

D5.1 Training materials

About the deliverable (1/2)

Training materials are developed as a part of the WP5, as a background material for the training events that will be organised in Austria, Croatia, Czechia, Greece, Italy, Latvia, Slovenia, Spain, Ukraine.

Training sessions **aim to address financial institutions** that have already developed their business strategy towards green finance, **as well as ESCO companies seeking new financial mechanisms** to finance new projects and business ventures. By capitalising on the knowledge and experience gained from the knowledge-sharing partners (Austria, Czechia and Latvia), as well as national-based elaborated research, training materials showcase benefits and possibilities for further refinancing development.

Training events will be organised as webinars and physical events (where possible). Project partners are responsible to organise and conduct a total of four local training sessions per country. Target groups, which include financial institutions and EES providers will be offered specified business development guidance for the refinancing of energy efficiency services and tailored training sessions for their forfeiting and cession specialists on energy efficiency services.

About the deliverable (2/2)

Training materials will be provided in the form of presentation slides, learning module and video. Presentation slides will be made available as a general slide deck in English and project partners will translate it and adapt it to country specifics. Learning modules and video will be developed in English and published on project website.

Training material slide deck consists of three separate topics:

1. Energy Efficiency Services (EES) Market
2. Refinancing instrument
3. REFINE Tools

Energy Efficiency Services (EES) Market

Training module 1

REFIN 

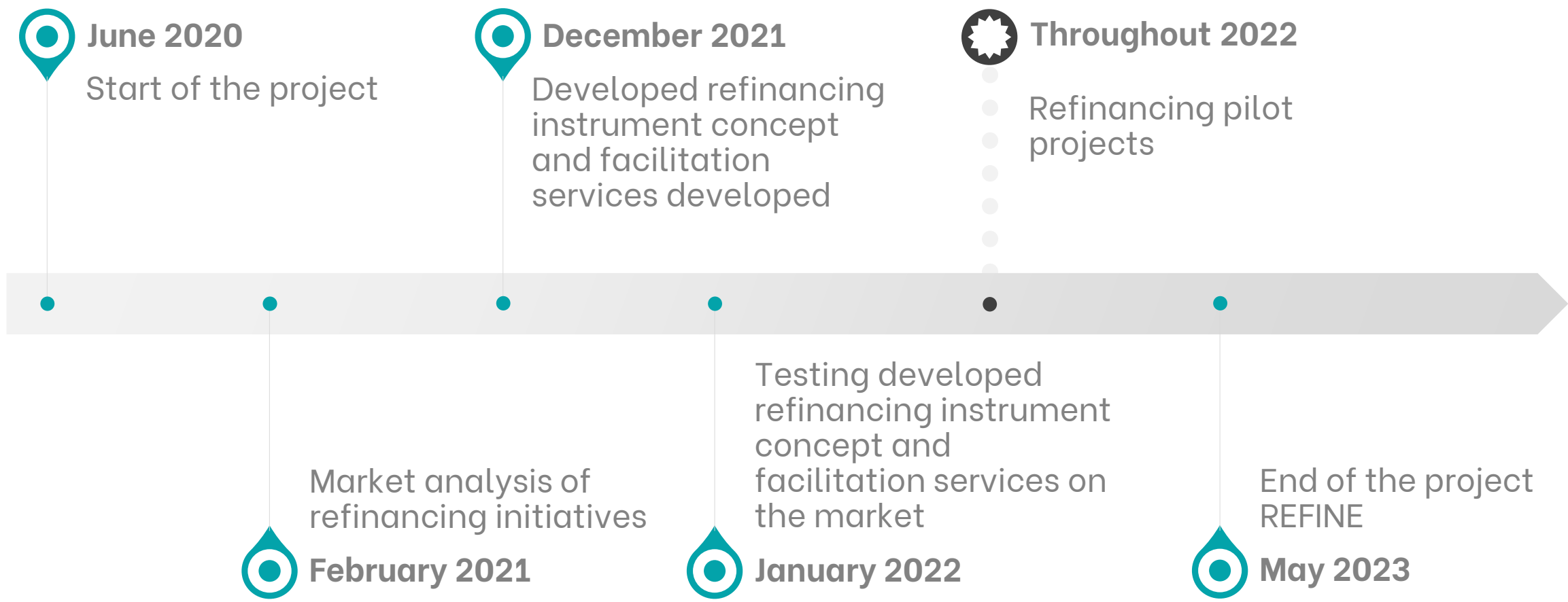
REFINE has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 894603



Introduction

REFINE (Mainstreaming of refinancing schemes as enhancer for the implementation of energy efficiency service projects)

- › Encourage the participation of the private sector in the financing of energy efficiency projects in buildings and infrastructure by using financial products and instruments in order to achieve the energy goals of the EU by 2030.
- › Cooperation of public and private sectors and mobilization of private sector investments (primarily through alternative procurement models such as the Energy Performance Contract and other alternative models).



REFINE objectives

- › Identify the shortcomings of existing financial products and instruments on the market, adapt them to the needs of the public and private sector and test them on the market,
- › Simplify risk assessment procedures,
- › Develop a system for assessing the creditworthiness of debtors,
- › Standardize provisions of energy performance contracts and other alternative models to make the procedures related to securing the financing of energy projects more efficient.

Training session #1



Introduction to EES market



Energy Supply Contracting (ESC)



Energy Performance Contracting (EPC)



EPC Financing

Aim of the training session

- › Introduction to EES market and EES projects financing
- › Common understanding of EES specifics and project risks
- › Increased awareness about the impact of refinancing schemes on the financial feasibility of energy efficiency investments among EES providers and financial institutions.
- › Training sessions will address:
 - › financial institutions that have already developed their business strategy towards green finance,
 - › EES providers seeking new financial mechanisms to finance new projects and business ventures.

Introduction to EES market



Energy efficiency services (EES)



Energy service means the **physical benefit, utility or good** derived from a combination of energy with energy-efficient technology or with action, which may include the operations, maintenance and control necessary to deliver the service, which is **delivered on the basis of a contract** and in normal circumstances **has proven to result in verifiable and measurable or estimable energy efficiency improvement or primary energy savings**.

Directive 2012/27/EU on energy efficiency, Article 2

Energy efficiency service provider company

Energy efficiency service (EES) provider company offers energy services which may include implementing energy-efficiency projects (and also renewable energy projects) and in many case on a turn-key basis.

The **main characteristics** of an EES provider are:

1. EES providers guarantee energy savings and/or provision of the same level of energy service at lower cost. It can revolve around the actual flow of energy savings from a project, can stipulate that the energy savings will be sufficient to repay monthly debt service costs, or that the same level of energy service is provided for less money.
2. The remuneration of EES providers is directly tied to the energy savings achieved.
3. EES providers can finance or assist in arranging financing for the operation of an energy system by providing a savings guarantee.

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

Key actors commonly involved in the EES projects



EES providers: a heterogeneous group including ESCOs, utilities, technology providers, consulting/engineering firms and others. Among these categories, ESCOs and utilities are the most abundant.



Financial institutions: Commercial, or public banks are the main financiers for energy efficiency projects in most of the countries, while independent specialised funds are less present. In Italy, Austria, and Spain, commercial banks are more active in financing these projects, in contrast to the Southeast countries where public institutions prevail.

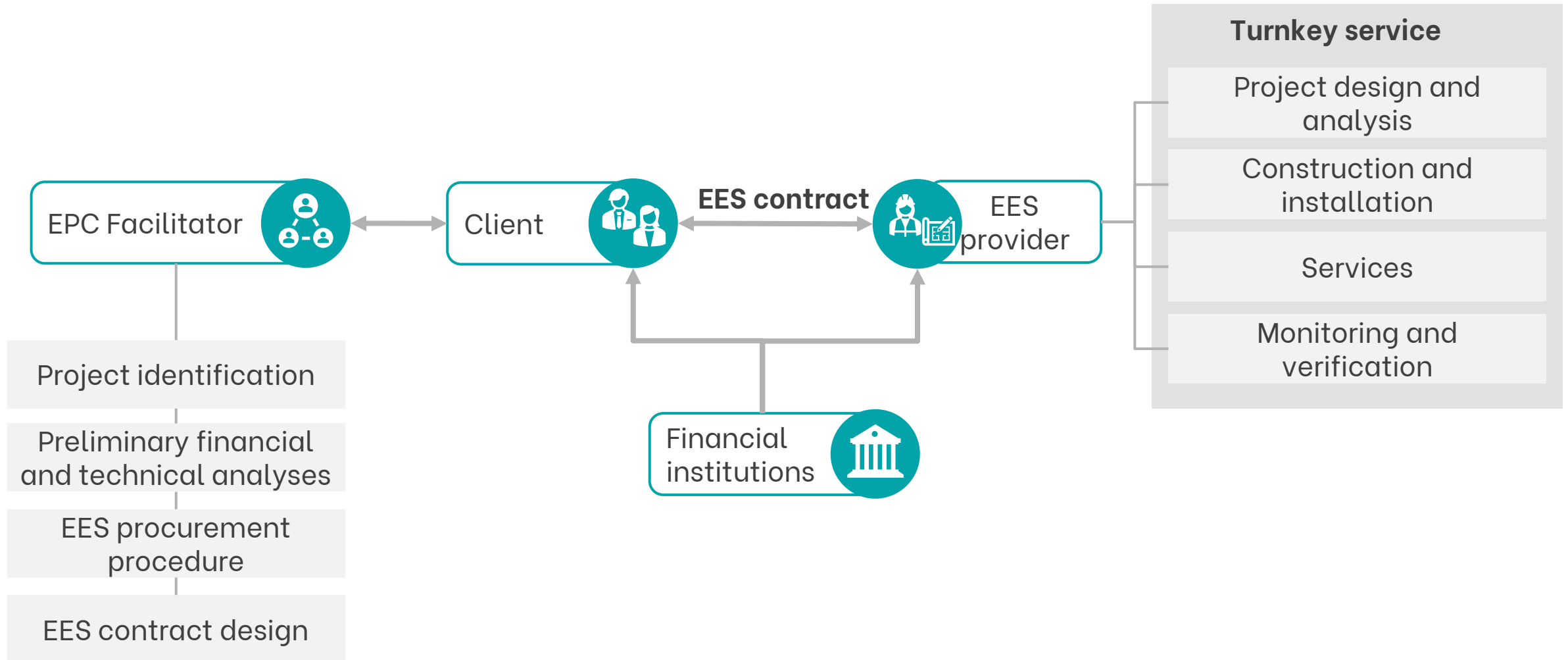


Facilitators: experienced subjects assisting the client to participate in the EES market.



Client: the owner or a property manager of an asset (building, public lighting, company etc.), either private or public (municipalities, cities, schools...)

Roles and relationships between key actors



Challenges in financing energy efficiency investments



Household clients:
„Should I buy a new car, go on vacation or retrofit the house?”



Corporate clients
„Energy efficiency won't really affect the company's credit rating, so we'll rather use the money to grow a customer base.”



Public clients:
„The energy bills for the school are high but the heating system is still working, so should we rather invest in a new kindergarden?”

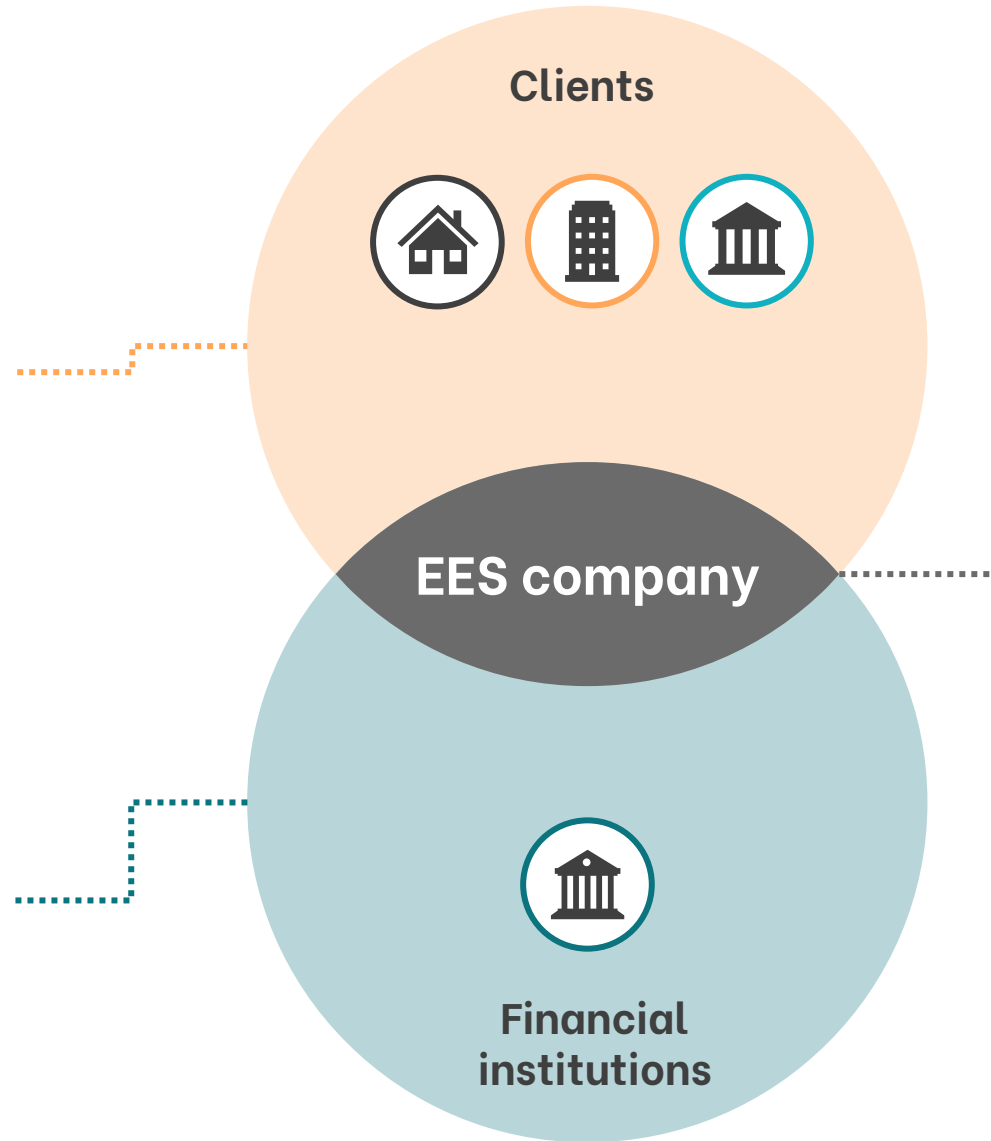


Financial institutions
„Energy efficiency investment in a multi-apartment building? Not for us – too many stakeholders and the profit margin seems low.”

Challenges in financing energy efficiency investments

If EES provider is able to arrange funding of the project (Third-Party-Financing) the client can take advantage of the multiple benefits of an EE investment without encumbering his own affordability and/or credit limits.

Financial institutions provide loans to EES companies and avoid taking over full share of the investment risk.



EE specialists offer integrated solution (planning, implementation, operation, maintenance and monitoring).

EES providers can prefinance the investment and get repaid through yearly remunerations which are dependent on the actual savings achieved.

EES providers have to respect their own credit limits. Depending on the financial capacity of the company, they will be able to finance only a limited number of projects without overstraining their credit limits.

EES types

Energy Performance Contracting is a contractual arrangement between the beneficiary and the provider of an **energy efficiency improvement measure, verified and monitored during the whole term of the contract**, where **work, supply or service** in that measure **are paid for in relation to a contractually agreed level of energy efficiency improvement** or other agreed energy performance criterion, such as financial savings.

Energy Supply Contracting is a **contractual arrangement for the efficient supply of energy**. ESC is contracted and measured in Megawatt hours (MWh) delivered. The goal is to bring a reduction of final energy demand, although efficiency gains are usually limited to the energy supply system. Energy service company (ESCO) is only remunerated for the useful energy output.

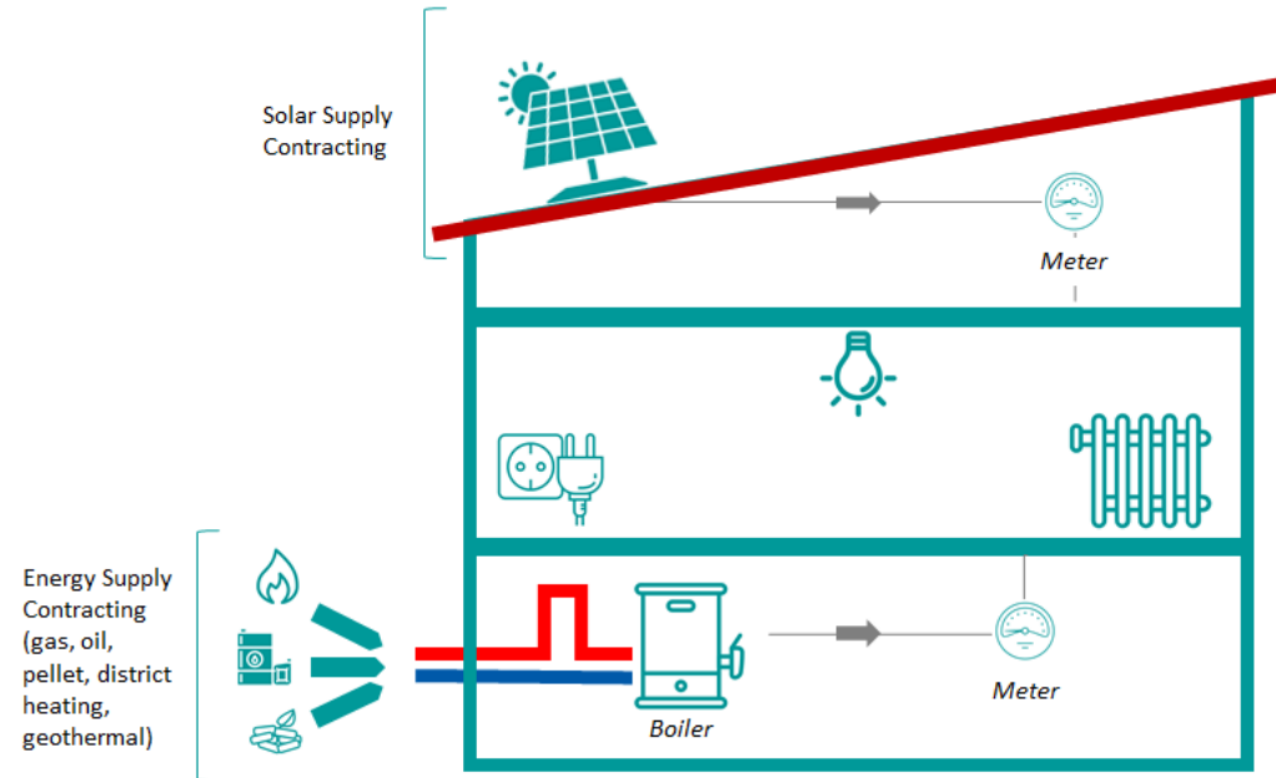
Integrated energy contracting (IEC) is a **combination of energy efficiency measures with energy supply contracting** typically with short term 'operational verification' rather than ongoing measurement and verification.

Energy Supply Contracting

Energy Supply Contracting (ESC)

ESCO implements efficient supply (from fossil and/or renewable sources) in new and existing buildings of the public, industrial, commercial and large residential sectors.

The **building owner** can **outsource technical and economic risks related to energy supply activities** (including planning, installation, operation, maintenance and financing of equipment for heating, cooling or electricity generation) to a professional party and to **buy services instead of individual components**.



Source:

<https://renovation-hub.eu/business-models/energy-supply-contracting-esc/>

Energy Supply Contracting (ESC)

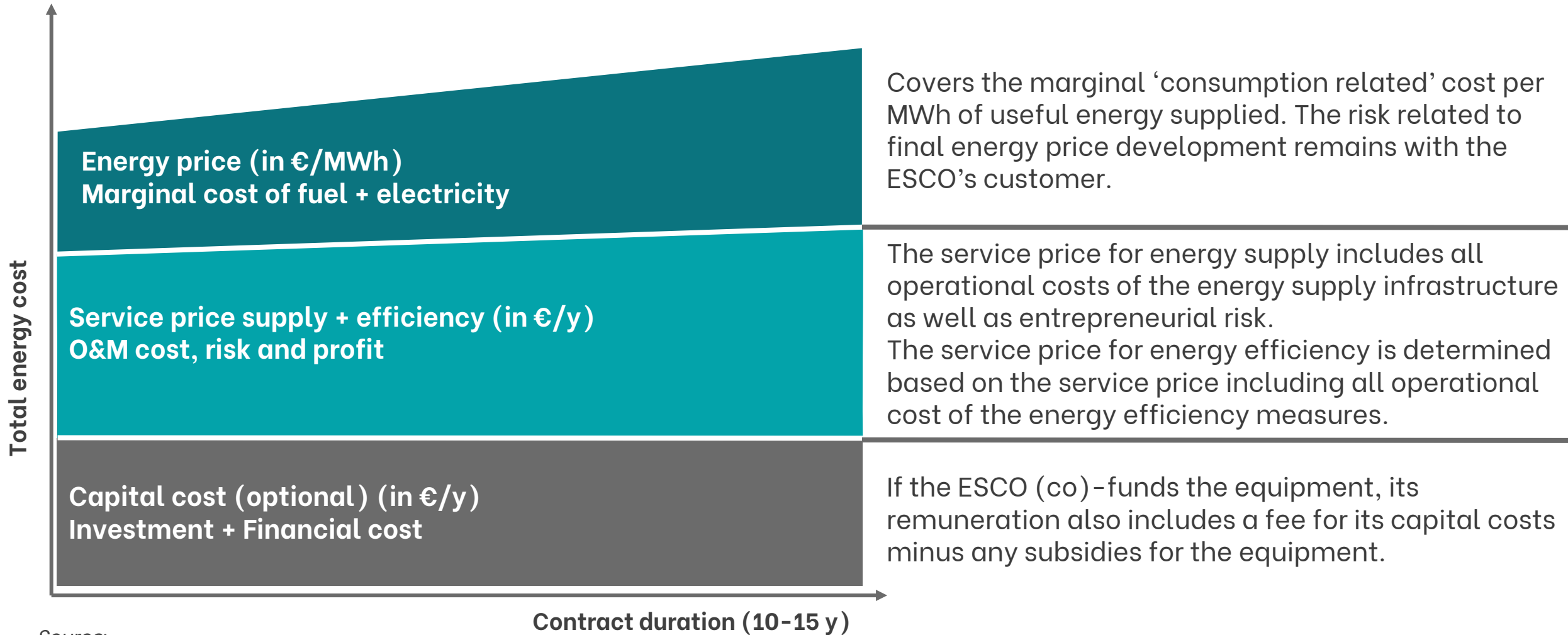
ESCO's remuneration is performance based and **depends on the useful energy output delivered.**

Therefore, the ESC model provides an incentive to the building owner to increase the efficiency of the energy conversion and to reduce primary energy demand.

ESC contract covers the outcome and all costs of the services, as well as the commercial, technical and operational risks of the project.

ESC are a significant boost in efficiency, clear and optimized operational costs, more supply assurance and the application of the most recent safety standards.

Revenue model and cost structure

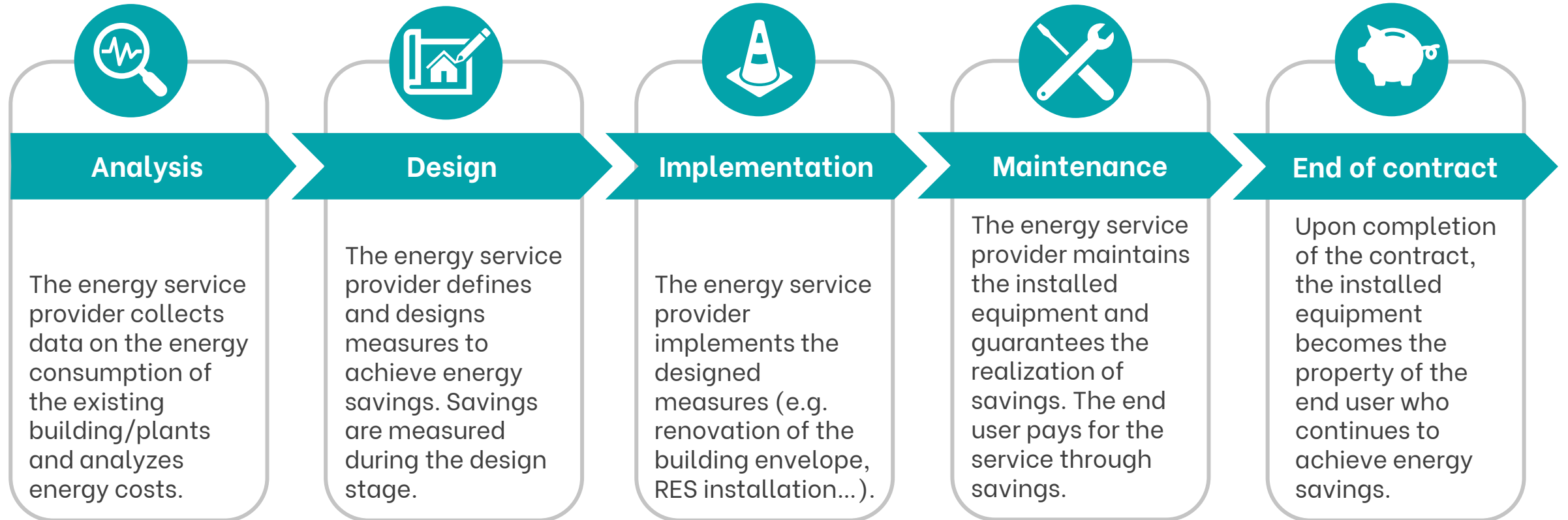


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Energy Performance Contracting



Energy Performance Contract (EPC)



EPC scope

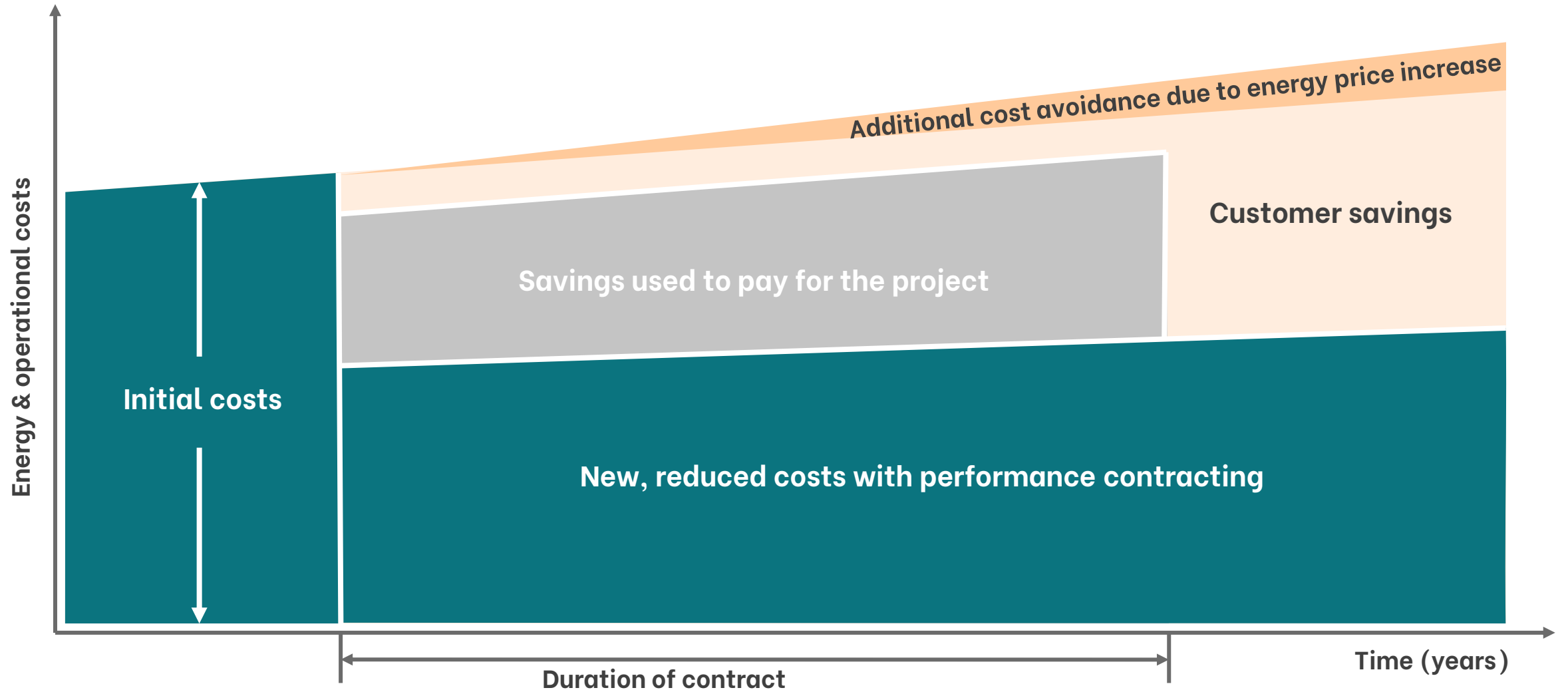
The scope of the Energy Performance Contract include:

- › What kind of work or service is delivered under the contract and at which costs
- › Energy savings guarantee – how savings are measured and verified
- › The terms of the contract
- › Risk bearing: ESCO bears technical, financial and commercial risks
- › Client and the ESCO rights and obligations
 - › During the construction and installation period
 - › During the Service Period
- › How to solve disputes, changes in conditions, unexpected problems

EPC benefits

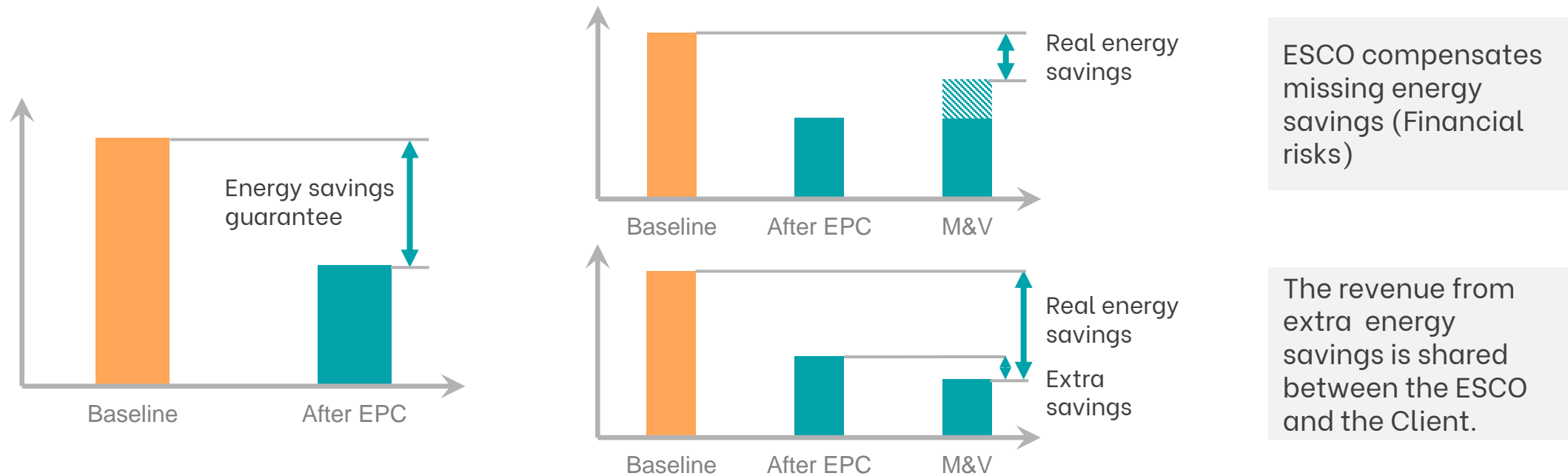
- › The basic principle of the EPC contract is that all implemented energy saving measures are financed through the realized savings without additional costs.
- › The whole EPC project is implemented by one company (ESCO) which assumes most of the associated financial and technical risks.
- › Guarantee provided through EPC eliminates risks for the end user: energy and money savings (reduction of operating costs) are achieved gradually based on the guarantee clauses defined in the EPC contract

EPC business model



Energy Savings guarantee

- > Energy savings: depending on the project and the scope of the energy efficiency measures—typically from 15% to 50%.



Energy savings outlined in the EPC

Measurement and Verification

Settlement

EPC risks

Economic & financial risks

- › Construction cost increases
- › Interest rate increases
- › Fuel cost increases
- › Payment default

Project design risk

- › Insufficient information on facility
- › Inappropriate design

Technology risk

- › Wrong equipment sizing
- › Poor system /Equipment performance

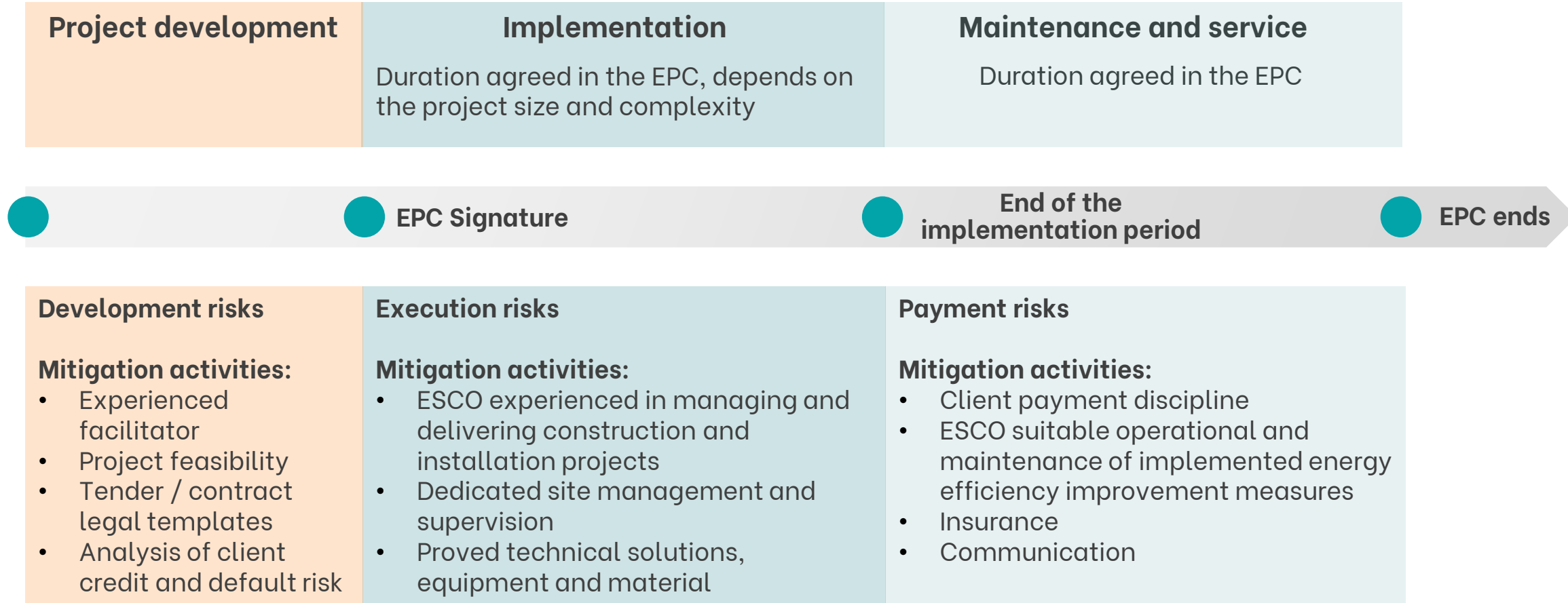
Measurement & Verification risk

- › Poor data quality
- › Modeling errors
- › Inconsistency of data
- › Imprecise/inaccurate metering

Operational risk

- › Frequent breakdowns
- › Unexpected consumption pattern
- › Inaccurate metering

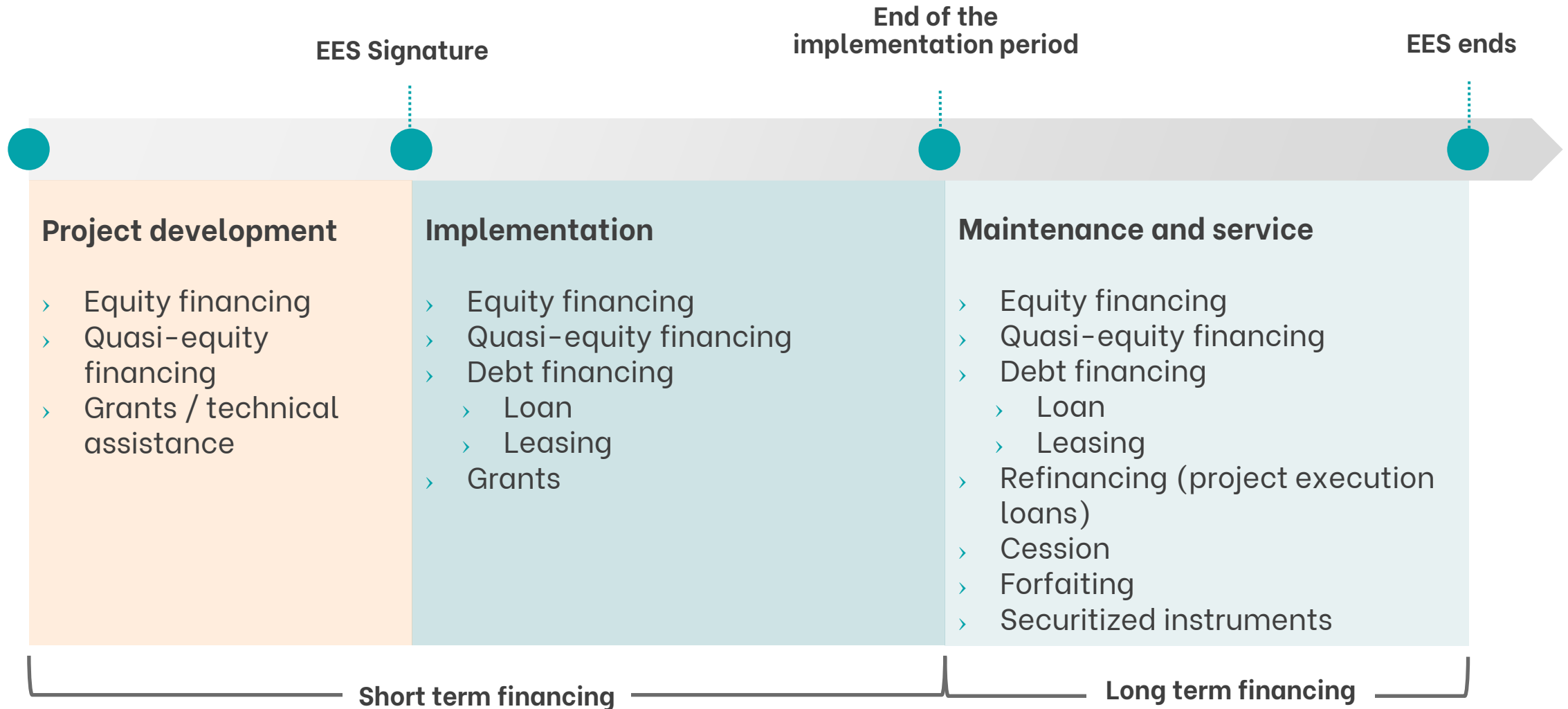
Potential risks in EPC phases



EES financing



EES Financial products



Selecting appropriate financial product

Relevant aspects which need to be considered before selecting EES financing products:

- › Cost of financing
 - › Interest rates, fees and terms applicable to the Client
 - › Interest rates, fees and terms applicable to the EES provider
- › Creditworthiness of the Client and the EES provider
- › Available equity, collateral and securities of the Client and the EES provider
- › Taxation
- › Balance sheet and accounting aspects
- › Management expenditures/transaction costs

Accounting treatment of EPCs and impact on public debt - interpretation of EUROSTAT

- › EUROSTAT 's document “A Guide to the Statistical Treatment of Energy Performance Contracts,, gives very clear instructions and examples of how some EPC provisions should look and what should be defined in the contract, so that EPC is not treated as public debt.
- › These guidelines suggest following upgrade to the EPC contract:
 - › the minimum duration of the EPC Contract,
 - › the maximum energy service fee, that must be less than savings generated only by reduced energy consumption,
 - › minimum terms for termination fees,
 - › the method for calculating fees and reductions,
 - › introduction of mandatory real measurement and
 - › the procedure for verification of realized savings on a minimum annual level.

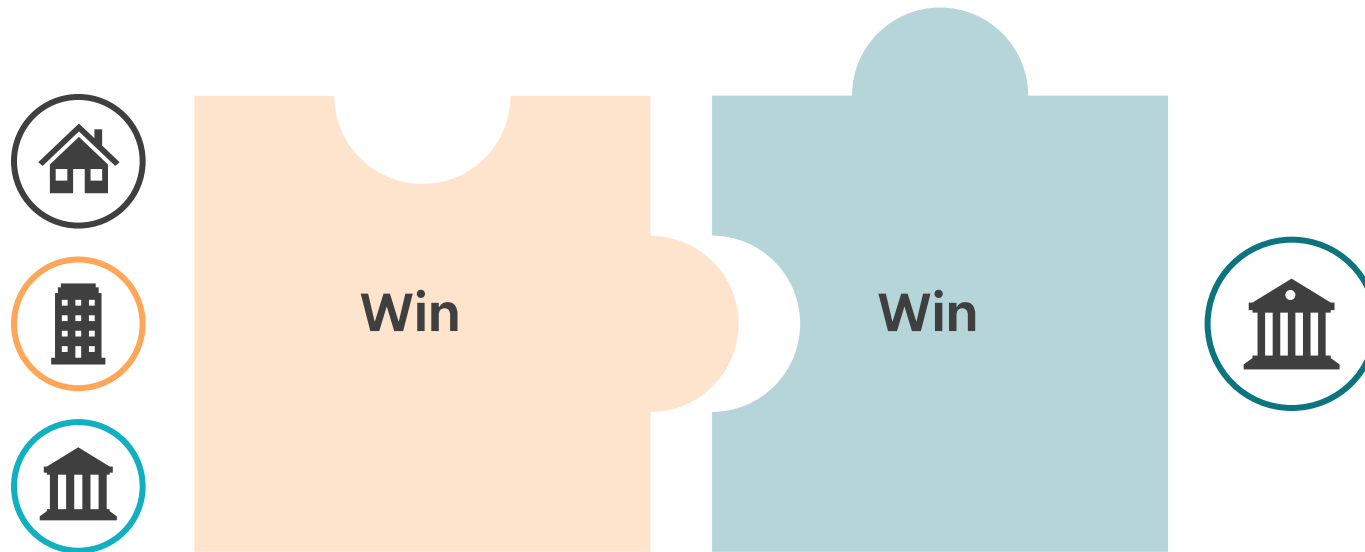
Existing barriers to EES finance uptake

- › Lack of performance data of energy efficiency investments makes the benefits and the financial risk harder to assess.
- › Lack of commonly agreed procedures and standards for energy efficiency investment underwriting increase transaction costs.
- › Financial institutions consider EES projects complex and have high perceived technical and business risks.
- › Fragmented and atomised market over many smaller projects, which increases transaction costs.
- › Strict risk evaluation procedure by commercial banks.
- › Grants and subsidies for energy efficiency measures are still substantial.
- › The EES investment is often on the EES provider balance sheet, making the EES provider financially incapable to fund other projects.

Refinancing as a solution



Refinancing enables EES providers to clean up their balance sheet and gain financial leeway for new projects and business growth.



Refinancing instrument

Training module 2

REFIN 

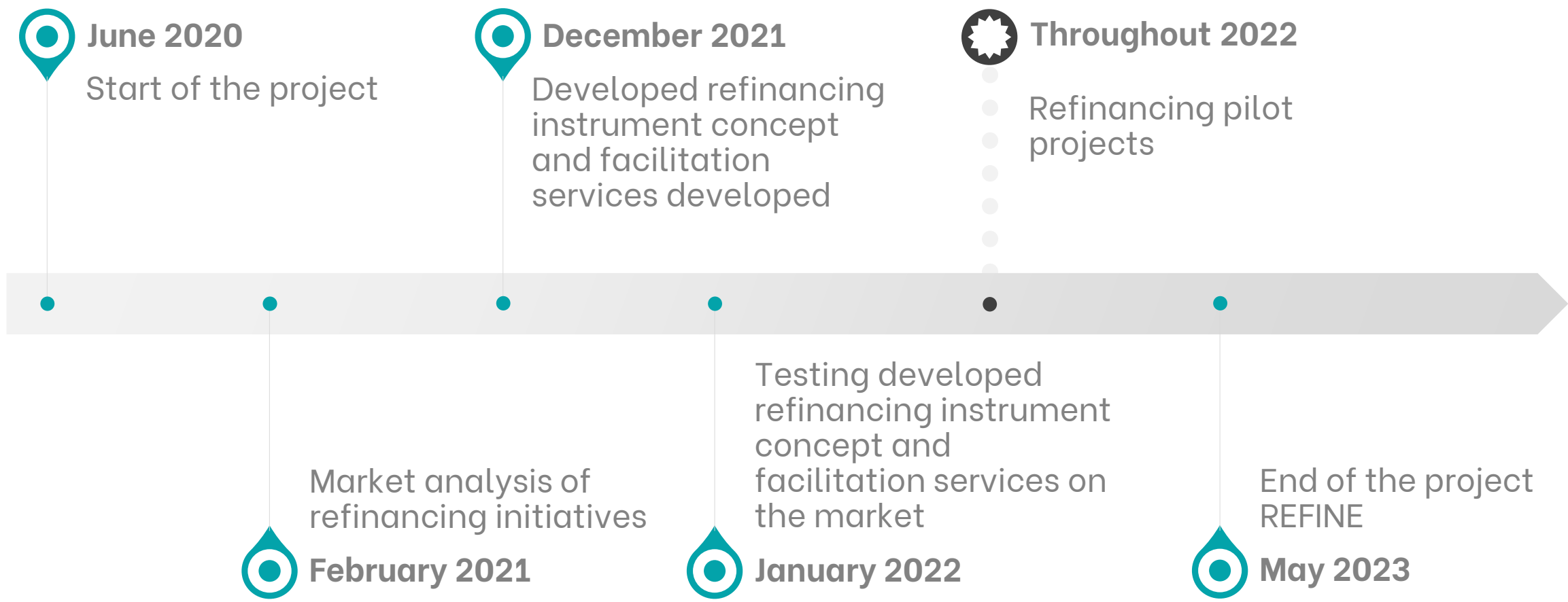
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Aim of the training session

- › Introduction to refinancing instrument and its specifics
- › Difference between forfeiting, factoring, cession and refinancing
- › Recognise the business potential of the refinancing instrument
- › Overview of various types of refinancing (with examples)
- › Better understanding of risk coverage, legal and financial implications
- › Training session will address:
 - › financial institutions that have already developed their business strategy towards green finance,
 - › EES providers seeking new financial mechanisms to finance new projects and business ventures.

Training session #2



Utilising refinancing model



Green business opportunity



Diversity of refinancing models



Deployment of refinancing model

Utilising refinancing model



Challenges in financing energy efficiency investments



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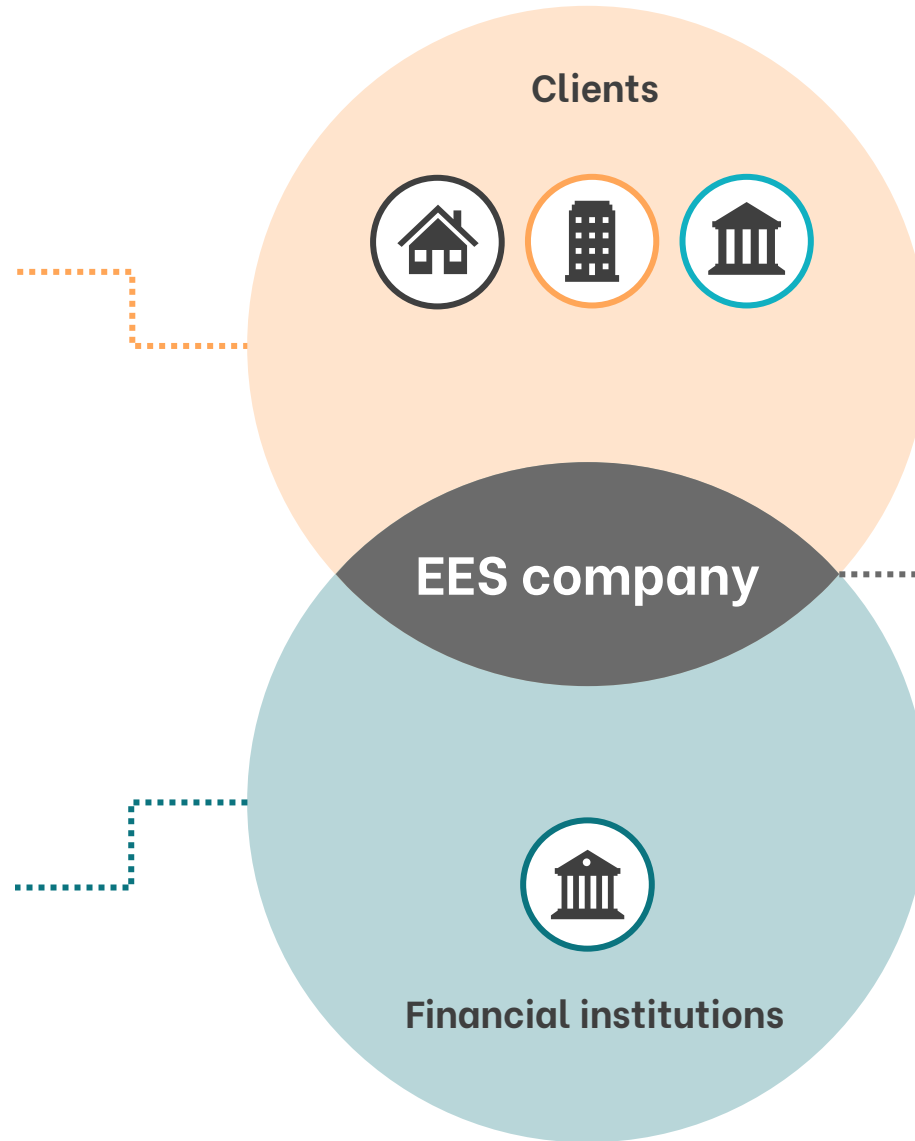


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EE specialists offer integrated solutions (planning, implementation, operation, maintenance and monitoring).

EES providers can prefinance the investment and get repaid through yearly remunerations which are dependent on the actual savings achieved.

The main source for repayment of any EES project financing is the cash flow generated by agreed and guaranteed energy cost savings.

EES providers have to respect their own credit limits.

Depending on the financial capacity of the company, they will be able to finance only a limited number of projects without overstraining their credit limits.

Refinancing as a solution



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

REFINE Glossary

Refinancing as a solution

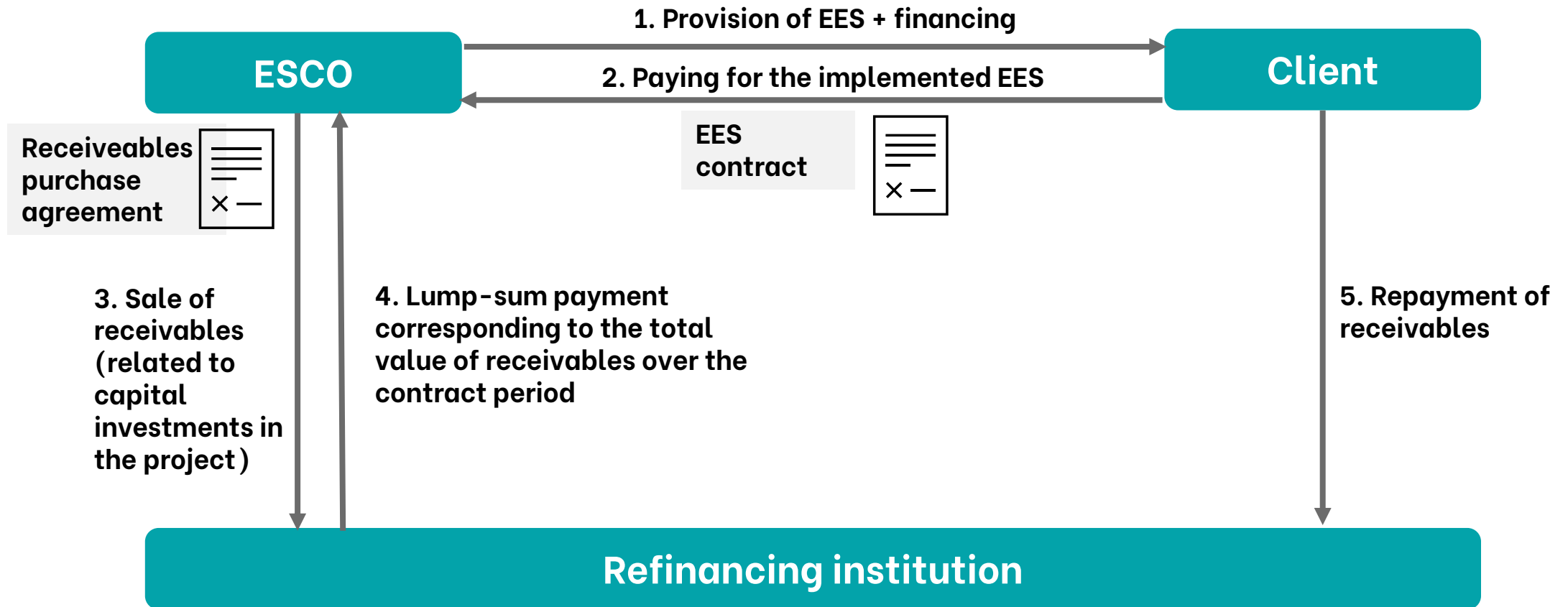
The **client** benefits from this financial instrument by accessing easier financing for performance-based EE investments.

EES provider has the opportunity to expand its business and continue investing in new projects,



A business opportunity with limited risk for **financial institutions**, since they only bear the credit risk on the client side (technical risks generally remains with the EES provider).

Refinancing as a solution

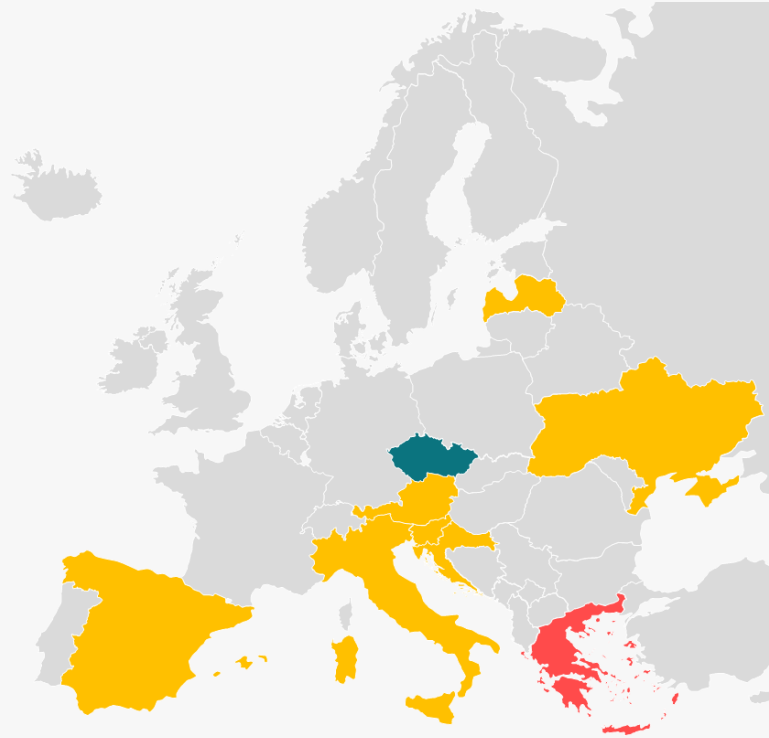


Models similar to refinancing

	Cession	Factoring	Forfeiting	Refinancing
Type	Legal term for the assignment of receivables	Contractual transaction in which short-term receivables are sold and the seller receives discounted amount without waiting for the payment in the future.	Sale of longer-term account receivables (e.g. receivables expected in the future, but not yet invoiced), usually without right of recourse.	Sale of EES receivables to be paid by the EES client, leading to the restructuring of the initial financing set-up of the EES provider.
Object		Short-term receivables	Long-term receivables	Long-term receivables
Recourse		Usually with right of recourse	Usually without right of recourse	
Stakeholders	<ul style="list-style-type: none"> > Financial institution (cession can be used as collateral) > Borrower 	<ul style="list-style-type: none"> > Financial (forfeiting) institution > Export company 	<ul style="list-style-type: none"> > Financial (forfeiting) institution > Export company 	<ul style="list-style-type: none"> > Refinancing institution > ESCO > End user (Client)

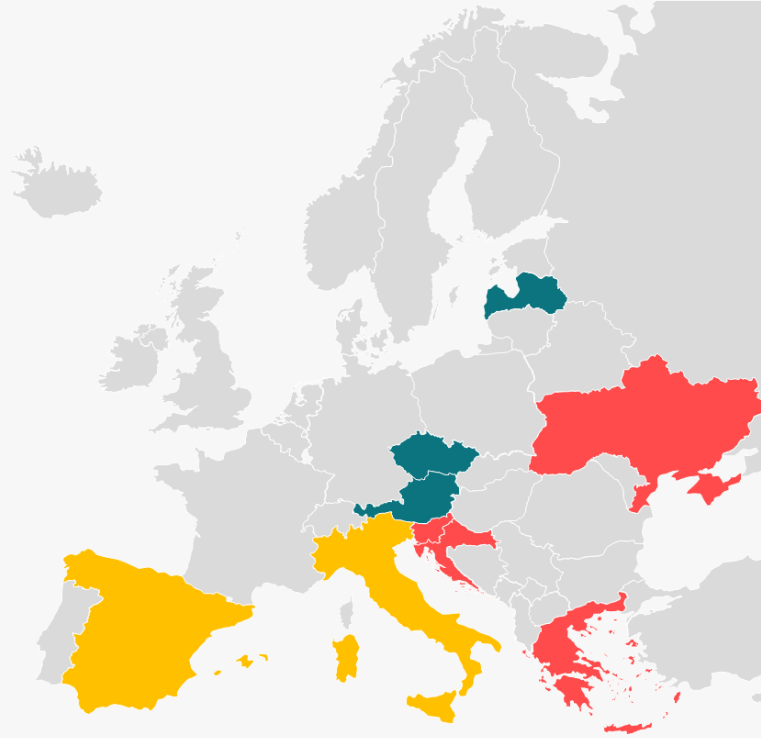
Refinancing market assessment

Feasibility of financing



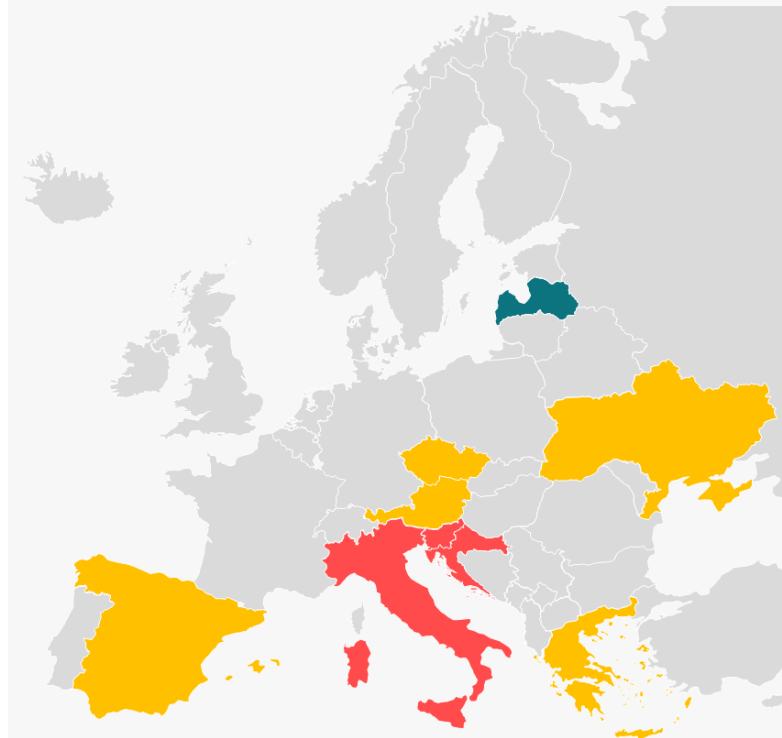
- Very difficult
- Moderately difficult
- Easy

Availability of refinancing instruments



- Not available
- In development
- Available

Availability of state-backed guarantees









- Not available
- In preparation/foreseen
- Currently in place

Green business opportunity



Business opportunity for financial institutions

-  Promising and future-oriented market of energy efficiency services with large untapped investment potential.
-  Extension of the green finance portfolio (beyond typical renewables projects) and alignment with the EU Sustainable Finance package.
-  Early mover advantage: Although a handful of refinancing schemes is already in operation the competitive level is still low.
-  Operational and technical risks are extremely low, because they are generally covered by the EES provider (savings are sometimes guaranteed), and at the point in time when refinancing happens the project has already run for a number of years.
-  The financial institution carries only the credit risk of the client - and in future this risk could be further decreased by public guarantee funds.
-  Transaction cost can be reduced through bundling of smaller projects, for example when the refinancing institution arranges a framework contract with the EES provider.

Business opportunity for financial institutions

Target year 2030	Investment Gap	Potential investment accessible by EES providers		Estimated share of EES projects refinanced [million EUR]			
	[mil EUR]	[%]	[mil EUR]	50%	60%	70%	80%
Industry	4.000	30	1.200	600	720	840	960
Buildings – households	87.000	10	8.700	4.350	5.220	6.090	6.960
Buildings – tertiary	45.000	60	27.000	13.500	16.200	18.900	21.600
Total	136.000		36.900	18.450	22.140	25.830	29.520

Estimated market potential for refinancing of EES in the EU by 2030

Source: PRIMES-study of the European Commission (2016)

How can financial institutions benefit from REFINE?

- › Conceptual templates of refinancing schemes for different fields of application (public buildings, commercial buildings, SMEs/industry, multi-family houses).
- › Access to standardised contract templates for the EES contract as well as for the refinancing contract.
- › Participation in our regular stakeholder workshops providing the opportunity to get more detailed insight into refinancing concepts and already applied schemes.
- › Matchmaking with EES providers with the aim to negotiate standardised frameworks allowing for bundling of smaller EES projects.
- › Access to a financial rating scheme regarding the risks of EES projects and their preparedness for refinancing.
- › Participation in pilot applications where FIs can test developed instruments and tools and implement refinancing schemes in close cooperation with the REFINE team.

Diversity of refinancing models

Overview of refinancing instruments in EU

Overview of refinancing products in selected EU states



Sale of receivables



The scheme is **used for the implementation of technology measures** for Energy Efficiency Improvement in the field of building technologies, equipment etc. typically, under EPC contracts.



Contract duration is between 8 and 14 years.

Usually **oriented to** public clients or private clients with a very good reputation.



Building renovation as a service

The BEEF model is **centred on financing building renovation as a service** and it provides refinancing for comprehensive building refurbishment with EPC+ or EPC++ contracts. BEEF is SPV managed by specialised fund managers.

Contract duration is between 20 and 30 years.

Oriented towards the private sector.

Sale of receivables



The process

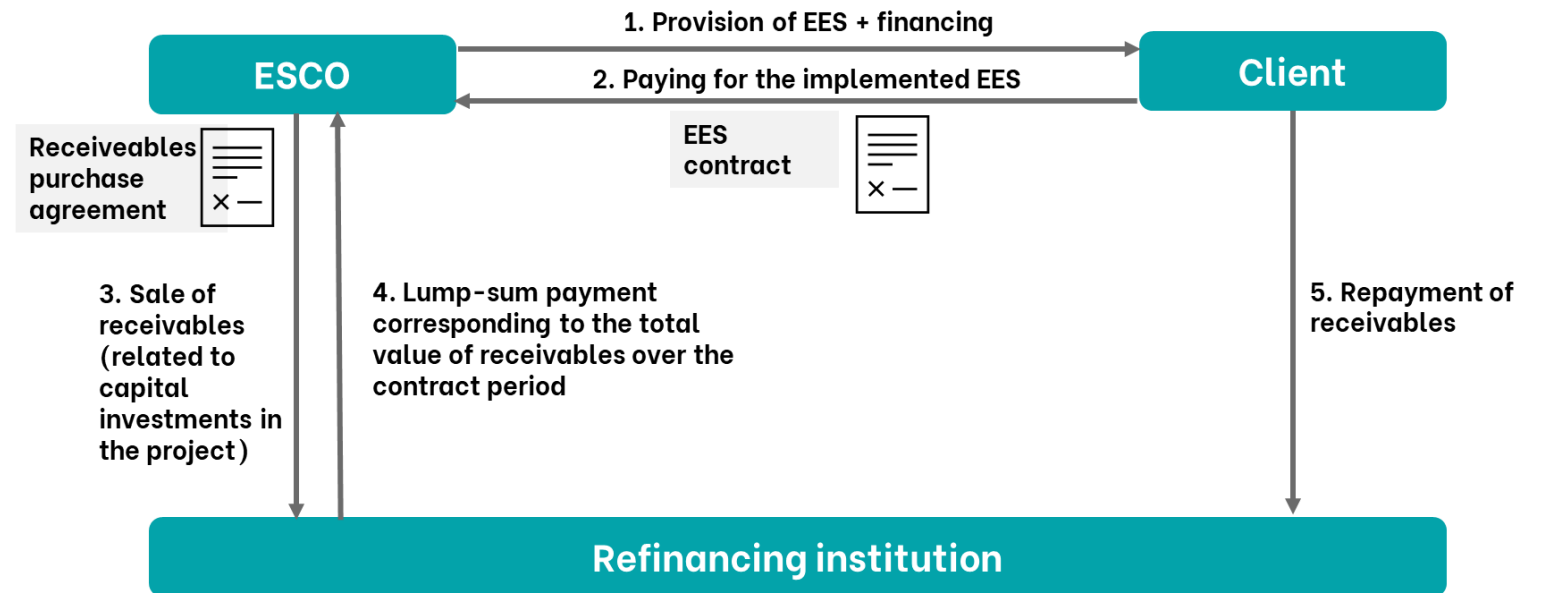
- 1 The refinancing process begins with a negotiation between the client and the EES provider concerning the implemented technology and the service component on one hand; and the approval of sale of receivables (this last part is not legally required in Czechia) on the other.
- 2 Another agreement must be closed between the EES provider and the FI (Financial Institution), concerning the future sale of receivables.
- 3 Once the technology measures have been implemented and the quality tested, the EES client signs a handover protocol confirming the correct implementation of such measures.
- 4 The EES provider acquires the receivables issuing an invoice, charging the client with the cost of the measures' implementation, hence the client confirms its liability to pay the invoiced amount in stipulated payments over the whole contract period.
- 5 The receivables related to the financing of the measures are then assigned to the refinancing institution based on the receivables purchase agreement and the invoice with the repayment schedule signed by the client.
- 6 Finally, the refinancing institution sends a lump-sum payment for the total value of the receivables and the client keeps sending the regular repayment for the total contract duration.

Sale of receivables



Stakeholders

- > **EES (Energy Efficiency Services) providers** are privately owned companies that enjoy a good reputation or hold long-term collaboration relationships with the financial institutions.
- > **Refinancing institutions** are normally banks or financial companies.
- > **EES clients** are generally public administrations, but they can also be private clients with high creditworthiness.



Sale of receivables - risk management



Shared features of the risk management

- › The risk management mechanisms largely depend on the creditworthiness of the EES provider and the client.
 1. **The technical risk** remains with the EES provider. Some sort of guarantee may be required if the EES provider is new to the market or does not provide a high number of successful projects.
 2. **The financial risk** is carried by the refinancing institution and assessed depending on the client's creditworthiness.
- › Regarding the **accountability**, the EES provider invests in the EEI measures and it is reflected on its own balance sheet until the sale of receivables is performed. Usually, the process of the sale of receivables does not affect the EES client's balance sheet.
- › The **VAT taxation** applies only to the technical equipment, its installation and the energy management services provided by the EES, not to the sale of receivables. Also, the VAT related to EEI technology measures installation is due at the moment of invoicing to the EES client.

Building renovation as a service



- › The Buildings Energy Efficiency Facility (“BEEF”) model is a private sector initiative focused on advanced deep renovation of multifamily/social housing and public buildings to deliver a safe, healthy and well-being environment guaranteed by energy savings.
- › This scheme already exists in Latvia (“LABEEF”) and Bulgaria (“BULBEEF”) and currently is in the process of being set up in other countries.
- › It addresses a significant market gap in terms of long-term financing for building renovation (20–30 years). The main bottlenecks identified are the fragmented ownership in the multifamily sector.
- › BEEF is a special purpose investment vehicle managed by specialised fund managers, set up to purchase long term EPC contracts for buildings. Depending on the required minimum energy efficiency improvements, safety and additional measures, there are two kinds of investment packages: EPC+ and EPC++. The focus of the scheme is to deliver “Guaranteed Safety, Health, and Comfort”.

Building renovation as a service

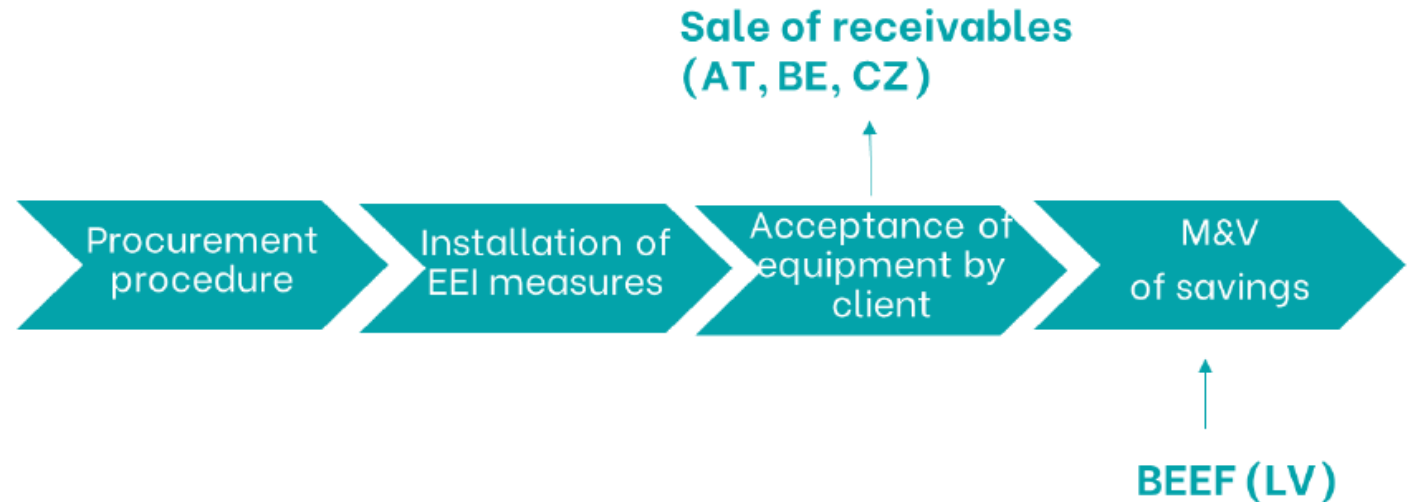


Stakeholders

- > The EES provider can be any company with the professional capacities to take over the required services.

The process

- > BEEF ensures that all the project parameters are met, even before the design stage. Another peculiarity is that the refinancing only takes place after an independent auditor verifies the achieved energy savings of the first heating season.



Building renovation as a service - risk management



The particularities of the residential sector to which this scheme is applied impose certain conditions.

- › The installation of measures is financed by the EES provider; after the first heating season and the verification of its savings, the refinancing institution can purchase up to 80% of the receivables. Subject to the performance of the installation, it can reach 100% on the following years. Although collateral is not required, the complete technical performance and the guaranteed savings are required to the EES provider.
- › Within this scheme, the concept of reverse VAT is introduced, whereby the EES provider becomes liable for VAT only upon issue of monthly invoices to the final beneficiary.

Deployment of refinancing model



Scaling up the refinancing model

- › The wider use of refinancing schemes that have already been implemented is often limited by high transaction costs.
 - › An exception is represented by the BEEF scheme and Czech scheme for public clients that appear to maintain relatively competitive prices thanks to the standardisation of contracts and processes.

Key elements of expanding refinancing model into other, untapped, markets:

1. Standardisation of contract stipulations
2. Rating/scoring-system for quick risk evaluation of EES project
3. Public guarantees instruments for handling project risks



REFINE tools

REFINE Tools

Training module 3



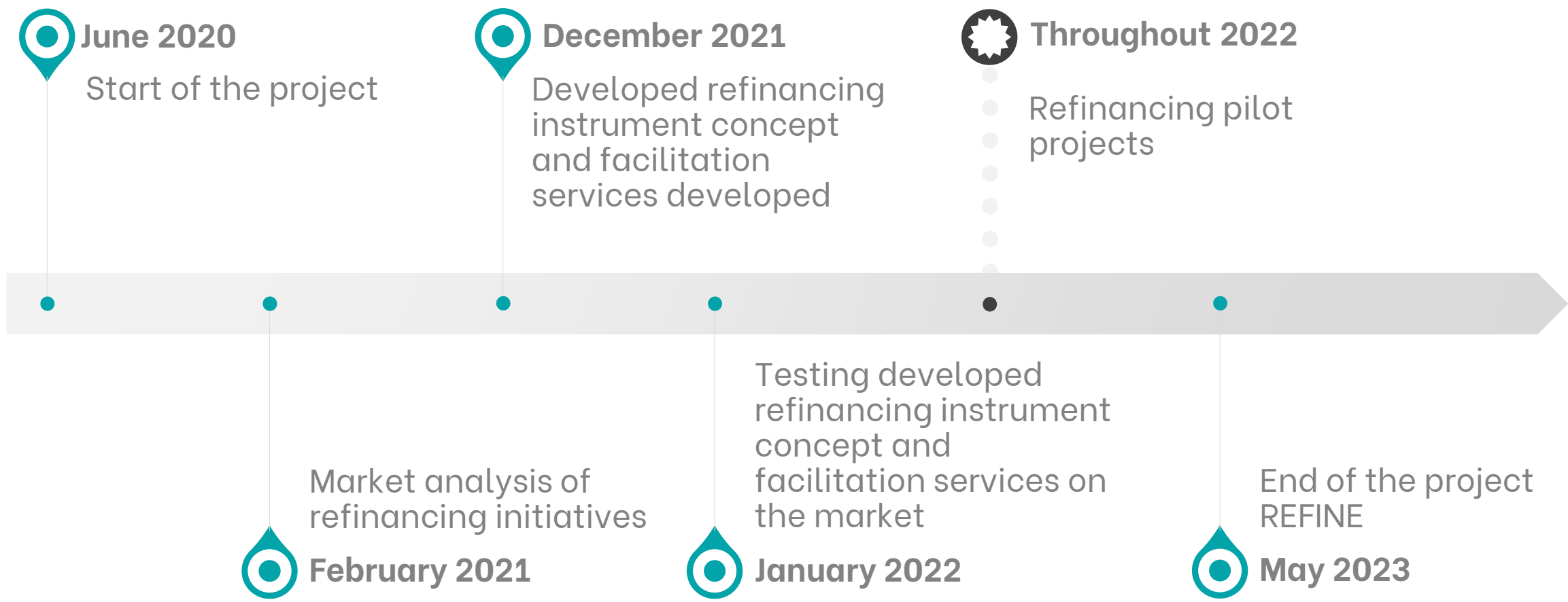
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Introduction

REFINE (Mainstreaming of refinancing schemes as enhancer for the implementation of energy efficiency service projects)

- › Encourage the participation of the private sector in the financing of energy efficiency projects in buildings and infrastructure by using financial products and instruments in order to achieve the energy goals of the EU by 2030.
- › Cooperation of public and private sectors and mobilization of private sector investments (primarily through alternative procurement models such as the Energy Performance Contract and other alternative models).



REFINE objectives

- › Identify the shortcomings of existing financial products and instruments on the market, adapt them to the needs of the public and private sector and test them on the market,
- › Simplify risk assessment procedures,
- › Develop a system for assessing the creditworthiness of debtors,
- › Standardize provisions of energy performance contracts and other alternative models to make the procedures related to securing the financing of energy projects more efficient.

Aim of the training session

- › Getting acquainted to REFINE tools, aimed to be used for deploying the refinancing model into other markets
- › Exploring the possibilities of growing sustainable business opportunities through REFINE tools:
 - › Contract stipulations,
 - › Guarantees,
 - › Rating systems,
 - › Facilitation Services.
- › Training session will address:
 - › financial institutions that have already developed their business strategy towards green finance,
 - › EES providers seeking new financial mechanisms to finance new projects and business ventures.

Training session #3



Introduction



Standardised contract stipulations



Rating system



Public guarantees



Facilitation services

Introduction



Challenges in financing energy efficiency investments



Household clients will reconsider whether they can afford the thermal refurbishment of their home and may decide to postpone the EE investment because other funding needs are more urgent.



Corporate clients analyse the impact of the EE investment on the key credit figures and even if they are economically viable, they will usually give preference to core-business investment options.

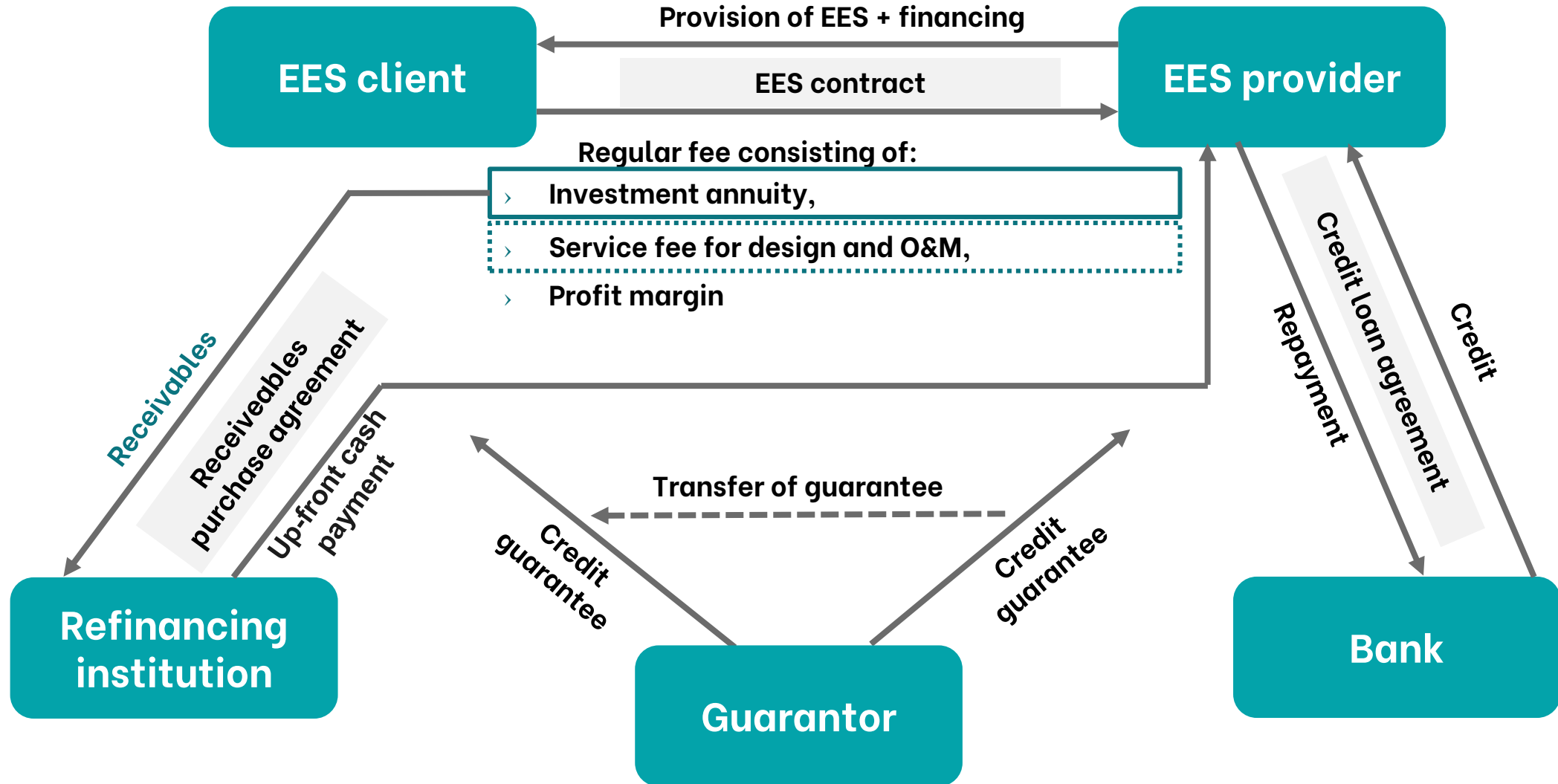


For **financial institutions** EE investments are cumbersome, because they are usually small, complex and cash flow is generated from cost savings and not through sales on the market.



Public clients (municipalities, regional and federal authorities, etc.) are tied by budgetary constraints and EE investments compete with other investment needs.

Refinancing as a solution



Scaling up the refinancing model

- › The wider use of refinancing schemes that have already been implemented is often limited by high transaction costs.
 - › Exceptions are the BEEF scheme and Czech scheme for public clients that maintain relatively competitive prices thanks to the standardisation of contracts and processes.

Key elements of expanding refinancing model into other, untapped, markets:

1. Standardisation of contract stipulations
2. Rating/scoring-system for quick risk evaluation of EES project
3. Public guarantees instruments for handling project risks
4. Facilitation services



REFINE tools

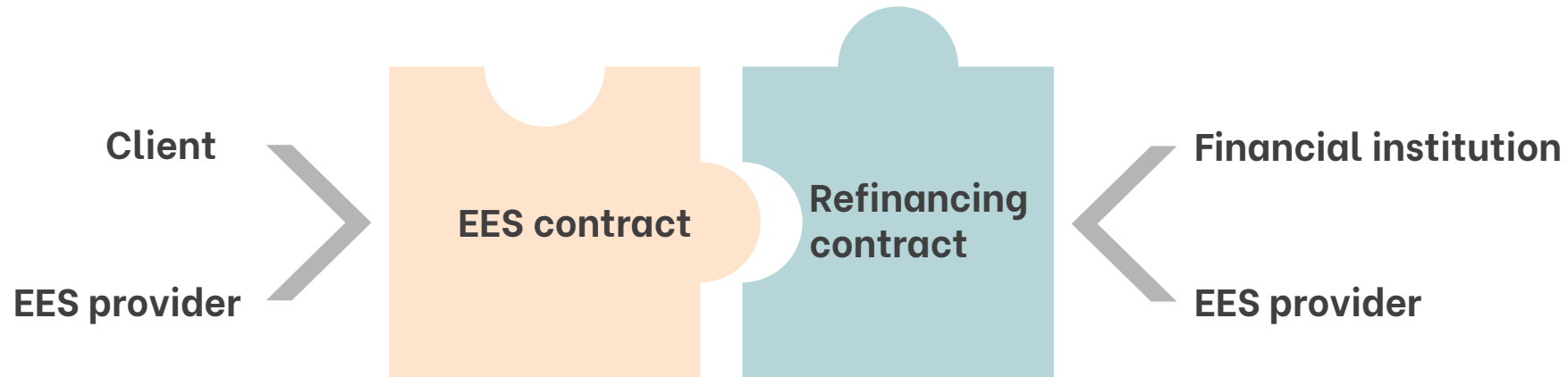
Standardised contract stipulations

Why standardise?

- › Similar but different types of EES contracts prevent the project aggregation.
- › Standardised documentation and contract stipulations can be used by a larger number of stakeholders thus reducing project preparation costs and preparation time and increasing transparency of the procedure.
- › On top of minimising project preparation costs, standardised procedures can enable pooling of smaller projects and bring transaction costs further down.

Standardised REFINE contract stipulations

- > Refinancing schemes usually have two contracts in play and both contracts must go hand in hand to make refinancing possible.



- > REFINE stipulations, if incorporated in EES contracts, could increase the chance of projects being refinanced by a financial institution after they have been implemented.

Standardised REFINE contract stipulations

Suggested set of standardised stipulations is split into two groups:

1. Stipulations whose incorporation is **advisable in energy efficiency service contracts** in order to facilitate their subsequent refinancing by a financial institution.
 - A. **Must-Have-Stipulations** deemed **indispensable** in order **for the EES contract to be refinanced at a later date**. Should they not be included, the chances of the operation not being refinanced at a later stage are high.
 - B. **Nice-to-Have-Stipulations** that, if included in the EES contract, would **increase the chances of it being refinanced at a later date**, but which are not indispensable in order to get a refinancing operation arranged.
2. Stipulations whose incorporation is **advisable in refinancing contracts** signed by a financial institution and an EES provider.

Detailed overview of stipulations is available [here](#).

Standardised REFINE contract stipulations



EES provider obligations

- › The EES provider operates and maintains the installation in order to ensure the savings are accomplished.
- › The contract reflects a compromise and valuation of the savings that the energy efficiency project will attain.
- › The EES provider is allowed to rectify the design of the project in case of poor performance.
- › The EES provider commits to develop any necessary improvements that may increase energy efficiency throughout the life of the contract.



Equipment / Installation

- › The installation or equipment that generates the energy efficiency improvement is insured by a third party.
- › It is clearly stated in the contract which party owns the installation/equipment that generates the energy efficiency improvement throughout the contract duration.
- › It is clearly stated that the responsibility for the design, construction, installation and performance of the equipment lies with the EES provider throughout the contract duration.

Standardised REFINE contract stipulations



Client Obligations

- › The client provides the EES provider with free access to the location where the equipment is installed throughout the contract duration.
- › The client assumes the payments derived from the EPC contract, knowing that they may be affected by factors such as energy price variation, pass-through costs or deductions due to lack of performance.



Other

- › It is clearly stated that the EES provider has a right to transfer its financial rights and obligations to a FI without client consent for the duration of the contract, while the performance, operation and management obligations remain with the EES provider. The client specifically waives its right to object said transfer.
- › It is stated in the EES contract whether credit risks are guaranteed by a public guarantee instrument.
- › It is stated whether the client or the EES project outcome are taxonomy aligned.

Standardised REFINE contract stipulations



Other

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

Standardised REFINE contract stipulations

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

Full overview of suggested contract stipulations, that would enable refinancing can be found on the [dedicated site](#).

Rating system



Why do we need rating system?



As EES investments are not yet considered common and typical investments, risk evaluation of EES projects is even more demanding.



Rigid risk evaluation of EES projects can be attributed to the overall lack of standardised documentation and contractual agreements.



Solution to the problem is a methodological structure of risk assessment agreed by both financial institutions and EES providers, that would lower due diligence costs and hasten the approval process.

REFINE Rating system on refinanceability of EES projects

REFINE rating system:

- › Incorporates elements specific to energy efficiency projects,
- › Reflects its impact in the client's cash surplus derived from energy consumption savings, and how it may increase the client's creditworthiness,
- › Diminishes financial institutions' analysis and transaction costs,
- › Diminishes refinancing costs.

Following risk elements were identified:

- › EES provider risks,
- › Client risks,
- › EES project risks,
- › Project refinanceability risk.

Overview of the REFINE Rating System

Rating System builds upon **3 possible different risk levels** involved in the assessment of an EES project when a financial institution assigns an overall rating from a payment default point of view.



L1 - Standard Financial Institution Default Risk Evaluation:

Everyday traditional default probability evaluation of any financing operation being analysed by a financial institution.



L2 - Energy Efficiency Project Risk Evaluation:

Specific risks and mitigants associated to a project



L3 - Energy Efficiency Service Contract Risk Evaluation:

Risks related to the project not being refinanced that may arise from the absence of recommended standard EES contract stipulations.

L1 - Standard Financial Institution Default Risk Evaluation



3 points of view

- > EES provider
- > Client
- > EES project

Stakeholders “cheat sheet”

- > Items analysed
- > Mitigants
- > Support documentation

	Definition	Type of Mitigants	Relevant Information a Financial Institution wil need when rating the refinancing operation
Rating Evaluation			
EES Provider Rating Evaluation			
Credit Risk	It is the probability of a creditor not meeting its contractual obligations (mainly paying back the financed monies) because of a default event (i.e.- bankruptcy, insolvency, etc.). When the EES provider forfeits an EES contract with a financial institution, the credit risk switches to the client from the financial institution point of view.	<i>Credit Risk Analysis, Credit Hedging, Asset Collateralization, Public Fund Guarantee, Credit Risk Monitoring and potentially Credit Insurance.</i>	<ul style="list-style-type: none"> - EES provider Financial Information (Balance sheet & Income statement previous fiscal years). - Documents related to any mitigant incorporated in the operation.
Operational Risk	It is the risk of the EES provider not having very sound internal procedures (administration, billing, etc.) and it impacting in a difficulty to redeem the customer’s payments.	<i>Sound procedures, appropriate levels of automation and process controls, EES provider procedure audit, operational risk provisions.</i>	<ul style="list-style-type: none"> - Standard Industry certification (ISO, etc.) - EES Track record in EE projects - Procedure audits
Client Rating Evaluation			
		<i>Credit Risk Analysis, Credit</i>	

L2 - Energy Efficiency Project Risk Evaluation



Risk Items

- > Weighted
- > Descriptive

Expert Rating System

- > 3 Qualitative levels (Low-Medium-High)
- > Qualitative or Quantitative scenarios associated
- > Mitigant incorporation
- > Final Score – Global Score

Risk Item	Weight	Description	5 Low Risk	3 Medium Risk	1 High Risk	Initial Score	Mitigants	Final Score	EES Clause (L3)	
EES Provider			30%						4,6	
Experience as an EES provider / in Energy Efficiency Services	30%	It refers to how experienced is the company in the energy services sector.	Experienced	Not very experienced	No experience	5		5	N/A	
The EES provider is experienced in the segment in which the EEP is implemented	20%	It refers to how experienced is the company in the sector in which the energy efficiency project is implemented (buildings, lighting, ...)	Experienced	Not very experienced	No experience	3		3	N/A	
The EES provider has experience with the applied technology	20%	It refers to how experienced is the company with the technology used to implement the EES contract	Experienced	Not very experienced	No experience	5		5	N/A	

L3 - Energy Efficiency Service Contract Risk Evaluation



Two types of stipulations

- > Must have
- > Nice to have

Two types of contracts

- > EES contracts
- > Refinancing contracts

EES PROJECT REFINANCEABILITY [EES Contract Checklist]

1.- The following stipulations **must** be included in an EPC Contract to make sure the project is refinanced without recourse by a Financial Institution. Otherwise, it won't be refinanced.

- The contract reflects a compromise and valuation of the savings that the energy efficiency project will attain.
- The contract reflects how said savings will be measured against a baseline energy consumption calculation prior to the installation. The methodology and frequency of the energy consumption calculation after the installation will be based in internationally accepted standards.
- The contract states how the performance on savings (shortfall or excess) reflects on the payments due by the client.
- The ESCO operates and maintains the installation in order to ensure the savings are accomplished.
- The ESCO is allowed to rectify the design of the project in case of poor performance.
- The ESCO may transfer financial rights and obligations to a third party without client consent
- The Installation or Equipment that generates the energy efficiency improvement is insured by a third party
- It is clearly stated whether the installation/equipment may be used as collateral in a future financing operation.
- It is clearly stated that the responsibility for the design, construction, installation and performance of the equipment lies with the ESCO throughout the contract duration.
- It is clearly stated in the contract which party owns the installation/equipment that generates the energy efficiency improvement throughout the contract's duration.
- There is an independent third party that audits and validates the energy efficiency project from a technical point of view, as well as the baseline energy consumption calculations and the energy consumption savings that the project will achieve.

Energy Efficiency Service Project Rating Dashboard

> Situation overview

- > Status
- > Degree of progress
- > Score
- > Process associated
- > In evaluation

Full overview of suggested EES risk evaluation can be found on a [dedicated site](#).

ENERGY EFFICIENCY PROJECT RISK ANALYSIS

	Status	Degree of progress	Score		FI Traditional Rating	EE Project Rating
L1 Standard FI Default Risk Evaluation		<div style="display: flex; justify-content: space-between; width: 100px;"> 25% 50% 75% 100% </div> <div style="background-color: #ccc; height: 20px; width: 100%;"></div>	n/a	Ex ante assessment	<input type="text"/>	<input type="text"/>
L2 Energy Efficiency Project risk		<div style="display: flex; justify-content: space-between; width: 100px;"> 25% 50% 75% 100% </div> <div style="background-color: #90EE90; height: 20px; width: 100%;"></div>	3,2 [1-5]	Pre-work assessment	<input type="text"/>	<input type="text"/>
L3 Project Refinanceability risk		<div style="display: flex; justify-content: space-between; width: 100px;"> 25% 50% 75% 100% </div> <div style="background-color: #ccc; height: 20px; width: 100%;"></div>	n/a	Post-work assessment	<input type="text"/>	<input type="text"/>
				Refinancing assessment	<input type="text"/>	<input type="text"/>

Public guarantees



Why do we need public guarantees for EES projects?



The major impediments for financing EES projects are counterparty credit risks and technical performance risks.



From the perspective of a financial investor who is purchasing receivables against the customer, two risk types may result in cash shortfall:

- 1.the customer does not pay because he does not have the money to pay (credit risk),
- 2.or he does not pay because the supplier did not deliver energy savings or energy supplies as contractually agreed (performance risk).

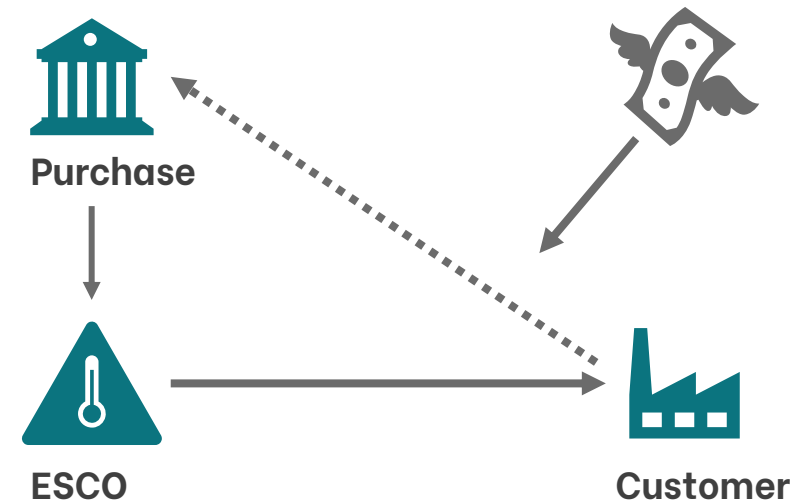


The objective of state-backed guarantees for financing and refinancing EES investments would be to speed up CO2 reduction in the buildings and industry sector, thereby contributing to climate policy objectives.

Ideal public guarantee

- › The “ideal” guarantee for refinancing EES investments via forfeiting receivables would be an unconditional bank guarantee which is covering exactly any scheduled amount when due.
- › Guarantees covering the credit risk of a financial investor can facilitate capital-market based refinancing schemes for EEI investments if they are:
 - › Unconditional,
 - › Assignable,
 - › Callable when payment becomes due.

Full overview of how-to set-up such guarantee can be found on [a dedicated site](#).



The structure of combined private and public guarantees

- › Unconditional payment guarantees are not provided directly by public guarantee schemes. But if a public shortfall guarantee is available, a payment guarantee by a private bank can be structured using the cashflow shortfall guarantee as a credit risk backstop. When refinancing by selling the receivables to financial investors is secured, a public loan guarantee will be easily available on a working capital loan to the supplier or the EES provider for financing the construction phase.
- › The steps and the structure of combined private and public guarantees:
 1. The EES provider applies for a guarantee issued by the public guarantee agency for a working capital loan by its bank. The loan is used to finance the EE investment to fulfill the investment obligation of the EES provider in the EPC contract with the customer.
 2. After installation, the EE investment is tested for compliance with the performance promise in the EPC contract and commissioned by the customer. The customer starts the payments for the delivered energy or energy savings.
 3. The EES provider applies for cash shortfall guarantee at the public guarantee agency, and asks his bank to provide a payment guarantee to the financial investor who is offering to purchase the receivables against the customer. As a security for the payment guarantee, the EES provider assigns the cash shortfall guarantee to the bank.
 4. The purchase price for the receivables is used by the EES provider for repayment of the working capital loan (refinancing) to his bank. The loan guarantee is canceled accordingly (or may be utilized for another working capital loan on a revolving basis).
 5. If the payment guarantee by the bank is called, the guarantee payment can be recovered from the public cash shortfall guarantee. Based on the guarantee contract between the EES provider and the bank, the bank has recourse against the EES provider for all amounts, which are not recovered from the public guarantee.

The structure of combined private and public guarantees

- › In this structure, the public guarantee would cover the fundamental risk of a cashflow shortfall for the supplier by a payment default of the customer with 80% of this risk. Based on this guarantee backstop (by assignment of the guarantee claims by the EES provider to the Bank), the Bank would cover the liquidity risk of pre-financing the payment default by the customer (100%) and would have recourse against the EES provider for the 20% deductible and for possibly lower payments by the public guarantor because of cost savings.. All obligations concerning reporting, monitoring etc. would remain with the EES provider as the original beneficiary of the public guarantee.
- › This structure is possible also if the guarantee claim on the public guarantee can only be made if the customer gets insolvent. However in this case the risk for the EES provider would be higher because prefinancing by the Bank could be necessary for much longer times; and in case the customer does not get insolvent in spite of the payment default the public guarantee cannot be called at all.
- › A part of the risk (corresponding to the risk which is not covered by the cash shortfall guarantee quota) will remain with the EES provider. Therefore the structured guarantee approach will only be feasible for EES providers with sound creditworthiness and equity endowment.

The role of public guarantee funds

- › Setting up a European or national guarantee funds for EE projects would be a game changer, however there are some opposing views to it.

+ Advantages

- › It would enable access to the initial loan at first, and then, also cover the financial risks of the refinancing institutions, thus allowing easier refinancing.
- › Public guarantee funds should cover first of all the credit risk of the client; however the guarantee fund could also cover some of the technical risks (mainly achievement of forecasted savings) at least in the initial phase of an EES project.

- Disadvantages

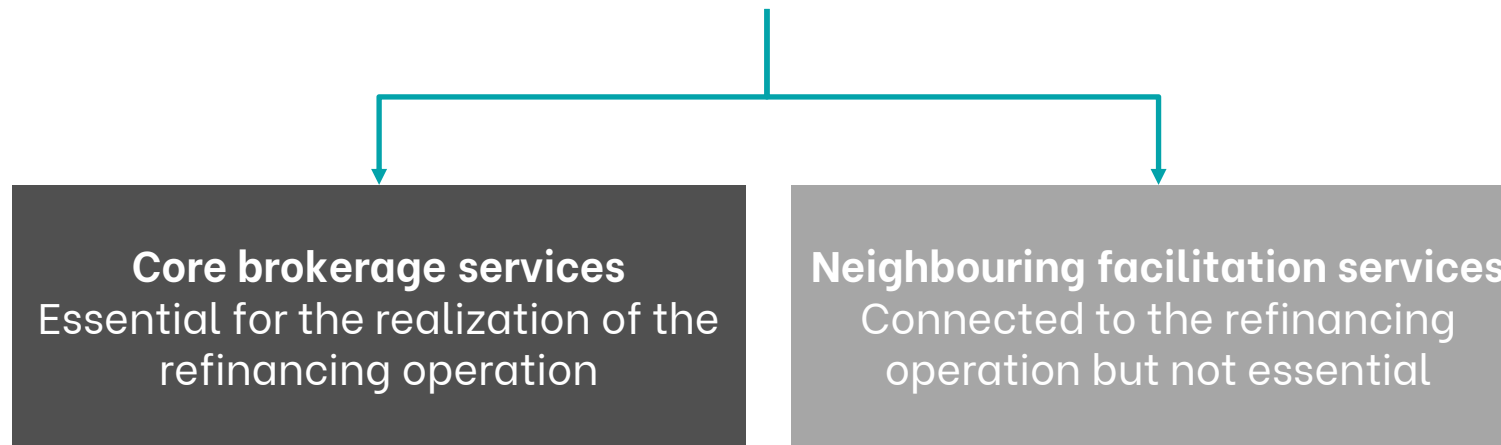
- › Public guarantee fund should not be coupled with obtaining the initial loan to implement EES projects - linking them would be a bridge too far, as it might complicate things.
- › In some countries (e.g. Czechia) a guarantee fund to refinance EES projects may be redundant, as the current process of sale of receivables is working well, at least for the case of public clients.

Facilitation services



REFINE facilitation services

- > Standardised brokerage services provided by facilitators to foster EES.
- > These services can differ on their fit across the different stages of the refinancing process and on the nature and the degree of connection with the refinancing operation.
- > REFINE consortium has developed a number of facilitation services to support interested parties in refinancing energy efficiency projects.



REFINE facilitation services

Types of facilitation services:



Matchmaking between refinancers and clients,



Estimation of the operation returns,



Due diligence during the refinanciability check,



Concluding the operation.

- > Each partner offers facilitation services based on the local market and stakeholder needs.
- > To find out more about **how REFINE partners can support you** in facilitating your refinance-based investment, contact us.

REFIN

<https://refineproject.eu/>



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