Financing Energy Efficiency Services (EES)

eLearning Module #1

REFINE

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

Introduction to EES market

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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

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

1. guaranteed energy savings and/or provision of the same level of energy service at a lower cost.
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.

ESCO (energy service company) is another term frequently used in this context, but…

this term is mostly connected to the provision of energy performance contracting (EPC) or energy supply contracting (ESC), which are specific contracting models of EES.

Key actors commonly involved in the EES projects

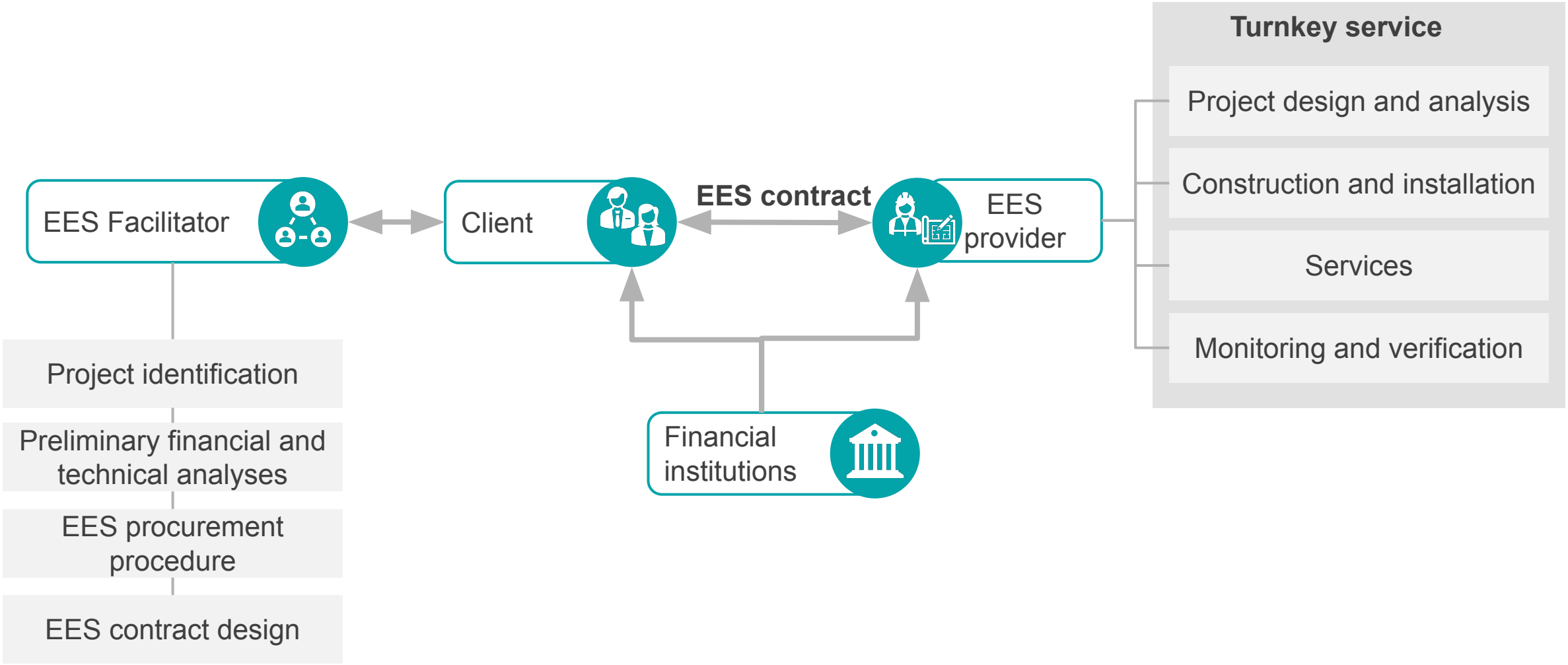
EES providers: a heterogeneous group including ESCOs, utilities, technology providers, consulting/engineering firms and others.

Financial institutions: Commercial or public banks are the main financers for energy efficiency projects in most of the countries, while independent specialised funds are less present.

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

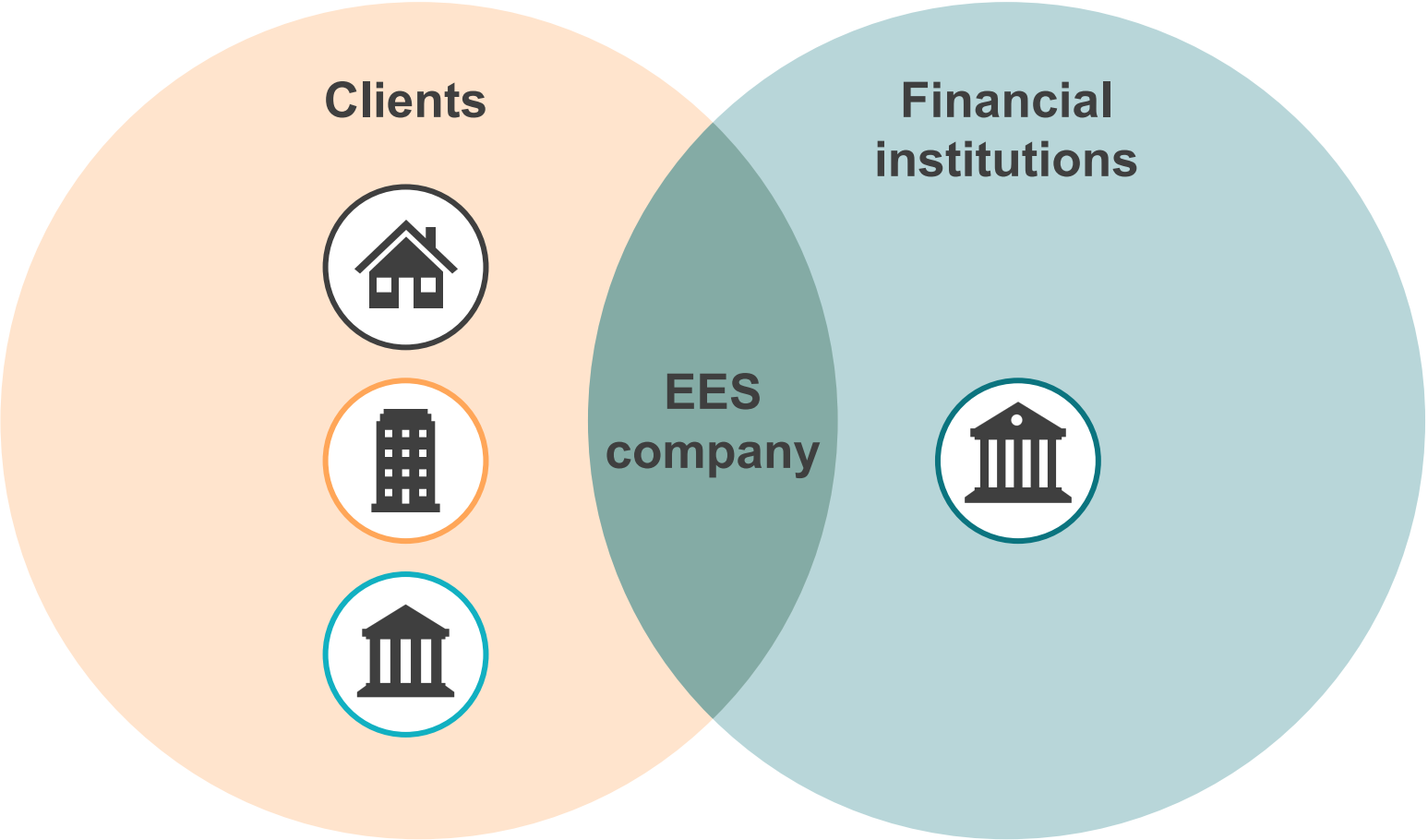
Household clients:
„Should I buy a new car, go on vacation or retrofit the house?"

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



EES providers have to respect their own 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.
Work, supply or service are paid through financial savings.

Energy Supply Contracting is a contractual arrangement **for the efficient supply of energy**. The goal is to bring a reduction of final energy demand, although efficiency gains are usually limited to the energy supply system.

Integrated energy contracting (IEC) is a **combination** of energy efficiency measures with energy supply contracting.

Energy Supply Contracting

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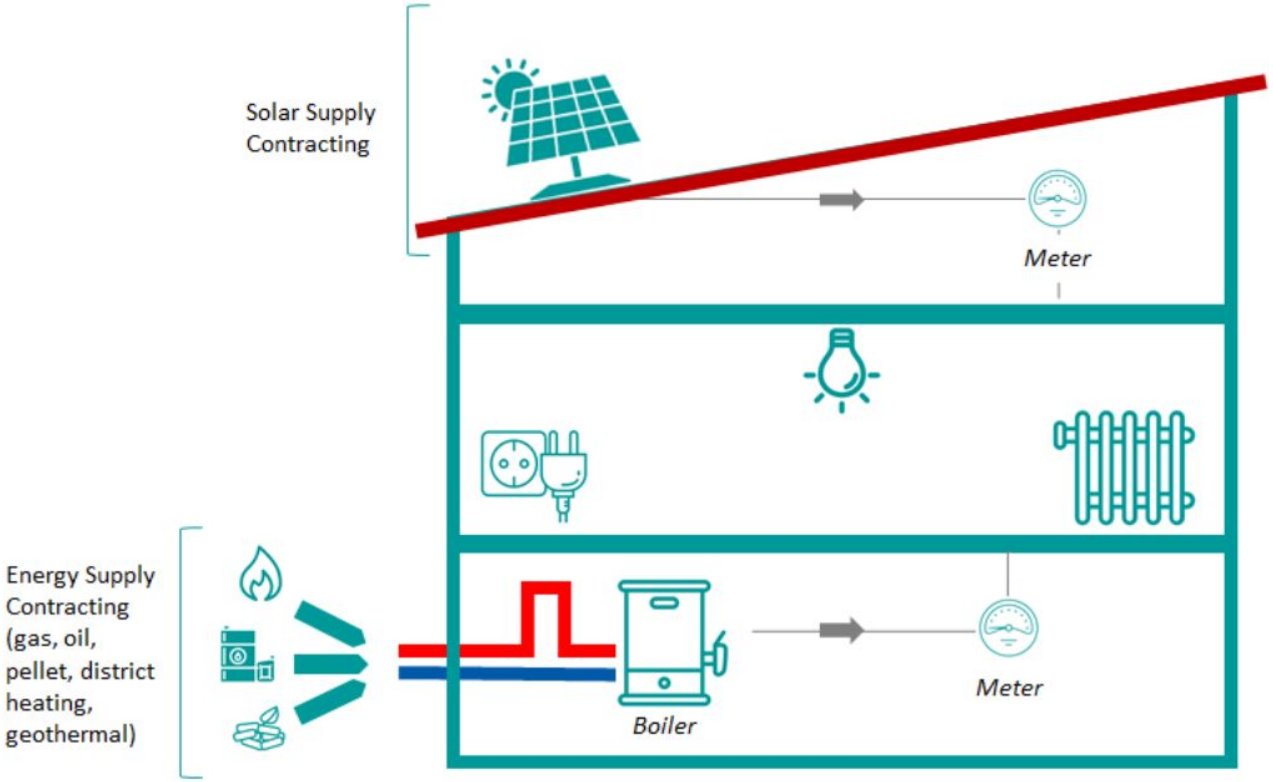
Energy Supply Contracting (ESC)

The building owner outsources technical and economic risks related to energy supply activities to a professional party (ESCO) and buys energy service instead of individual components necessary for ensuring continuous energy supply.



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

Energy Supply Contracting (ESC)

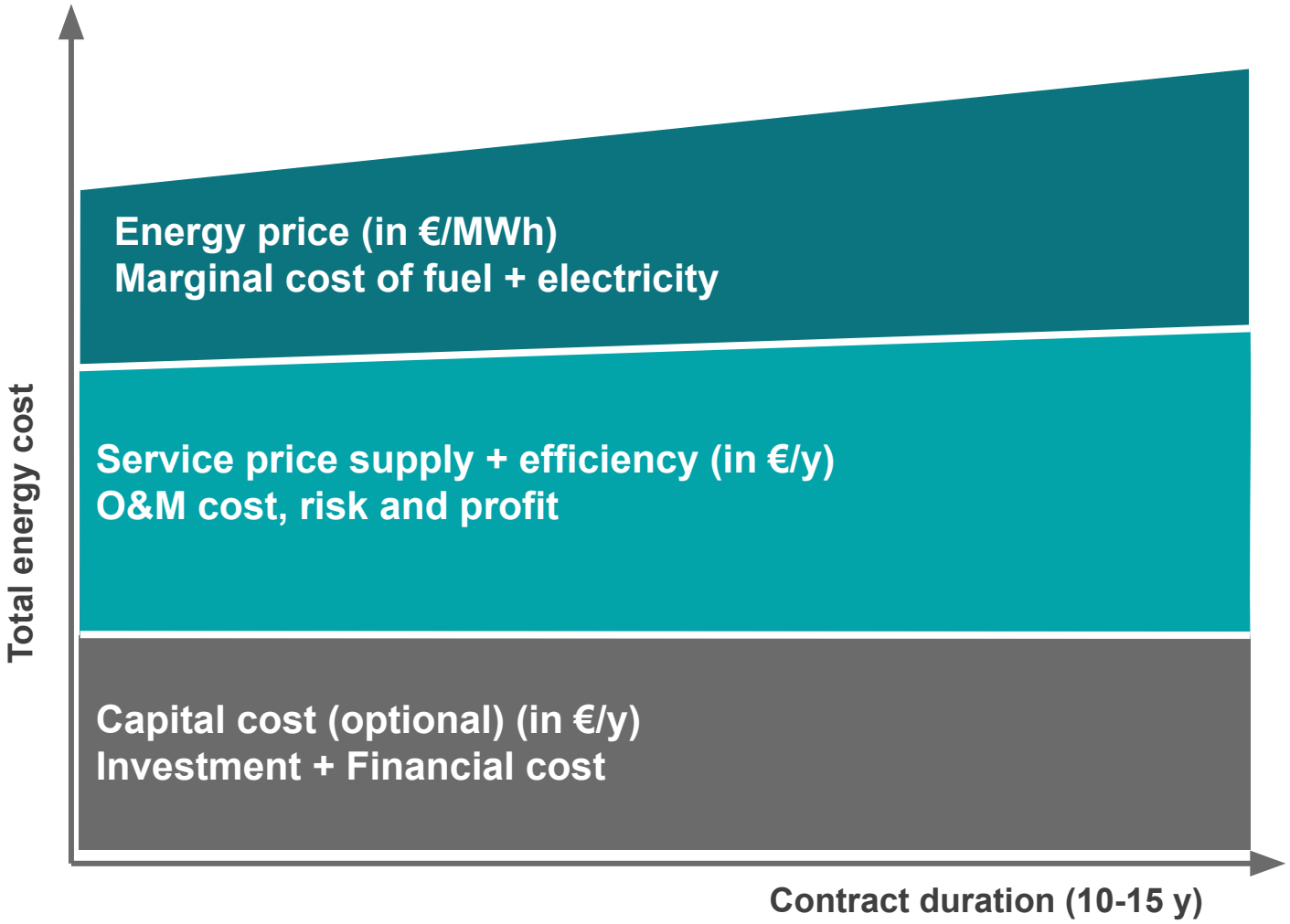
ESCO's remuneration is performance based and **depends on the useful energy output delivered.**

The building owner pays for the energy delivered to the building.

Energy efficiency improvements in the building → lower bills for energy supply

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

Revenue model and cost structure



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Energy Performance Contracting

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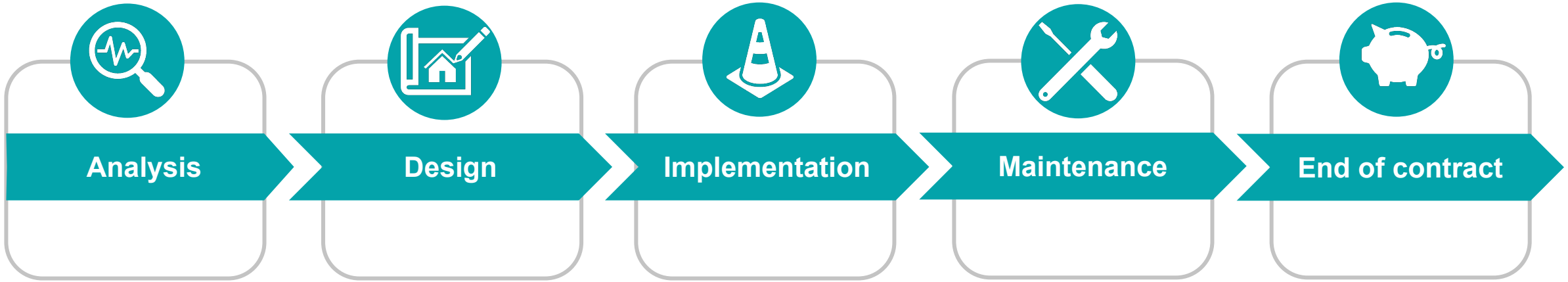
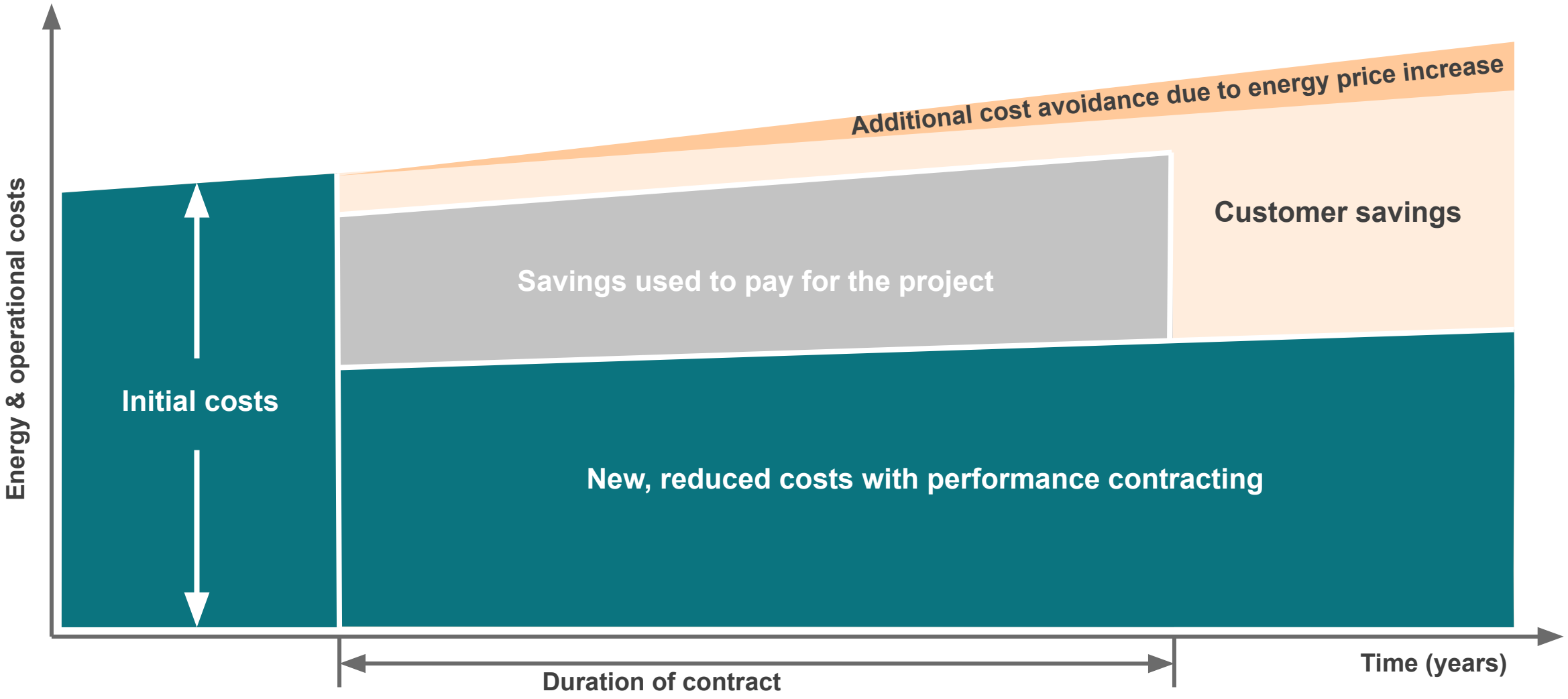
Energy Performance Contract (EPC)



EPC benefits

- All implemented energy saving measures are financed through the realized savings without additional costs.
- Implemented by one company which assumes most of the associated financial and technical risks.
- Guarantee provided through EPC eliminates risks for the end user.

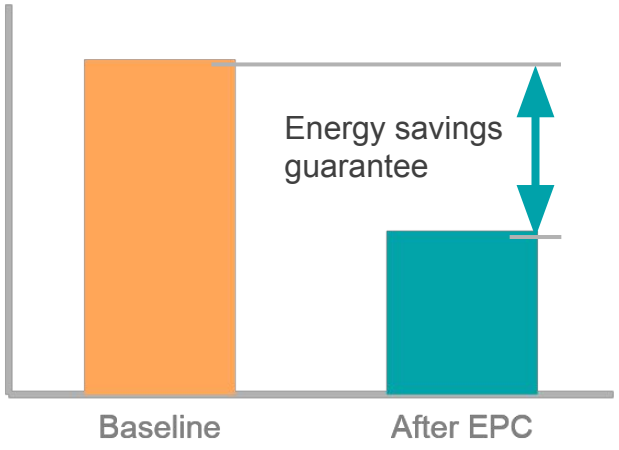
EPC business model

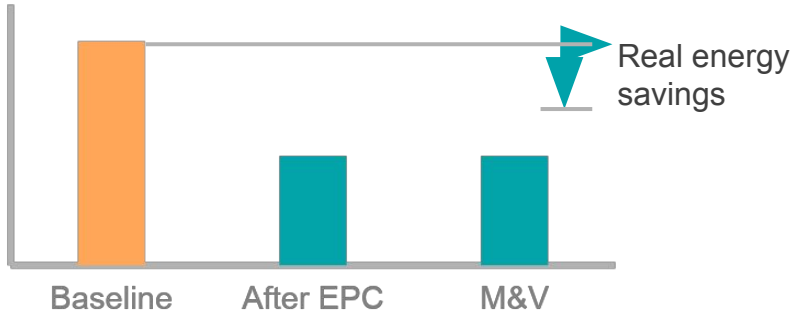


Source: https://renovation-hub.eu/business-models/enhanced-energy-performance-contracting/

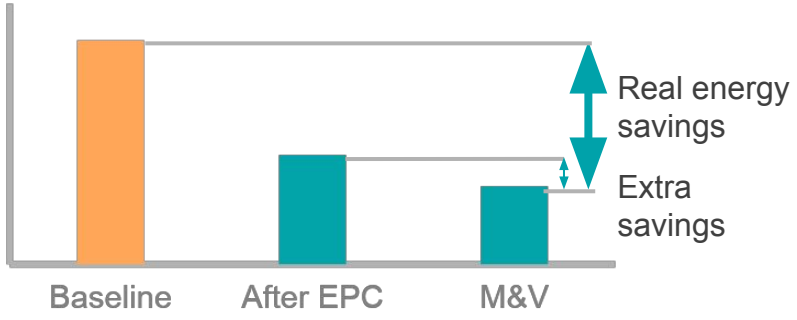
Energy Savings guarantee

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





ESCO compensates missing energy savings (Financial risks)



The revenue from extra energy savings is shared between the ESCO and the Client.

Energy savings outlined in the EPC → **Measurement and Verification** → **Settlement**

EES financing

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Selecting appropriate financial product

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

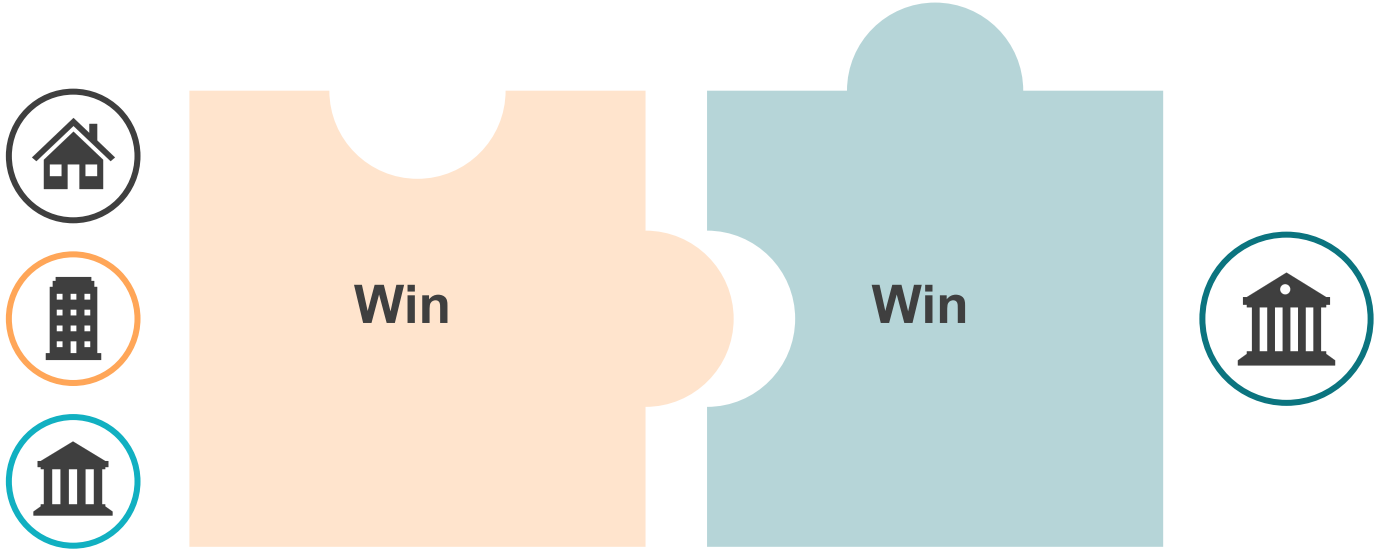
- Cost of financing
  - Interest rates, fees and terms applicable to the Client
  - Interest rates, fees and terms applicable to the EES provider
- Creditworthiness of the Client and the EES provider
- Available equity, collateral and securities of the Client and the EES provider
- Taxation
- Balance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

Existing barriers to EES finance uptake

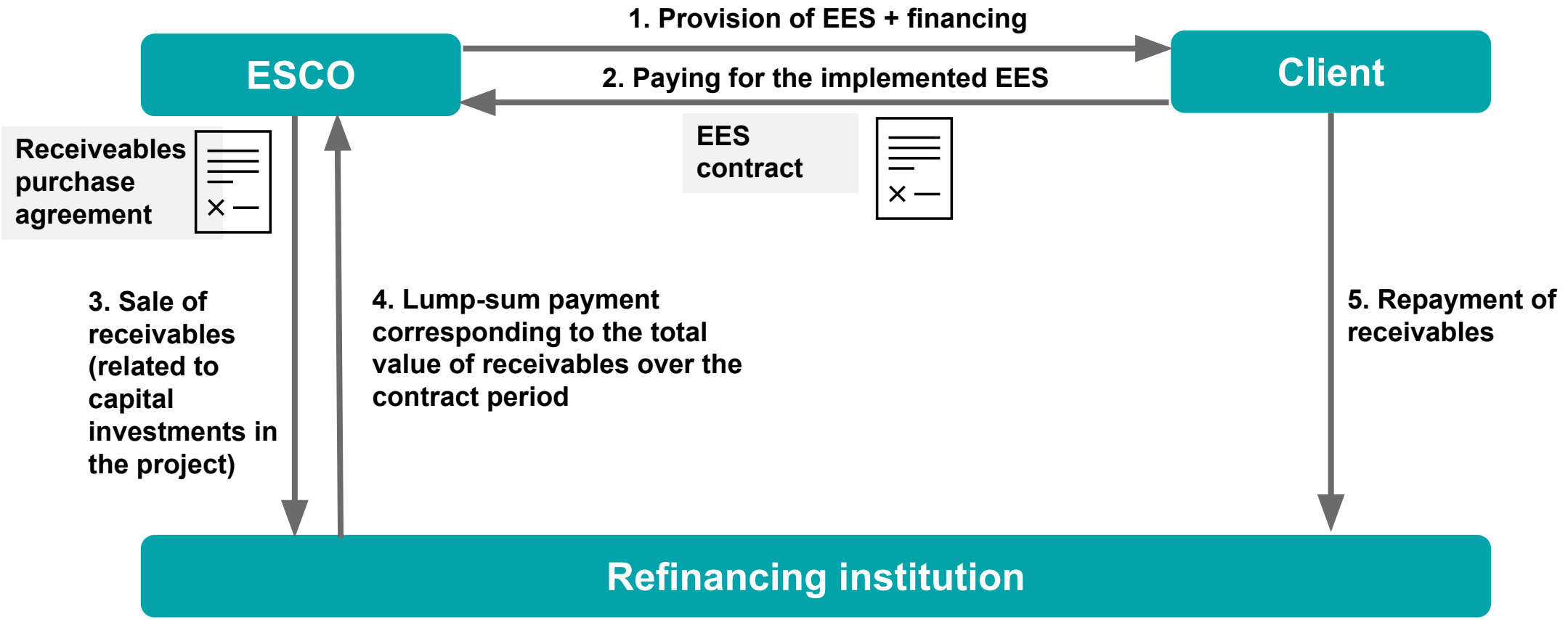
- Lack of performance data of energy efficiency investments makes the benefits and the financial risk harder to assess.
- Fragmented and atomised market over many smaller projects, which increases transaction costs.
- Financial institutions consider EES projects complex and have high perceived technical and business risks.
- 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 model as an alternative



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