

# DEEP RENOVATION OF BUILDING PORTFOLIOS - IMPLEMENTATION MODELS FOR ACCELERATION

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REFIN 

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# Financial barriers as part of the game...

- › Many studies confirm the existence of huge amounts of economically attractive, yet untapped potential for EE-projects.
- › Many different barriers
  - › lack of information on potential
  - › lacking personnel resources
  - › lacking trust in EE experts
  - › etc.
- Limited access to finance is just one of the barriers



# Specific case of building portfolio owners (and managers)

- › Climate protection targets become more important
- › Need to avoid stranded investments and to increase the value of the portfolio
- › With increasing ambitions/targets financial limits become more probable
  - › More deep renovations per year
  - › Better quality per deep renovation



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



**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.



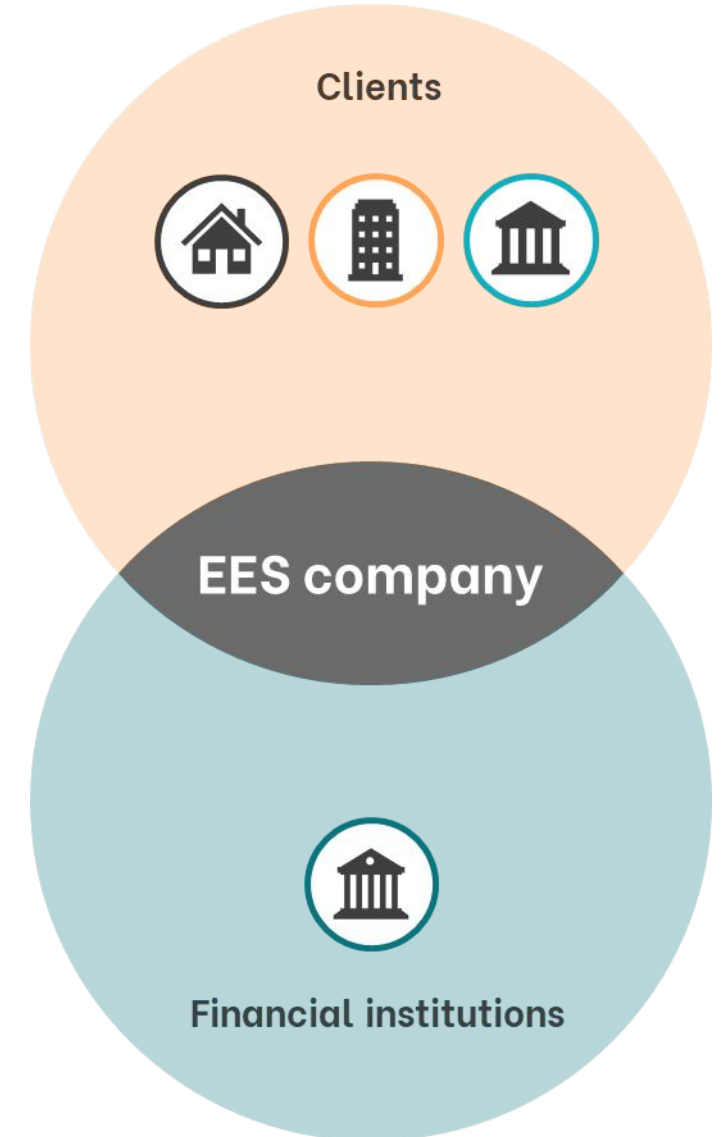
**Household clients** will reconsider whether they can afford the thermal refurbishment of their home and may decide to postpone the EE investment because other funding needs are more urgent.



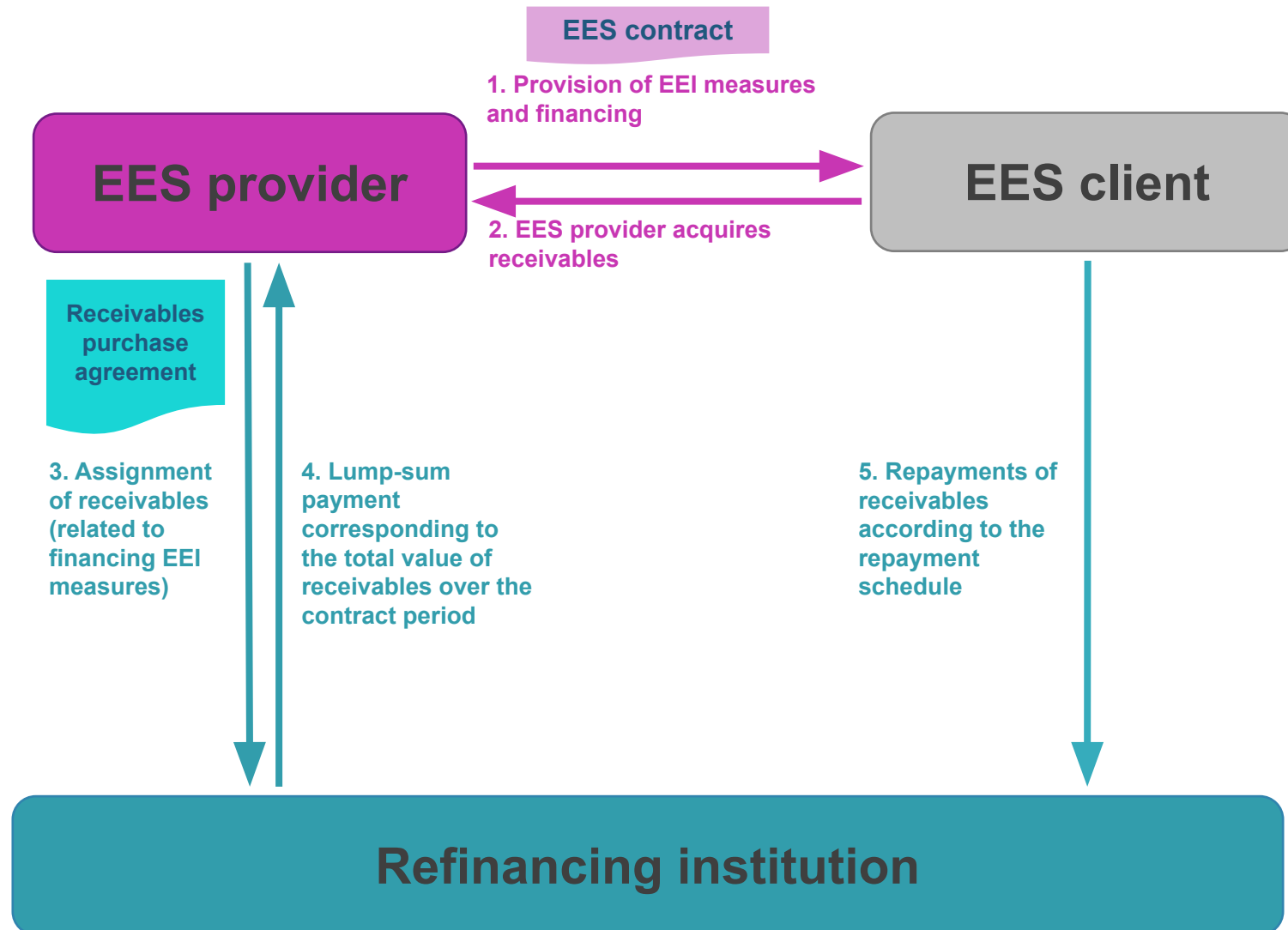
# The role of EES providers

EES providers can „bridge“ financing gaps to a certain extent

- › EES providers can prefinance the investment and get repaid through yearly remunerations which are dependent on the actual savings achieved (Third Party Financing)
  - › Either the client or the EES provider (ESCO) have the investments in their balance sheets.
- **EES providers may soon reach their own credit limits and will have to reject further EES projects**
  - **Financing may become a barrier for further growth**



# Refinancing of EES business - How does it work?



# Refinancing schemes as channel for additional “Green Financing”

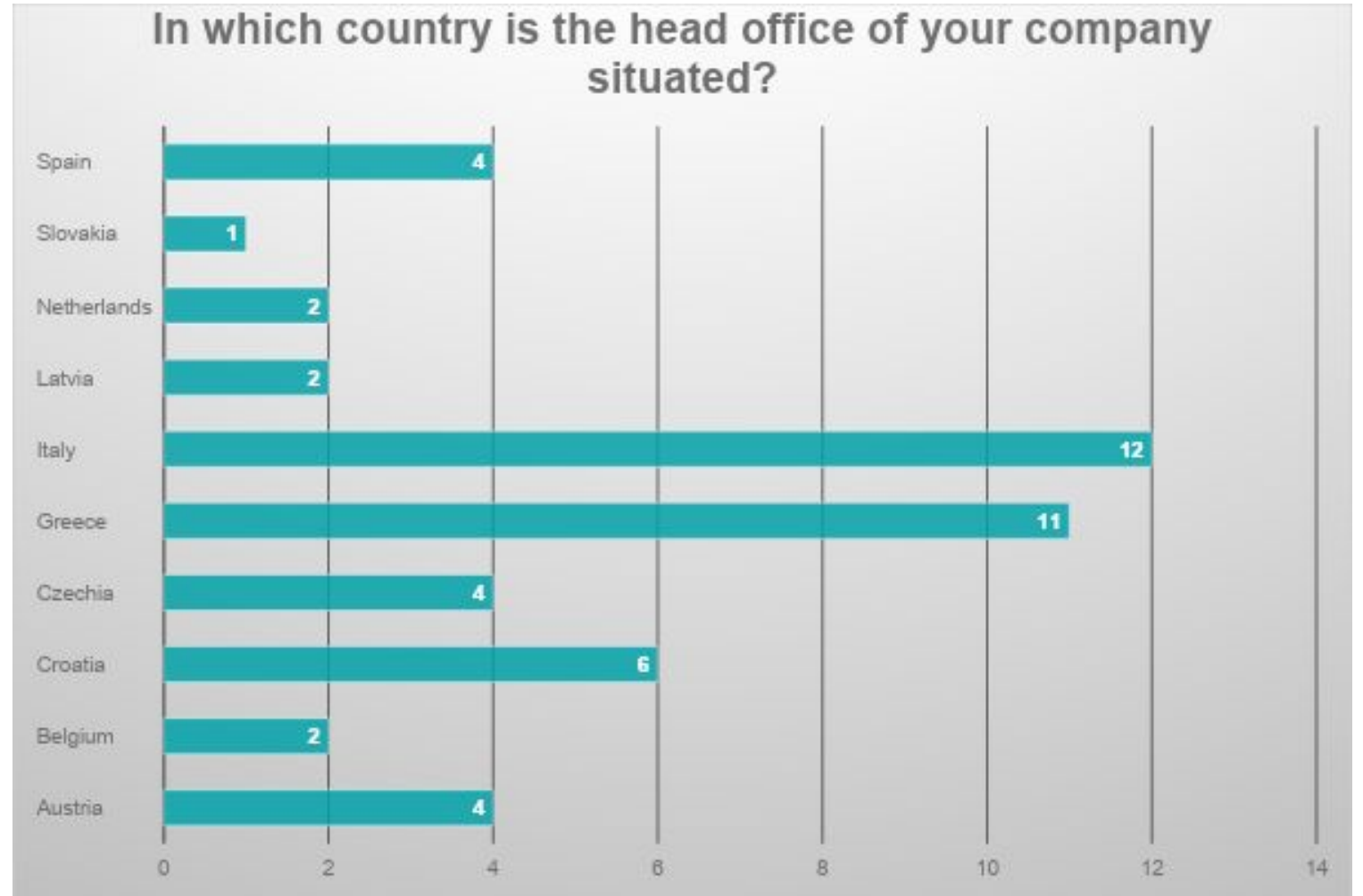
## Supply of financing:

- › They are many financial institutions (FI) that have formulated strategic focus areas around green and sustainable financing
- › But – in contrast to investments in the renewable energy sector – FIs perceive serious shortcomings in EE investments
  - › EE investments are complex and integrated into other economic activities
  - › EE investments are granular and comparably small
  - › EE investments are “brain-driven”
  - › Cash-flow comes from savings and not from sales on the market
- Refinancing can be a good channels through which the supply with **additional** capital could really stimulate renovation markets (beyond ordinary company loans or mortgage loans)

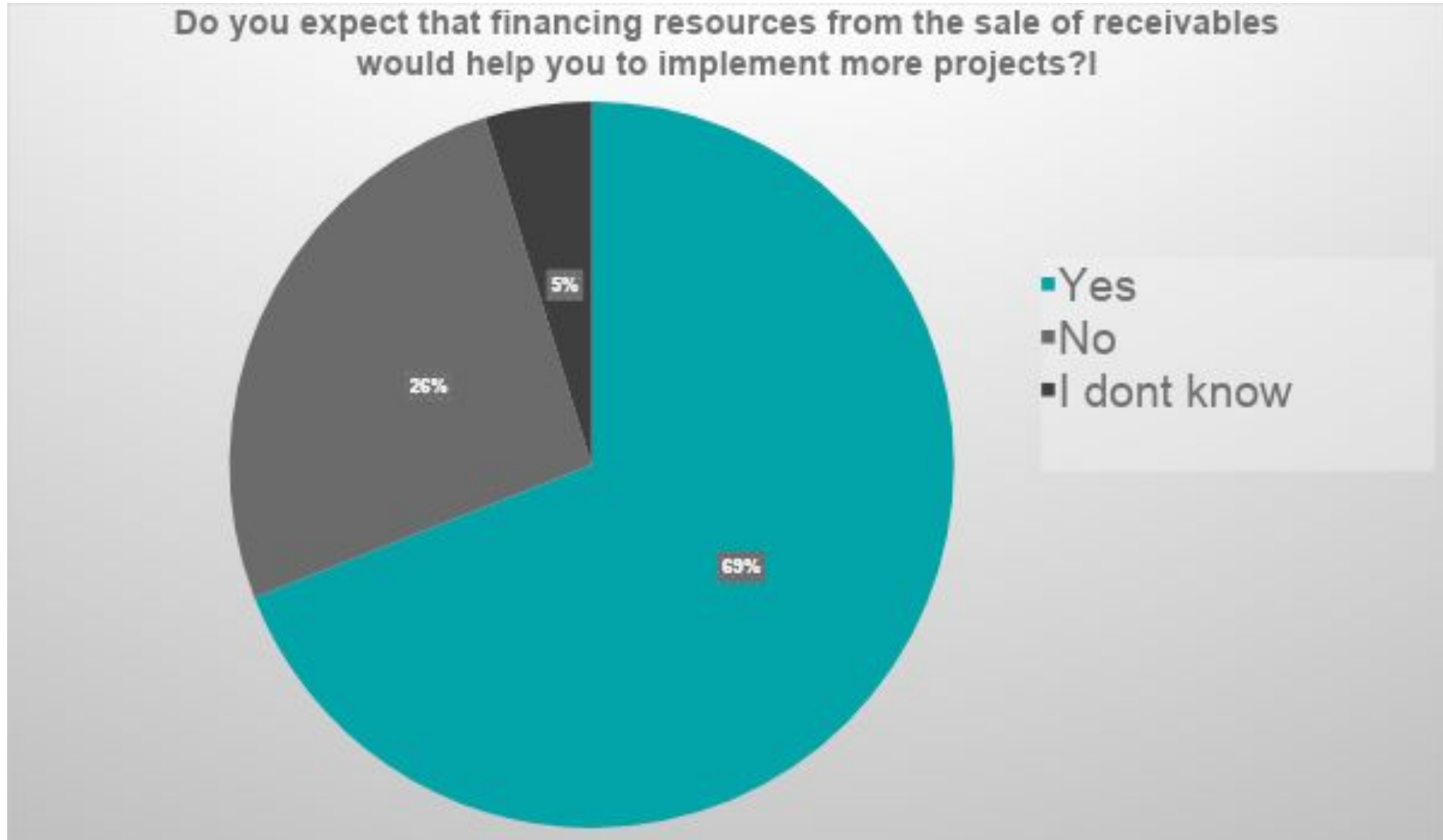


# REFINE Survey: Overview on participating EES providers

- › The Survey was conducted between January and May 2022
- › Observations: 48
- › Countries: 10



## REFINE Survey: Interest in refinancing by EES providers





# Overview on refinancing schemes in the EES business in selected EU MS



## 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 residential building sector.

# Different application fields for refinancing schemes in EES business

Our topic for today



	Deep renovation	EEl measures	ESC
Residential buildings (MFH)	A1	(B1)	C1
Public buildings / facilities	A2	B2	C2
Private non-residential buildings	A3	B3	C3
SMEs/industry	(A4)	B4	C4

**No one-fits-all approach** because of different priorities of the clients!

## Scheme A1: Deep renovation of residential buildings

Element	Description
Application field	Comprehensive refurbishment of multi-family residential buildings
Market opportunities	Generally, comprehensive refurbishment of residential buildings suffers from limiting regulation in housing laws, from the investor-user-dilemma and from lacking affordability at the side of home-owners. At the same time, comprehensive refurbishment in particular offers many non-energy benefits. Against this background, EES will be most attractive in those segments where there is no pronounced investor-user dilemma (condominium houses), where there are some affordability barriers and where the regulatory framework facilitates decision processes as much as possible (co-decision rights, obligation to tolerate investments etc.). At the same time, we assume that there is a need for public support (investment grants) to push forward these kind of investments.
Collateralisation	Currently, the BEEF model (as applied in Latvia) does not require collateralisation. The refinancing institution relies fully on the payment history of the home owners and on the ability of the housing management to collect payments. Depending on the regulatory framework, however, it may be possible to collateralise the investment of the EES provider, and consequently the refinancing arrangement.
Handling of performance risks	Long-term collaboration with EES provider Refinancing only after 1-2 years of verified performance Only up to 80% of the total receivables are purchased Step-in rights of refinancing institution
Collection of payments	Through the EES provider or through the housing management company as part of the operating costs statement
Off-balance sheet financing	not relevant
Non-public debt financing	not relevant
Organisational set-up	Institutional set-up with predefined roles, responsibilities and work processes is recommended (as defined in chapter 2.8)

## Scheme A2: Deep renovation of public buildings

Element	Description
Application field	Comprehensive refurbishment of public buildings
Market opportunities	Generally, we observe that public building owners tend to implement comprehensive refurbishment projects in a conventional way by “self-implementation” as long as they can afford. Therefore, we assume that an EES targeting at this application field is attractive mainly to smaller public authorities (municipalities) that lack professional real estate management. For larger portfolios, an EES may lead to a pull-forward effect, i.e. the number of comprehensive investment projects per year may increase.
Collateralisation	The need for collateralisation may be low, depending on the creditworthiness of the public authority. A public guarantee to cover credit risks would be the easiest and probably most cost-efficient way to safeguard payments to the refinancing institution.
Handling of performance risks	Long-term collaboration with EES provider Refinancing only after 1-2 years of verified performance Only up to 80% of the receivables are purchased Step-in rights of refinancing institution
Collection of payments	EES provider will be responsible for invoicing - a certain part of the invoiced amount is payable directly to the refinancing institution
Off-balance sheet financing	(Most probably) not relevant
Non-public debt financing	It would be an attractive driver for public authorities to get offers that fulfil the EUROSTAT requirements without causing high extra-cost, but according to our understanding this seems to be difficult given the current framework conditions
Organisational set-up	Institutional set-up with predefined roles, responsibilities and work processes is recommended because of high capital investments.

## Scheme A3: Deep renovation of private non-residential buildings

Element	Description
Application field	Comprehensive refurbishment of commercial buildings
Market opportunities	<p>Similarly to public building owners, also private owners of commercial buildings tend to implement comprehensive refurbishment projects in a conventional way by “self-implementation”. This is mainly true for buildings owned by professional real estate companies that have sufficient internal expertise and capacities to organise refurbishment projects. Furthermore, for commercial buildings that are prevalingly rented out to tenants (e.g. office buildings), the investor-user dilemma represents an important barrier for EES.</p> <p>Therefore, we assume that an EES targeting to this application field is attractive mainly for owner-occupied buildings as well as for specific branches like hotel business.</p>
Collateralisation	The need for collateralisation will depend on the creditworthiness of the client. For some branches - such as hotel business - the need for collateralisation may be very high. A public guarantee to cover credit risks would be the easiest and probaly most cost-efficient way to safeguard payments to the refinancing institution.
Handling of performance risks	May be designed similarly as in A1 (cf. 3.1)
Collection of payments	EES provider will be responsible for invoicing - a certain part of the invoiced amount is payable directly to the refinancing institution
Off-balance sheet financing	Off-balance sheet financing may be very relevant for some clients (e.g. SMEs with owner-occupied buildings) and not relevant for other clients, such as larger real estate companies. Although each individual case must be considered separately, since national rules and applicable accounting principles may differ, the wish of the refinancing institution to hold a title would complicate off-balance sheet financing. The availability of a public guarantee would be very useful in this context.
Non-public debt financing	Not relevant
Organisational set-up	Institutional set-up with predefined roles, responsibilities and work processes (as defined in chapter 2.8) is recommended because of high capital investments.

# Leveraging of limited financial resources

- › Limited equity resources and limits in access to debt capital of the three customer sectors
  - › e.g. public debt constraints of public building owner
- › “We do not have more funds, therefore we cannot invest more!”
- › Leveraging becomes a precondition to finance large-scale deep renovation programmes
- › Possible leveraging approaches – to be discussed
  - › Leveraging limited own resources with investment capital provided by EES provider (who refinances his operations e.g. through sales of receivables)
  - › Issuing of a “green bond” (private or public issuer)



# CASE STUDY: ELENA GREEN STYRIA

Jan W. Bleyl , Energetic Solutions  
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# ELENA: Short introduction

- ❖ ELENA stands for **European Local ENergy Assistance**, facilitated by **European Investment Bank (EIB)**.
- ❖ The **objective of ELENA** is to support the **preparation of investment programs** for sustainable energy projects of cities and regions.
- ❖ **Investment volumes of typically 30 – 60 M.EUR.**
- ❖ Provides **subsidies for 90% for project preparation cost** (non-repayable).
  - ❖ Eligible cost: Feasibility and market studies, business plans, structuring of programs, energy audits, preparation for tendering procedures, **innovative financing solutions** (e.g. contracting, third party financing) ...
- ❖ ELENA requires an **investment leverage factor of at least 20:1** within a **program period of 3 years**.

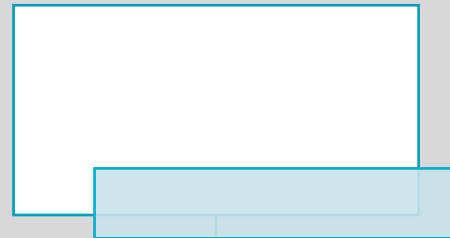




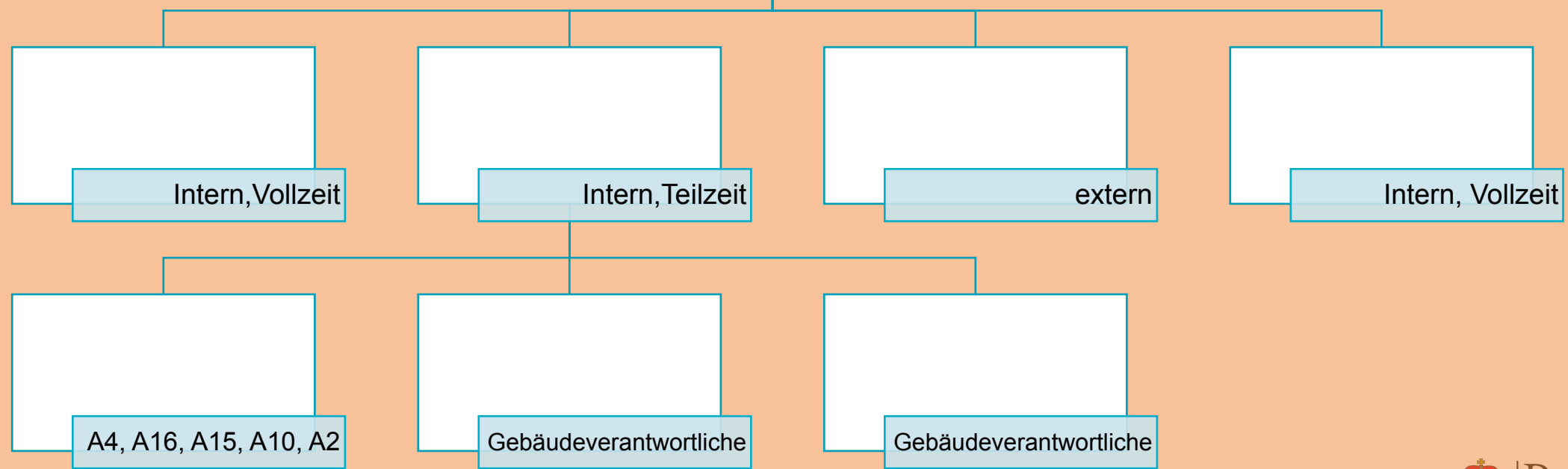
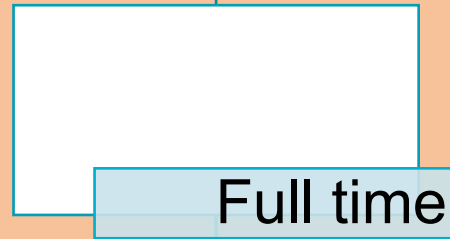
# ELENA Green Styria introduction

- ◆ **Public building stock: ~ 350 buildings:** Diverse range of representative (listed) buildings | administration and offices | road maintenance | schools and boarding schools | social services | museums and cultural buildings | residential buildings | ... ~ **500.000 m<sup>2</sup> heated.**
- ◆ **ELENA investment budget: about 50 M.EUR**
- ◆ **Investment measures:**  
**Building insulation | RE heating systems | Electricity EE | Rooftop PV | EV charging**
- ◆ **Historical anecdote:** 1<sup>st</sup> ELENA attempt in 2010 - 2011 for a 90 M.EUR program was (bluntly) **rejected by finance department** (lack of willingness to consider third party financing solutions).  
*=> Lesson learned: Involve finance guys from the beginning.*

**Program Advisory Board and Steering Committee**  
**"Strategic decision-making and control level"**



**ELENA-Program implementation unit (PIU)**  
**„Operational level“**



# ELENA Green Styria Eco-Fin model

## Methodology: Dynamic Life-cycle Cost-Benefit Analyses (LCCBA)

- ◆ ELENA investment budget: 50 M.EUR
  - ◆ Building insulation + heating system retrofits: 37 M.EUR
  - ◆ Electricity EE: 4 M.EUR
  - ◆ Rooftop PV 9 M.EUR
  - ◆ EV charging: 0.5 M.EUR
- ◆ Energy prices: Heat: 80 EUR/MWh | Electricity: 150 EUR/MWh
- ◆ Price development scenarios are highly sensitive!
- ⇒ *Savings cash flows can refinance 60% - 70% of program cost, but not 100%!*
- ⇒ *New narrative needed: Based on LCCBA you only need 30%-40% of CAPEX for a comprehensive building renovation program.*

## A few guiding questions....

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- › What are convincing arguments to start thinking about leveraging?
- › Experiences with and lessons learned in the context of building portfolio renovation?
- › Limitations of in-house implementation (investments by asset owners) in practice?
- › Alternative implementation and financing models for building portfolios?
- › Co-benefits, advantages and disadvantages of third-party financing for building portfolios?

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- › Alternative implementation and financing models for building portfolios?
- › Co-benefits, advantages and disadvantages of third-party financing for building portfolios?

# Standardised contract stipulations

- › Required stipulations in the **EES contract** to ensure refinanceability
  - › Mandatory stipulations, such as
    - › Guaranteed Savings & Handling of performance Risk
    - › Client Obligations
    - › Early termination
    - › Dispute mechanisms
    - › etc.
  - › Enhancing stipulations
- › Recommended stipulations in the **refinancing agreement**
  - › Correspondence, legitimate and not otherwise compromised
  - › Non–recourse clause
  - › EES provider’s liability for underperformance
  - › Title to equipment
  - › Financial information
  - › Step in Rights
  - › etc.

# Refinanceability Rating System

- › **3 different risk levels** involved in the assessment of an EES project when a FI assigns an overall rating from a **payment default point of view**
  - › L1 Standard Financial Institution Default Risk Evaluation
  - › L2 EES Project Risk Evaluation
  - › L3 Assessment of Refinanceability (Availability of required contract stipulations)
- › **Expert Rating System**
  - › Qualitative levels (Low-Medium-High)
  - › Weighted, descriptive risk items
  - › Mitigant incorporation
  - › Final Score – Global Score

## EE PROJECT RATING

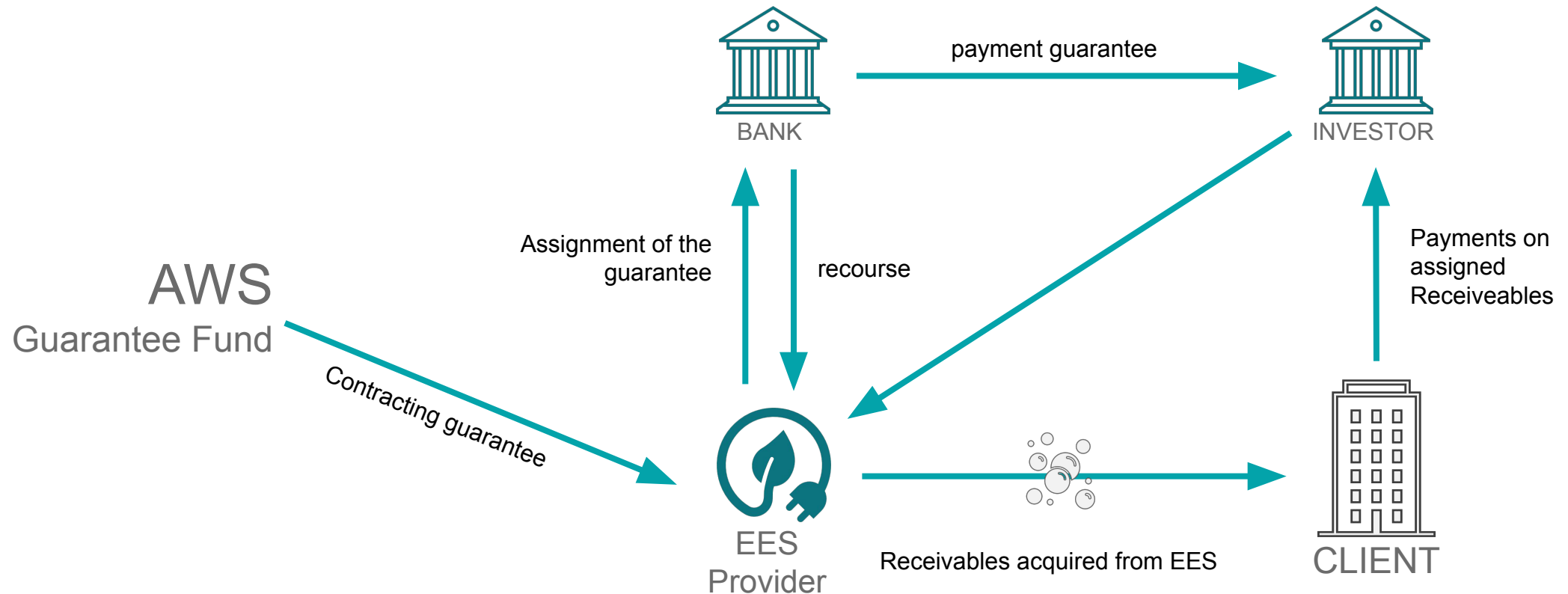
3,16

The following template lists a series of items that impact in the Energy Efficiency Project Rating. For each of those items, the user must pick whether a "Low", "Medium" or "High" Risk applies. If a Mitigant (factor that decreases the risk level) applies in any item, it should be described in order to modify the item Final Risk Score. (The calls selected in the example are marked in a grey color). The risk relative weight assigned to any of the categories, and to the risk items within, may be changed based on the expert criteria of the valuator.

Risk Item	Weight	Description	5 Low Risk	3 Medium Risk	1 High Risk	Initial Score	Mitigants	Final Score	EES Clause (L4)	
<b>EES Provider</b>									<b>4,6</b>	
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	NA	
The EES provider is experienced in the segment in which the EEP is implemented and projects of that size	20%	It refers to how experienced is the company in the sector in which the energy efficiency project is implemented (buildings, lighting, mobility, etc) and in the management of projects of similar size.	Experienced	Not very experienced	No experience	3		3	NA	
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	NA	
EES provider incentive level	30%	It refers to the level of incentive of the EES provider to actually achieve the promised savings.	Remuneration of EES provider fully adheres with saving guarantee and is safeguarded by an additional bonus for over performance and an extra penalty for underperformance.	Remuneration of EES provider fully adheres with saving guarantee (but no extra safeguards)	Shared savings model	5		5	NA	
<b>PROJECT</b>									<b>2,4</b>	
Installation - Protection	10%	It refers to the extent in which the equipment or installation is protected and maintained in order to obtain the project's energy savings.	Equipment Insurance/Warranty - provided for 90% of period.	Equipment Insurance/Warranty - provided for just the first years of the project.	Equipment Insurance/Warranty - not provided.	5		5	7, 9, 10	
Installation - Collateralization	5%	It refers to the extent in which the equipment can be used as a guarantee or collateral in a refinancing operation.	Equipment can be collateralized totally.	Equipment can be collateralized partially.	Equipment can't be collateralized.	1		1	8	
Installation - Technology	15%	It refers to the extent in which the best available technology is applied in the project.	The technology used in the project is widely applicable/tested.	The technology used in the project is fairly new.	The technology used in the project is completely new.	1		1	NA	
Reliability of savings calculation	30%	It refers to the existence of a M&V plan according to accepted standards (timing, calculation algorithms, stakeholder responsible, etc).	A detailed state-of-the-art M&V Plan is in place from the beginning of the project.	The cornerstone of M&V are mutually agreed, but details need to be agreed during project operation.	There is no M&V Plan in place.	3	Third independent expert party verification of the savings calculation / Savings Guarantee	1	1, 2, 11, 28	
Operation and Maintenance	15%	It refers to who is the company that will perform the Operation and Management of the installation throughout the EES contract duration.	The EES provider that made the installation or a subsidiary or a related company.	A different company, with a good track record in Energy Efficiency project O&M.	A different company, with no track record, or the end client itself.	3		3	4, 5, 12	
Cash flow / Credit Ratio	10%	It refers to the cash flow generated by the savings being able to cover the payments throughout the EES contract live duration.	Cash flow covers 120% or more of the payments due.	Cash flow covers between 100% and 120% of the payments due.	Cash flow covers less than 100% of the payments due.	3		3	3, 18, 24	

# FORFAITTING FOR THE CAPITAL MARKET WITH CONTRACTING GUARANTEES

- › Contracting guarantees can also be used as a basis for structuring payment guarantees from the house bank for the sale of receivables to investors on the capital market:





# REFIN

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