCOs/ESCOops and/or projects

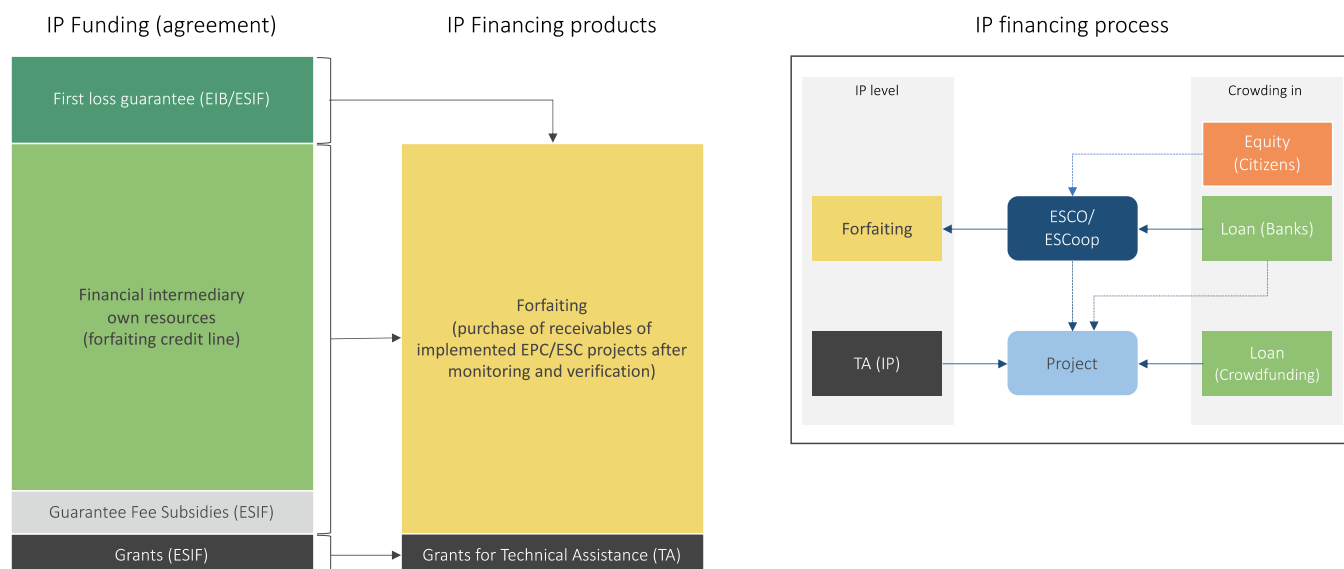


Figure 18 - Guarantee agreement for forfeiting loans

Description of the Financial Instrument	
Structure of the FI	<ul style="list-style-type: none"> The Guarantee agreement shall provide credit risk coverage to one or more financial institutions for the creation of a forfeiting facility for the purchase of receivables of EPC/ESC assets. The forfeiting portfolios are set-up and managed by the financial institutions bringing their own credit line contribution. The financial institutions building up forfeiting portfolios of new EPC/ESC assets receivables of Energy Efficiency projects developed by ESCOs/ESCOops shall count on a partial guarantee covering losses up to a capped amount when providing funding to eligible projects. The financial advantage of the guarantee must be passed on to the Final Recipients (e.g. as a reduction of the discount rate and/or “days of grace” or commitment fees reduction but with a full financial advantage of the public contribution passed on to the Final Recipients). Forfeiting product provided by the financial intermediary shall leverage additional financing through equity investment in ESCOs/ESCOops as well as commercial loans with private banks and/or crowdfunding, either at the ESCO/ESCOop level or at the project level.
Aims of the instrument	<ul style="list-style-type: none"> Provide ESCOs/ESCOops with low-cost refinancing by providing forfeiting product at below market terms.
Final Recipients	<ul style="list-style-type: none"> Project Developers (ESCOs and/or ESCOops). ESCOops shall be either full operational Energy Services Cooperatives or Financial Cooperatives (FINCoop) engaged into an agreement with operational ESCOs.

Projects Beneficiaries	<ul style="list-style-type: none"> • Shall be defined in accordance with the Investment Program of the Pilot Regions. Project Beneficiaries are not the Final Recipients.
Eligible projects	<ul style="list-style-type: none"> • EPC/ESC projects which shall be defined in accordance with the Investment Program of the Pilot Regions.
Citizen Funding leverage	<ul style="list-style-type: none"> • ESCoos shall leverage Citizen Funding through member share capital and/or alternatives long-term funding such as one-time membership fees, individual member contributions with no individual ownership attached or individual member deposits which may be used for business. • Projects shall leverage additional Citizen Funding through crowdfunding at the project level.
Addressable financing gaps	<ul style="list-style-type: none"> • Limited balance sheet/borrowing capacity • Lack of financing offering • Low creditworthiness of the final recipients • Performance & associated risks of the projects • Limited access to commercial finance
Suitable for	<ul style="list-style-type: none"> • VEB Pilot Region • Regea Pilot Region

4.3.2.2. Risk-Sharing loans for forfaiting facilities

A risk-sharing loan arrangement could also be used to support financial institutions to develop a forfaiting facility for the purchase of receivables from EPC/ESC implemented projects. The objectives are similar to the loan guarantee agreement - developing the local commercial debt market – but, here also, with an off-balance sheet mechanism aiming to off-load debt from ESCOs/ESCOops and/or project beneficiaries (with “Maastricht Neutral” options for the public sector). The option is described in the figure 19.

Funded Risk-sharing loan arrangement for forfaiting facilities

To fund ESCOs/ESCOops and/or projects

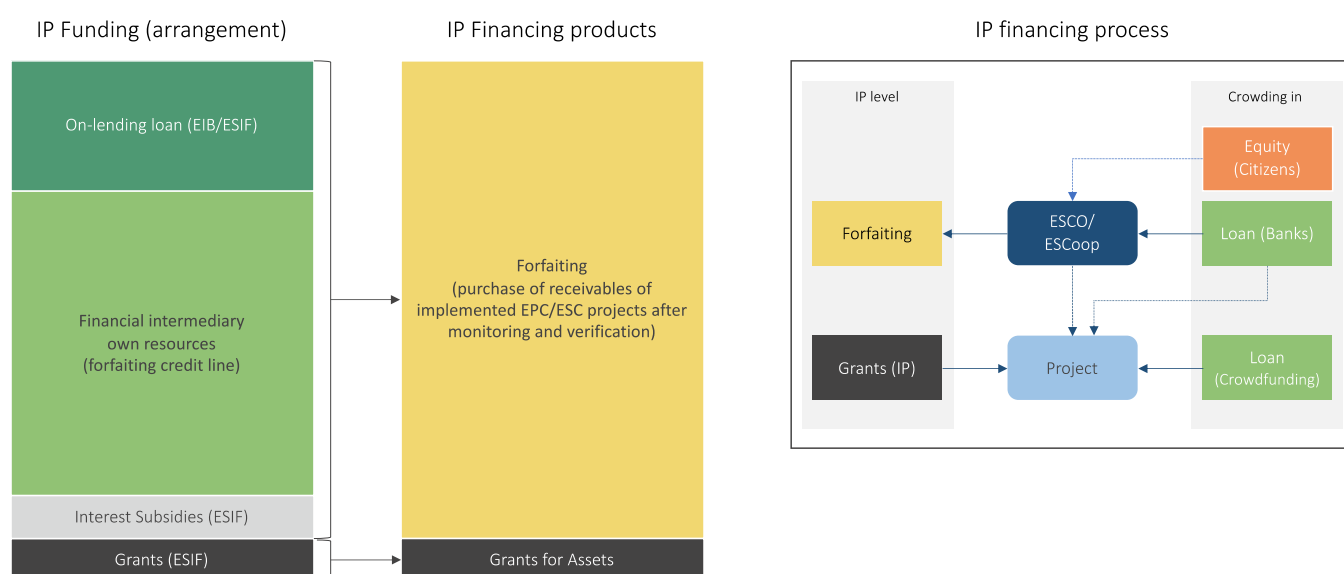


Figure 19 - Funded Risk-sharing loan arrangement for forfaiting loans

Description of the Financial Instrument	
Structure of the FI	<ul style="list-style-type: none"> The Risk-sharing loan shall take the form of a forfaiting fund to be set up by a financial intermediary with contributions of the EFSI/ESI Funds and the financial intermediary to finance a forfaiting portfolio of newly originated EPC/ESC assets receivables of Energy Efficiency projects developed by ESCOs/ESCOops. Forfaiting product provided by the Financial Institution shall be receivables purchases at below market terms, with a reduced discount rates and/or reduced “days of grace” or commitment fees. The overall discount rate, to be charged to the eligible Final Recipients included in the portfolio shall be reduced proportionally to the allocation provided by the public contribution. A grant component with a contribution of the ESI Funds can be included as a blended product alongside the forfaiting credit line and could serve as interest rate subsidies (to move from soft terms to concessional terms), grants to assets and/or grants for Technical Assistance. The Forfaiting portfolio is set-up and managed by the financial intermediary bringing their own credit line contribution. Forfaiting product provided by the financial intermediary shall leverage additional financing through equity investment in ESCOs/ESCOops as well as commercial loans with private banks and/or crowdfunding, either at the ESCO/ESCOop level or at the project level.
Aims of the instrument	<ul style="list-style-type: none"> Provide ESCOs/ESCOops with low-cost refinancing by providing forfaiting product at preferential conditions in terms of interest rate reduction, forfaiting terms extension and/or collateral reduction. Provide ESCOs/ESCOops with long term refinancing by providing long term forfaiting product with additional Interest rate subsidies.
Final Recipients	<ul style="list-style-type: none"> Project Developers (ESCOs and/or ESCOops). ESCOops shall be either full operational Energy Services Cooperatives or Financial Cooperatives (FINCoop) engaged into an agreement with operational ESCOs.
Projects Beneficiaries	<ul style="list-style-type: none"> Shall be defined in accordance with the Investment Program of the Pilot Regions.
Eligible projects	<ul style="list-style-type: none"> EPC/ESC projects which shall be defined in accordance with the Investment Program of the Pilot Regions.
Citizen Funding leverage	<ul style="list-style-type: none"> ESCOops shall leverage Citizen Funding through member share capital and/or alternatives long-term funding such as one-time membership fees, individual member contributions with no individual ownership attached or individual member deposits which may be used for business. Projects shall leverage additional Citizen Funding through crowdfunding at the project level.
Addressable financing gaps	<ul style="list-style-type: none"> Limited balance sheet/borrowing capacity Lack of commercial finance/liquidity Limited access to commercial finance High transaction costs (if blending forfaiting products with grants) High financing costs affecting the profitability Contract duration not suited to long payback periods High upfront costs affecting the profitability (with additional interest rate subsidies)
Suitable for	<ul style="list-style-type: none"> VEB Pilot Region Regea Pilot Region

4.3.3. Off-balance ESCO/ESCOop financing options through SPVs

If the Pilot Regions investment program does require off-balance financing with commercial banks being reluctant to offer standard forfaiting products, these Structured Financial Solutions are first to be explored:

- Forfaiting Facility for off-balance ESCO/ESCOop financing
- Co-Investment Facility for SPV financing

4.3.3.1. Forfaiting Facility for off-balance ESCO/ESCOop financing

A Forfaiting Facility is an appropriate financial instrument to support ESCOs/ESCOops in increasing their portfolio of EPC/ESC projects by allowing them to refinance their projects through the purchase of future receivables. The Forfaiting Facility should develop the local EPC/ESC market capacity to increase the number of projects by off-loading debt from the balance sheet of ESCO/ESCOops as well as project beneficiaries. The Forfaiting Facility can also help ESCOs/ESCOops to attract additional equity and debt investments or additional debt at the project level.

Forfeiting facility for off-balance ESCO/ESCOop financing

To fund ESCOs/ESCOops holding EPC/ESC assets

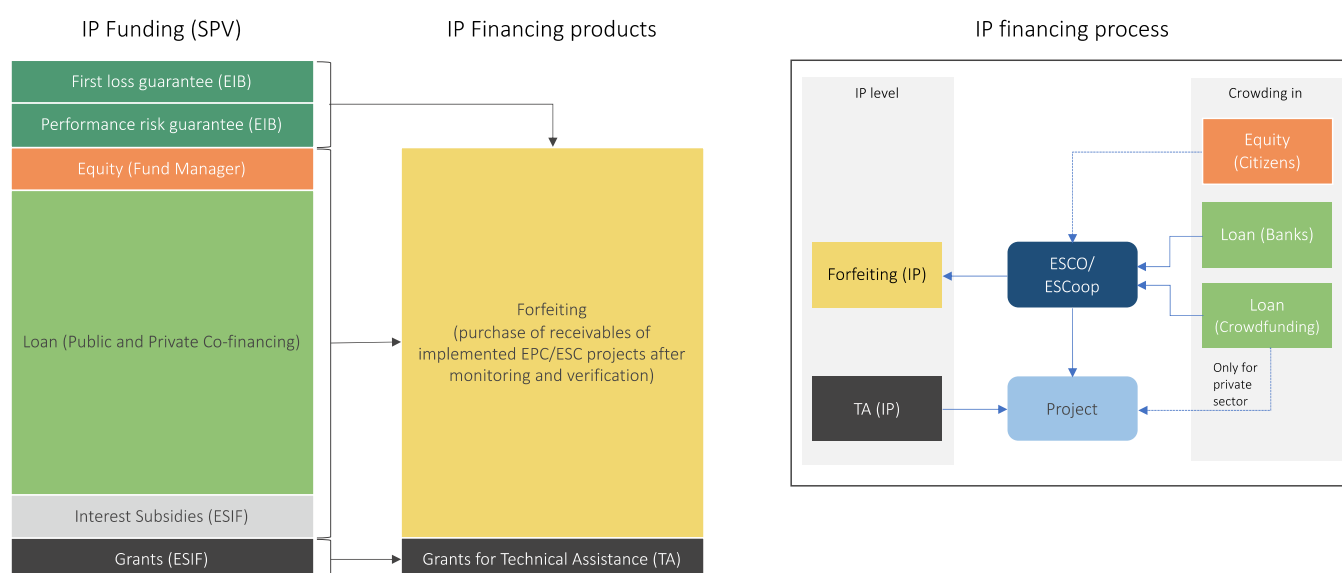


Figure 20 - Forfeiting Facility for off-balance ESCO/ESCOop financing

Description of the Financial Instrument	
Structure of the FI	<ul style="list-style-type: none"> • The Forfeiting Facility shall take the form of a Forfeiting fund to be set up by a Fund Manager with contributions of the EFSI/ESI Funds, the Fund Manager and additional public and private investors to finance a portfolio of EPC/ESC assets receivables of Energy Efficiency projects developed by ESCOs/ESCOops. Portfolio of EPC/ESC assets receivables shall be at below market terms, with reduced discount rates and/or extended forfaiting terms). The overall discount rate, to be charged to the eligible Final Recipients included in the portfolio shall be reduced proportionally to the allocation provided by the public contribution. A grant component with a contribution of the ESI Funds can be included as a blended product alongside the forfaiting credit line and could serve as Interest rate subsidies (to move from soft terms to concessional terms), grants to assets and/or grants for Technical Assistance. • The Forfeiting Facility is set-up and managed by the Fund Manager bringing their own contribution under the form of equity. The fund shall take the form of layered fund with

	<p>ESI Funds contribution taking the first-loss-piece/equity tranche (high risk-taking), the EFSI contribution taking the mezzanine tranche and additional public or private investors taking the senior debt tranche (low risk-taking). When reaching a critical size, the Fund Manager may issue bonds on the capital markets to refinance the portfolio of EPC/ESC assets receivables and generate new portfolio of forfeiting assets.</p> <ul style="list-style-type: none"> Forfeiting product provided by the Forfeiting Facility shall leverage additional financing through equity investment in ESCOs/ESCOops as well as commercial loans with private banks and/or crowdfunding, either at the ESCO/ESCOop level or at the project level.
Aims of the instrument	<ul style="list-style-type: none"> Provide ESCOs/ESCOops with low-cost refinancing by providing forfeiting product at preferential conditions in terms of interest rate reduction, forfeiting terms extension and/or collateral reduction. Provide ESCOs/ESCOops with long term refinancing by providing long term forfeiting product with additional Interest rate subsidies. Provide project beneficiaries and project developers with off-balance sheet financing.
Final Recipients	<ul style="list-style-type: none"> Project Developers (ESCOs and/or ESCOops). ESCOops shall be either full operational Energy Services Cooperatives or Financial Cooperatives (FINCoop) engaged into an agreement with operational ESCOs.
Projects Beneficiaries	<ul style="list-style-type: none"> Shall be defined in accordance with the Investment Program of the Pilot Regions.
Eligible projects	<ul style="list-style-type: none"> EPC/ESC projects which shall be defined in accordance with the Investment Program of the Pilot Regions.
Citizen Funding leverage	<ul style="list-style-type: none"> ESCOops shall leverage Citizen Funding through member share capital and/or alternatives long-term funding such as one-time membership fees, individual member contributions with no individual ownership attached or individual member deposits which may be used for business. Projects shall leverage additional Citizen Funding through crowdfunding at the project level.
Addressable financing gaps	<ul style="list-style-type: none"> Limited balance sheet/borrowing capacity With additional interest subsidies, can also address viability gap
Suitable for	<ul style="list-style-type: none"> VEB Pilot Region Regea Pilot Region

4.3.3.2. Co-Investment Facility for SPV Financing

A Co-Investment Facility is an appropriate financial instrument for supporting ESCOs and/or ESCOops in developing off-balance EPC/ESC assets. The Co-Investment Facility should develop the local equity market and attract additional equity investments in ESCOs and/or ESCOops through a partnership approach with private investors.

Co-Investment Facility for SPV Financing

To fund SPVs holding EPC/ESC assets

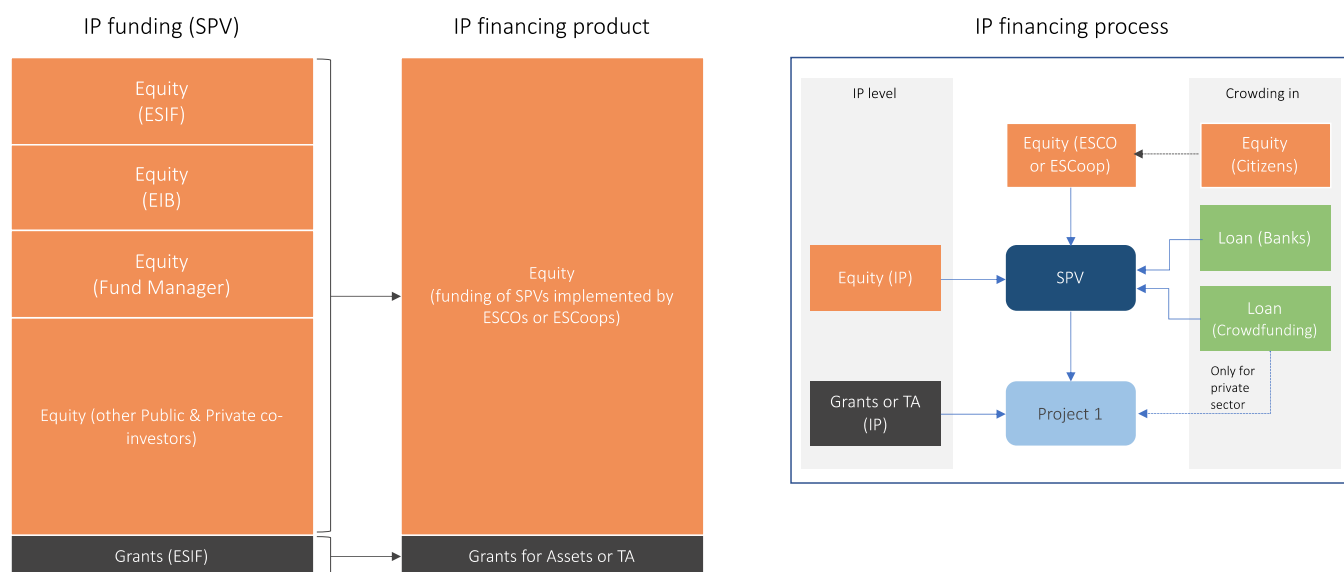


Figure 21 - Schematic representation of the Co-Investment Facility Investment Platform

Description of the Financial Instrument	
Structure of the FI	<ul style="list-style-type: none"> The Co-Investment Facility shall invest in the equity of SPVs implemented by ESCOs or ESCoops with the contributions of the EFSI/ESI Funds, the financial intermediary's own resources (the Fund Manager of the Co-Investment Facility) and other public and private co-investors at the Investment Platform level. A grant component with a contribution of the ESI Funds can be included as a blended product alongside equity and could serve as grants to assets and/or grants for Technical Assistance. The SPVs are set-up and managed by ESCOs and/or ESCoops (Energy Services Cooperatives) bringing their own equity contributions at the SPV level. SPVs shall build up a portfolio of aggregated long-term investments in EPC/ESC assets. SPVs shall leverage additional financing through commercial loans with private banks and/or crowdfunding, either at the SPV level or at the project level.
Aims of the instrument	<ul style="list-style-type: none"> Invest in SPVs to build up a portfolio of aggregated investments in EPC/ESC assets through co-investment agreements (partnership approach) with co-investors on a deal by deal basis. Provide more capital to increase investment volumes in the portfolio of EPC/ESC assets.
Final Recipients	<ul style="list-style-type: none"> ESCOs and/or ESCoops through the SPVs. ESCoops shall be either full operational Energy Services Cooperatives or Financial Cooperatives (FINCoop) engaged into an agreement with operational ESCOs.
Projects Beneficiaries	<ul style="list-style-type: none"> Shall be defined in accordance with the Investment Program of the Pilot Regions. Project Beneficiaries are not the Final Recipients.
Eligible projects	<ul style="list-style-type: none"> EPC/ESC projects which shall be defined in accordance with the Investment Program of the Pilot Regions.

Citizen Funding contribution	<ul style="list-style-type: none"> • ESCoops shall leverage Citizen Funding through member share capital and/or alternatives long-term funding such as one-time membership fees, individual member contributions with no individual ownership attached or individual member deposits which may be used for business. • SPVs shall leverage additional Citizen Funding through crowdfunding, either at the SPV level or at the project level.
Addressable financing gaps	<ul style="list-style-type: none"> • Off-balance sheet financing (in markets where banks are reluctant with forfeiting products) • High upfront costs affecting the viability • High financing costs affecting the profitability
Suitable for	<ul style="list-style-type: none"> • VEB Pilot Region • Regea Pilot Region • GoParity Pilot Region

4.3.4. Multipurpose financing options

If the Pilot Regions investment program does require the addressing of various financing gaps under the same Financing Instrument, the following Structured Financial Solutions are first to be explored:

- Energy Efficiency Fund for multipurpose objectives
- Energy Efficiency Fund with off-balance ESCO/ESCOop financing option

4.3.4.1. Energy Efficiency Fund for multipurpose objectives

An Energy Efficiency fund is an appropriate financial instrument for supporting investments in an Energy Efficiency program requiring more than one type of financing products or facing multiple financing gaps. An Energy Efficiency Fund should develop the local market capacity to increase the number of projects by offering a global financial package, including loans at preferential or concessional terms to Final Recipients, partial credit guarantees to cover the credit risks of projects or portfolio of projects or, if relevant, equity to strengthen the financial structure of project developers.

Energy Efficiency Fund for multipurpose objectives

To fund ESCOs/ESCOops and/or projects

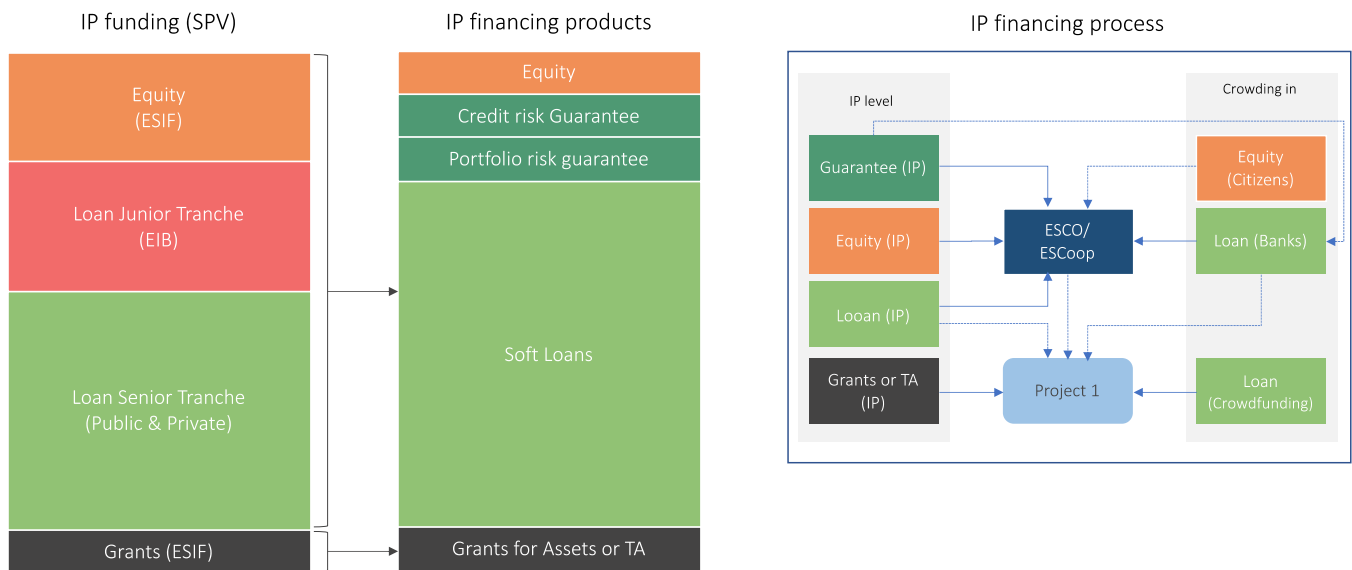


Figure 22 - Energy Efficiency Fund for multipurpose objectives

Description of the Financial Instrument	
Structure of the FI	<ul style="list-style-type: none"> The Energy Efficiency Fund shall be set-up by a Fund Manager with contributions of the EFSI/ESI Funds, the Fund Manager and additional public and private investors to finance a portfolio of Energy Efficiency financing products. Portfolio of products can include loans at below market terms, soft loans or concessional loans, partial credit guarantees and/or performance guarantees, mezzanine/subordinated loans and/or equity. A grant component with a contribution of the ESI Funds can be included as a blended product alongside the financing products and could serve as Interest Rate Subsidies (to move from soft terms to concessional terms), Guarantee Fee Subsidies, grants to assets and/or grants for Technical Assistance. The fund shall take the form of a layered fund with ESI Funds contribution taking the first-loss-piece/equity tranche (high risk-taking), the EFSI contribution taking the mezzanine tranche and additional public or private investors taking the senior debt tranche (low risk-taking). Financing products provided by the Energy Efficiency Fund shall leverage additional financing through equity investment in ESCOs/ESCOops as well as commercial loans with private banks and/or crowdfunding, either at the ESCO/ESCOop level or at the project level.
Aims of the instrument	<ul style="list-style-type: none"> Provide Final Recipients with easier access to finance by providing tailored financing products.
Final Recipients	<ul style="list-style-type: none"> Project beneficiaries and/or Project Developers (ESCOs and/or ESCOops). ESCOops shall be either full operational Energy Services Cooperatives or Financial Cooperatives (FINCoop) engaged into an agreement with operational ESCOs.
Projects Beneficiaries	<ul style="list-style-type: none"> Shall be defined in accordance with the Investment Program of the Pilot Regions.

Eligible projects	<ul style="list-style-type: none"> SBC/EPC/ESC projects which shall be defined in accordance with the Investment Program of the Pilot Regions.
Citizen Funding leverage	<ul style="list-style-type: none"> ESCOops shall leverage Citizen Funding through member share capital and/or alternatives long-term funding such as one-time membership fees, individual member contributions with no individual ownership attached or individual member deposits which may be used for business. Projects shall leverage additional Citizen Funding through crowdfunding at the project level.
Addressable financing gaps	<ul style="list-style-type: none"> Potentially all of the gaps
Suitable for	<ul style="list-style-type: none"> VEB Pilot Region Regea Pilot Region GoParity Pilot Region

4.3.4.2. Energy Efficiency Fund with off-balance ESCO/ESCOop financing option

The portfolio of financing products of the fund could also include a forfaiting credit line for the purchase of receivables from EPC/ESC implemented projects. The structuring of the Financing Instrument and the objectives are similar to the multipurpose fund – increasing access to finance for the Final Recipients - but incorporate an additional off-balance sheet mechanism aiming to off-load debt from ESCOs/ESCOops and/or project beneficiaries (with “Maastricht Neutral” options for the public sector). The option is shortly described in the figure 23.

Energy Efficiency Fund with off-balance ESCO/ESCOop financing option

To fund ESCOs/ESCOops and/or projects

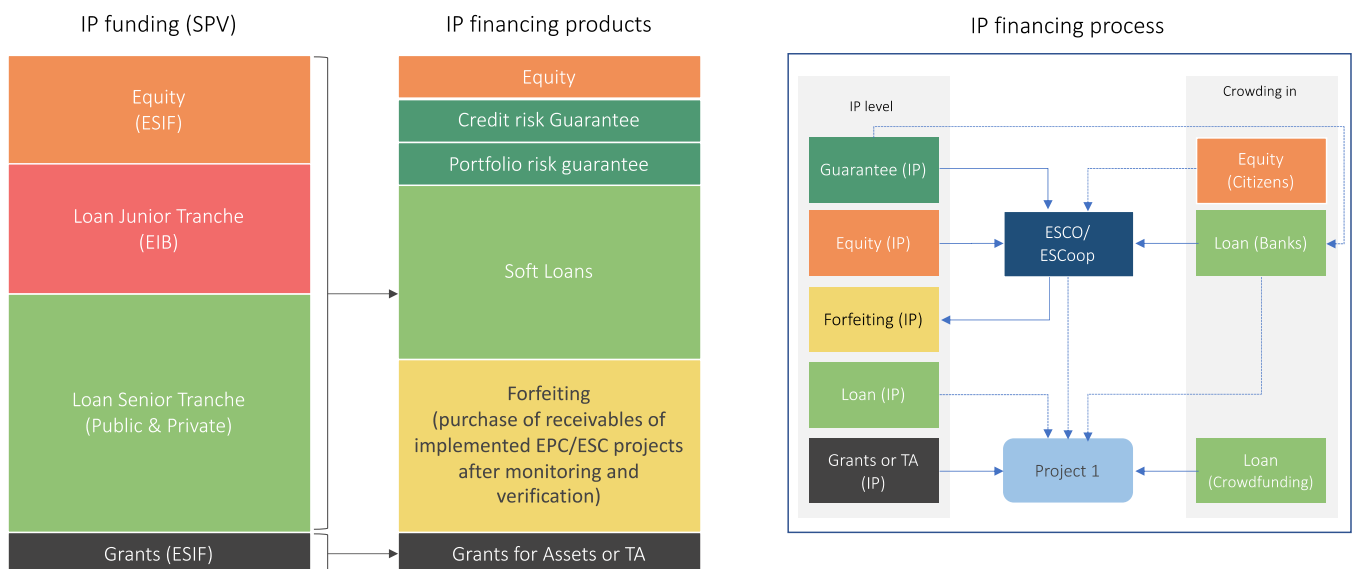


Figure 23 - Energy Efficiency Fund with off-balance ESCOs/ESCOops financing option

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