Increasing capacities in Cities for innovating financing in energy efficiency

A review of local authority innovative large scale retrofit financing and operational models

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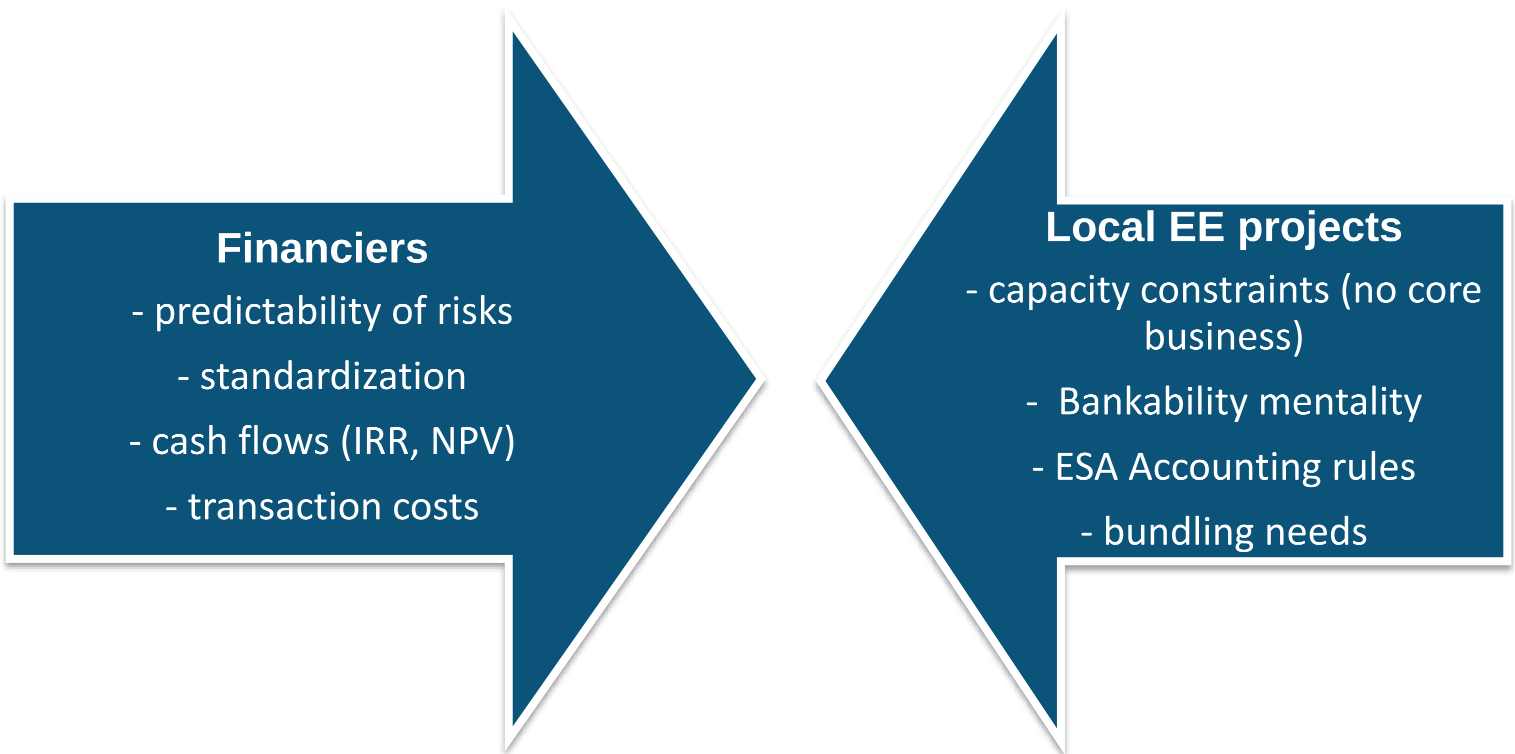
Introduction The rationale for CITYnvest

How to accelerate investments?

- No need for reinventing the wheel
- Catalyst role for LRA – reflected in current EU directives, but some remaining challenges



CITYnvest scope Wide scale capacity building

In-depth study

- 24 models analysed
- Guidance material

3 Pilot projects

- Liège (BE)
- Murcia (S)
- Rodhope (BG)

10 focus countries

- Guidance material
- Capacity building

Study What have we done?

- Analysed 24 existing models that address large scale and deep energy efficiency retrofit programs (including RES) involving public authorities across Europe (11 countries)
  - Level of ambition (aimed % of energy reduction, investment intensity, contract duration)?
  - Implementation methodology (technically and operationally) used?
  - Which operational services are provided to the beneficiaries?
  - Which financing schemes have been used?

- Provided a benchmark/comparison of the models along the following themes:
  - Their operational schemes (Facilitation, Integration and Aggregation)
  - Their implementation model (Separate Contractor Based (SCB) and EPC/ESC)
  - Their financial schemes (financing by Financial Institutions, by the ESCOs, by the Program Delivery Unit, by Investment Funds, by Citizens)
  - Attractiveness and risks
  - Impact on public balance sheet, staff requirements, scalability, development maturity, challenges and other

- Provided guidance material to support local authorities in their search for financing of their EE and RES programs (Recommendation and Decisions matrix)

Business models Common practices

Program Authority

- Public entity or organization in charge of the program or that controls the program.
- Define the program including the targeted beneficiaries, the level of ambition, the implementation/operational models and the funding vehicle that are being put in place (political commitment).
- Set-up and fund the Program Delivery Unit (PDU).

Program Delivery Unit

- Public and/or private entity set-up to implement/execute the program.
- Often a separate legal entity, but can also be a department of project team within an existing organization.

Beneficiaries

- The PDU delivers services to the beneficiaries according to the chosen operational and implementation models. Services can include financing of the projects.
- Most of the times, a Contractual framework is established between the PA and/or the PDU and the beneficiaries to access the PDU portfolio of services.

Business models What are the main characteristics?

2 Implementation Models

- Separate contracting based (SCB)
- Energy Performance Contracting/Energy Supply Contracting (EPC/ESC)

3 Operational Models

- Facilitation
- Integration
- Financing only

7 Operating Services

- Marketing
- Assessment
- Financial advice
- Facilitation
- Integration
- Aggregation
- Financing

5 Funding Vehicles

- Financial Institutions
- ESCO's
- Program Delivery Unit (PDU)
- Investment Funds
- Citizens

PDU Operating Services From low to high integration

Low — Level of services — High

Level of services (Low → High)	Standard services	Aggregation	Financing
Marketing	Marketing covers the commercialization of the services of energy efficiency to the beneficiaries. This covers the whole range of communication and commercial development services that are necessary to inform the beneficiaries of the types of offerings that are available to them.	Aggregation means that the Program Delivery Unit (PDU) bundles the projects of multiple beneficiaries by acting on behalf of them and by making them available to the market. This role can be associated to the integration or facilitation services, in both cases, the PDU manages the costs allocation between the beneficiaries. Aggregation is done to create economies of scale both operationally and financially.	Financing means that the Program Delivery Unit (PDU) will itself provide financing, either through an own fund or by packaging external financing solutions into an integrated financing service. In this case the PDU takes on the financial risk of the projects. This option is typically used where a dedicated fund is created as part of the energy efficiency program.
Assessment	Assessment is the role by which the PDU evaluates the technical and financial viability of the projects and decides whether or not they get implemented and/or financed.		
Financial advice	Financial advice means that the PDU provides guidance and consultancy to the beneficiary on available funding for his project.		
Facilitation	Facilitation means that the PDU does not sign the contracts with the beneficiaries, but coordinates or “facilitates” the whole process of projects delivery on behalf of the beneficiaries.		
Integration	Integration means that the PDU acts as an intermediary between the beneficiaries on one hand and the ESCO/contractors on the other hand. In this case, the PDU is the tender and contracting authority.		

PDU Operational models What are the differences?

FACILIATION (16/24)

- The beneficiaries are the tendering and contracting authorities.
- The contracts are signed between the beneficiaries and the ESCO/Contractors that deliver the retrofit works to the beneficiaries.
- The PDU facilitates the projects by assisting the beneficiaries during the preparation, the tendering process and the follow-up of the projects.
- The PDU share no risks.

INTEGRATION (8/24)

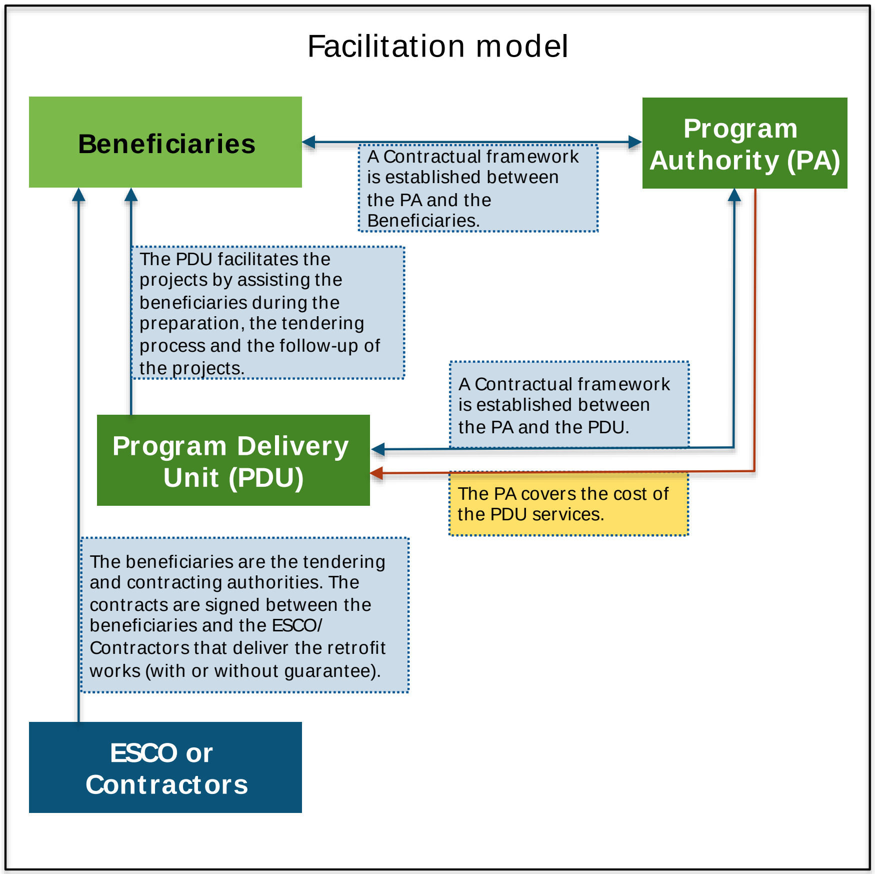
- The PDU is the tendering and contracting authority.
- The contracts are signed between the PDU and the ESCO/Contractors. The PDU delivers the retrofit works to the beneficiaries.
- The PDU take on the preparation, the tendering process and the follow-up of the projects. delivers the retrofit works to the beneficiaries.
- The PDU take the technical risks on.

FINANCING ONLY (3/24)

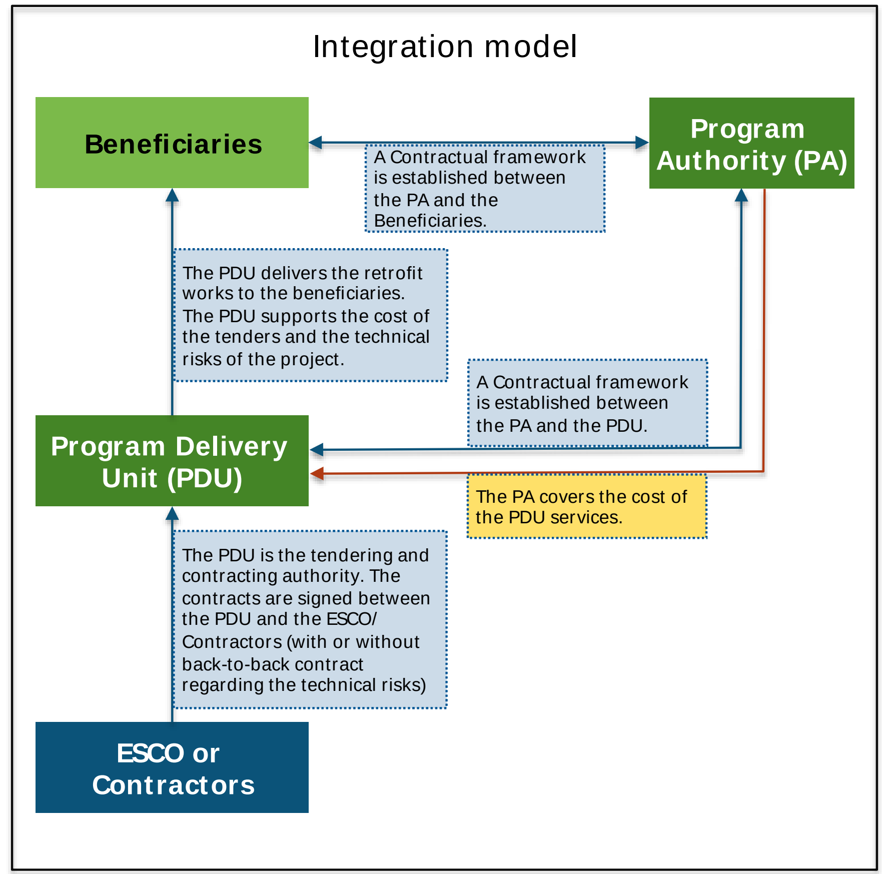
- The beneficiaries are the tendering and contracting authorities.
- The contracts are signed between the beneficiaries and the ESCO/Contractors that deliver the retrofit works to the beneficiaries.
- The PDU assess the bankability of the projects and finance them.
- The PDU take the financial risks on.

The main difference between the two models is the contractual relationship with the ESCO or contractors. But this have an strong impact on the risks and public balance sheet of the PDU.

Facilitation vs. Integration What are the differences?

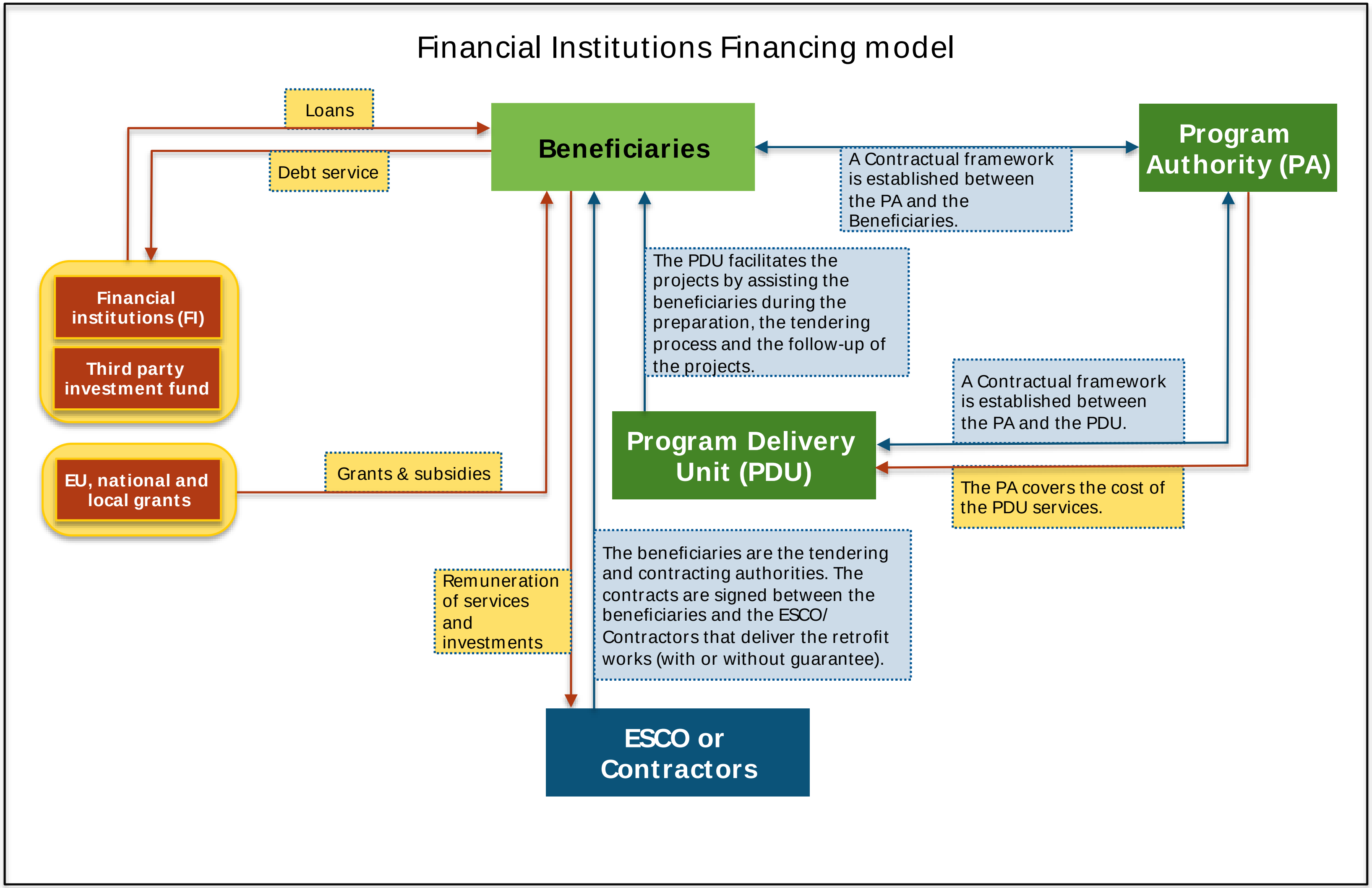


No risks, lower impact on public balance sheet



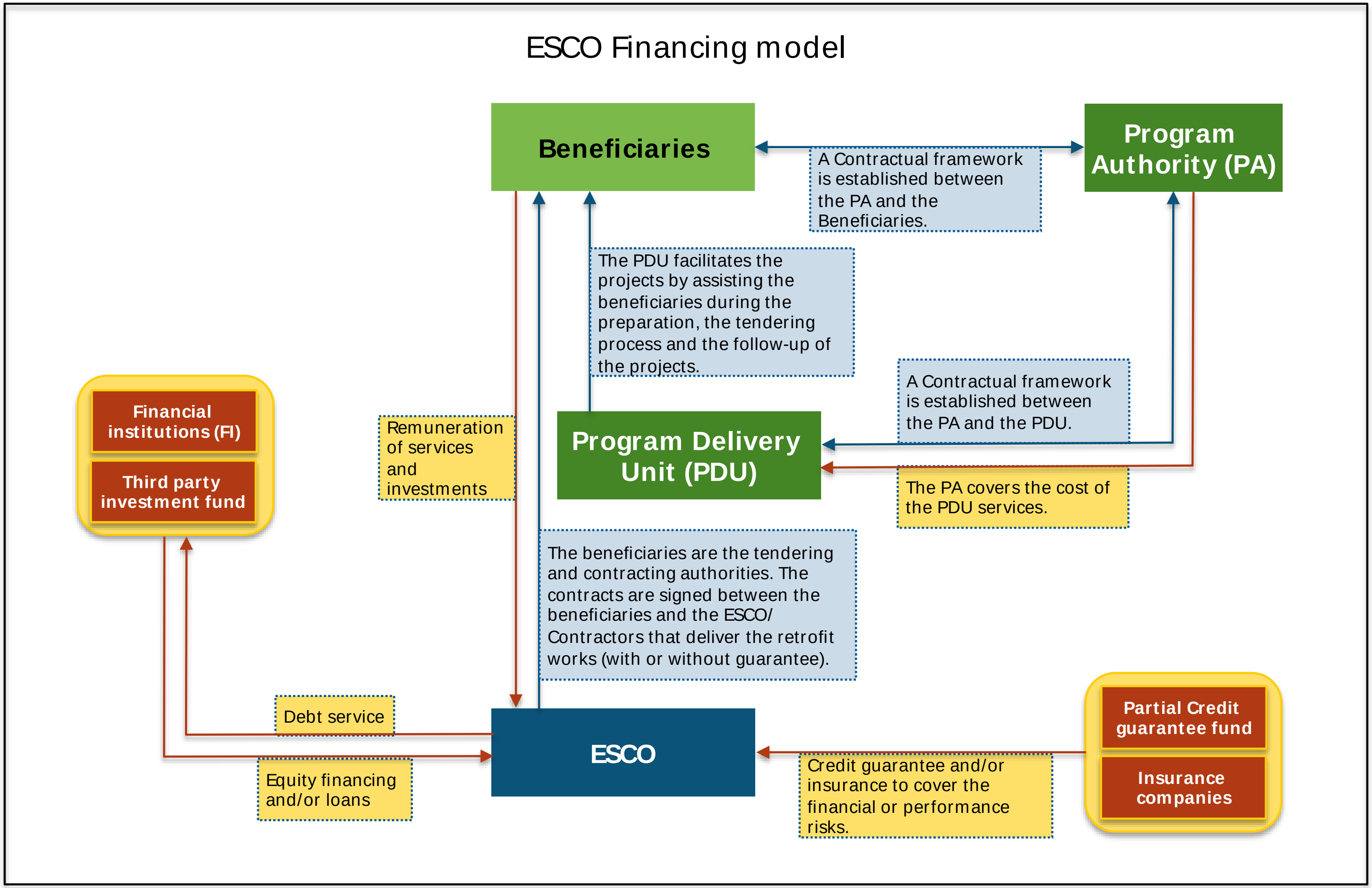
Technical risks, higher impact on public balance sheet

Funding Vehicle 1 Financial Institutions



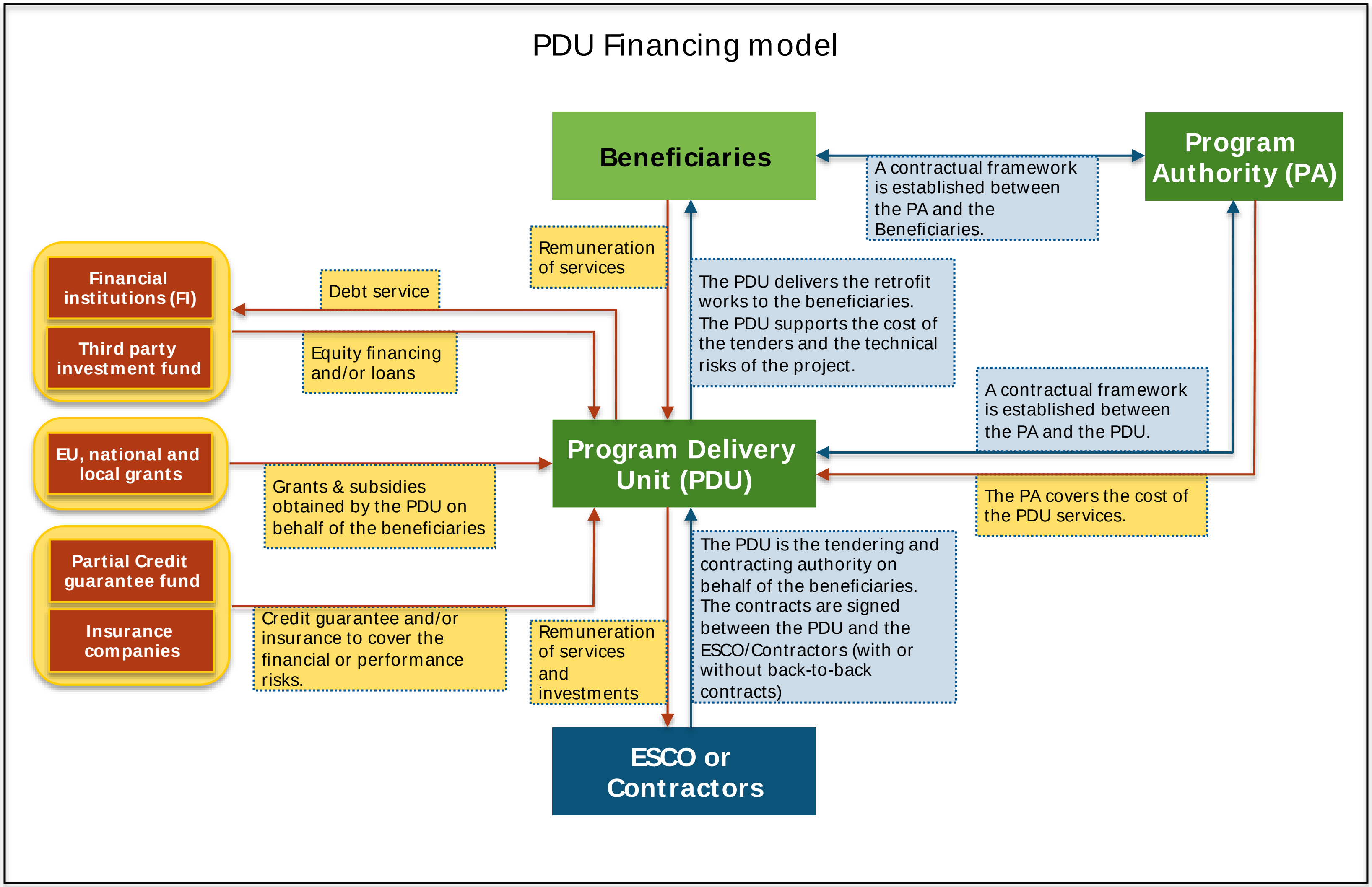
No risks, lower impact on public balance sheet

Funding Vehicle 2 ESCO's



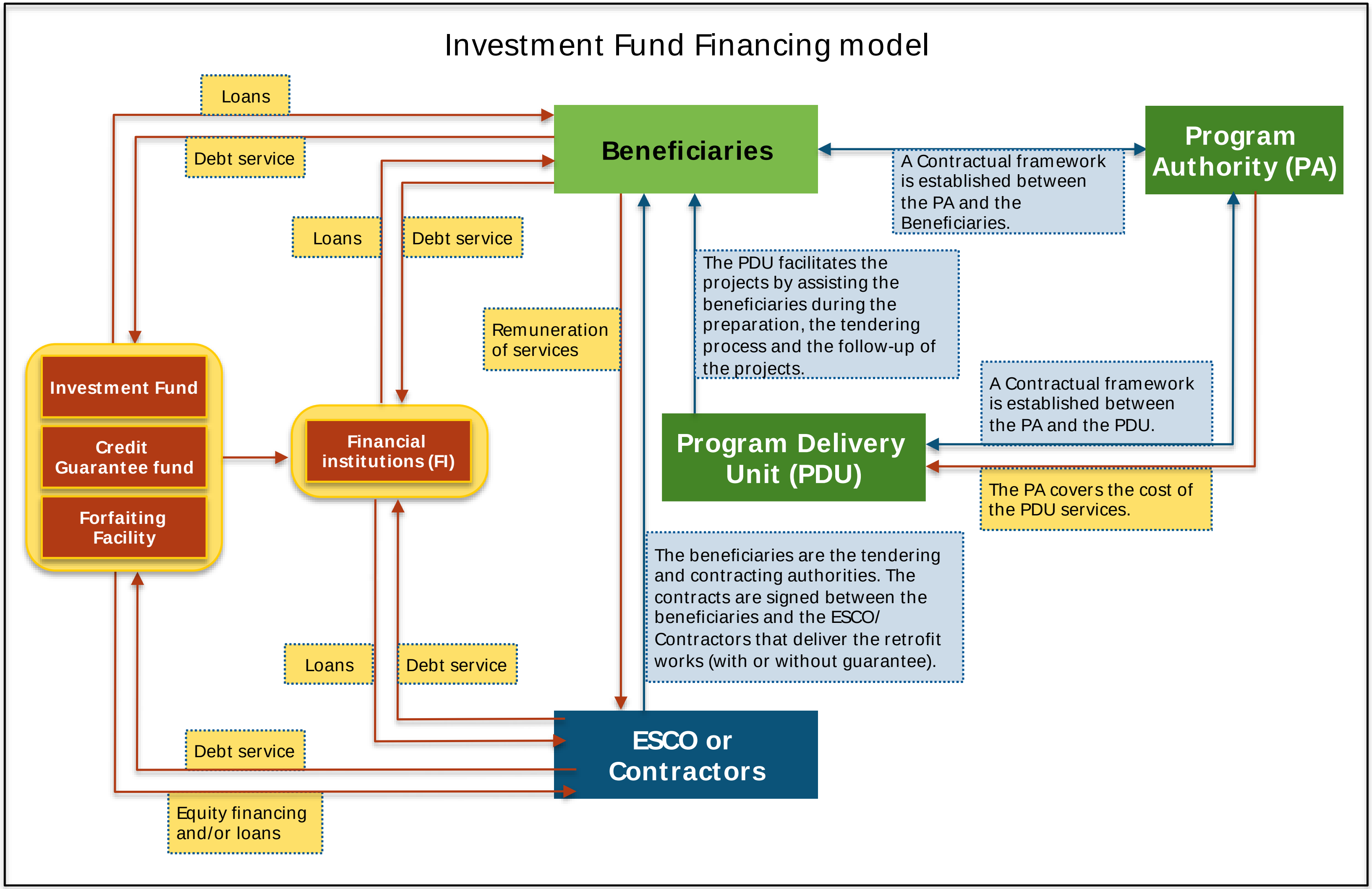
No risks, lower impact on public balance sheet

Funding Vehicle 3 Program Delivery Unit



Financial risks, higher impact on public balance sheet

Funding Vehicle 4 Investment fund



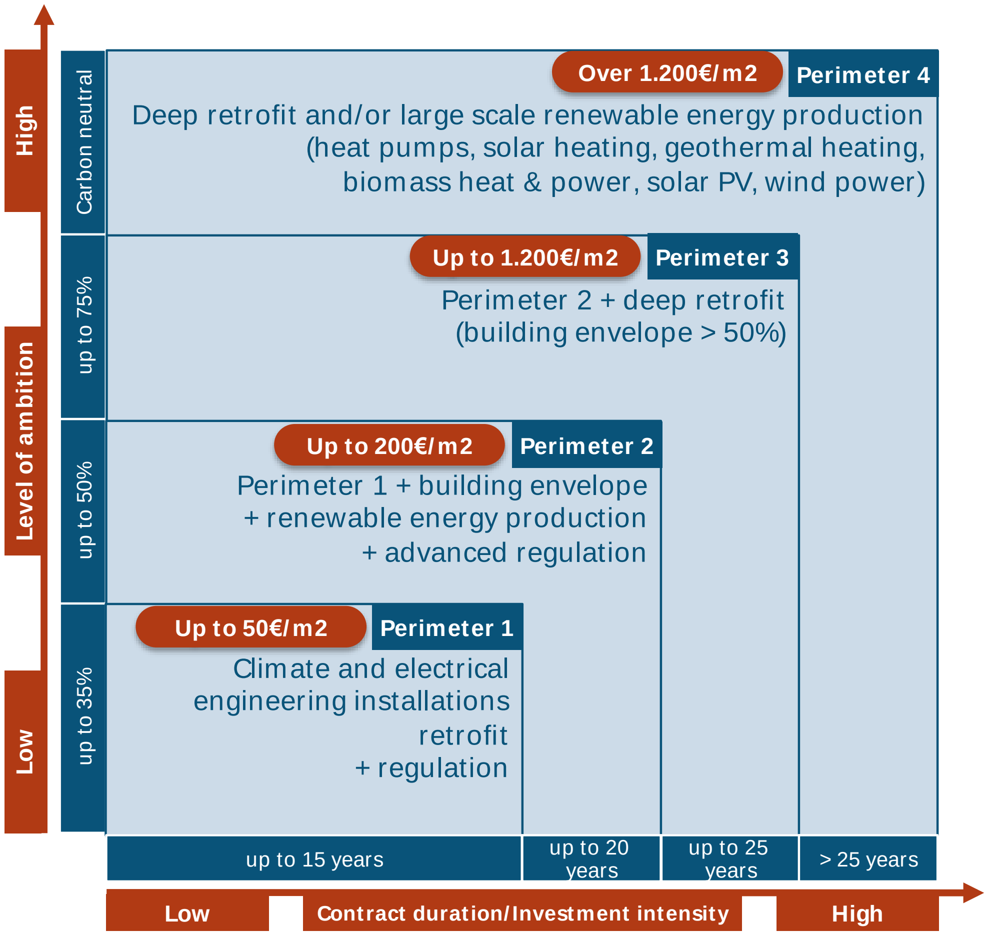
Financial risks, higher impact on public balance sheet

Mapping Models positioning synthesis

	Facilitation model		Integration model		Financing only model
	Without aggregation	With aggregation	Without aggregation	With aggregation	
FI financing	REDIBA Eco'Energies EERFS	Berlin ESP RE:FIT Vlaams energiebedrijf ENSAMB Energie POSIT'IF	Warm Up North	-	N/A
ESCO financing	REDIBA Eco'Energies EERFS	Berlin ESP RE:FIT Vlaams energiebedrijf Rotterdam GB EE Milan PadovaFIT!	-	-	N/A
PDU financing	OSER	Fedesco Ox Futures	OSER	Fedesco Energie POSIT'IF Eandis EDLB EscoLimburg 2020 SPEE Picardie	N/A
Investment fund	EERFS SUNSHiNE	-	-	EscoLimburg 2020 Cambridgeshire MLEI	Energy Fund Den Haag KredEx
Citizens financing	-	OxFutures Brixton Energy Co-op	-	-	Saerbeck

Models involving facilitation are mainly financed via Financial Institutions or ESCOs while models using integration are mainly financed through the Program Delivery Unit (PDU) or an investment fund.

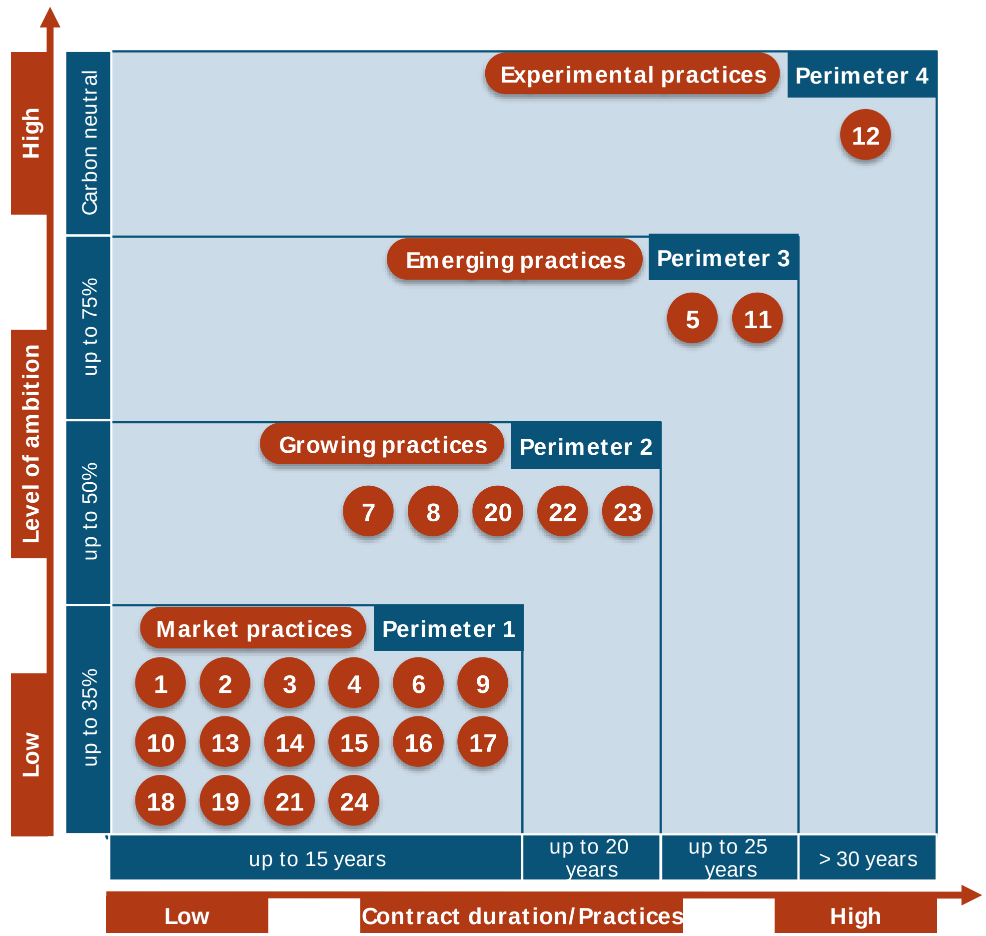
Level of ambition Understanding the impact!



- The marginal cost of energy savings follows a growing exponential curve: the higher the energy savings rate rises, the more the marginal cost increases exponentially.
- A low energy savings rate (e.g. 25%) has a competitive marginal cost (between 20 and 50 € per m2 heated). For a major renovation, to the level NZEB (Nearly Zero Energy Building), the cost can exceed 1,200 € / m2.
- Various studies shows that energy savings can't finance more than a 50% rate.

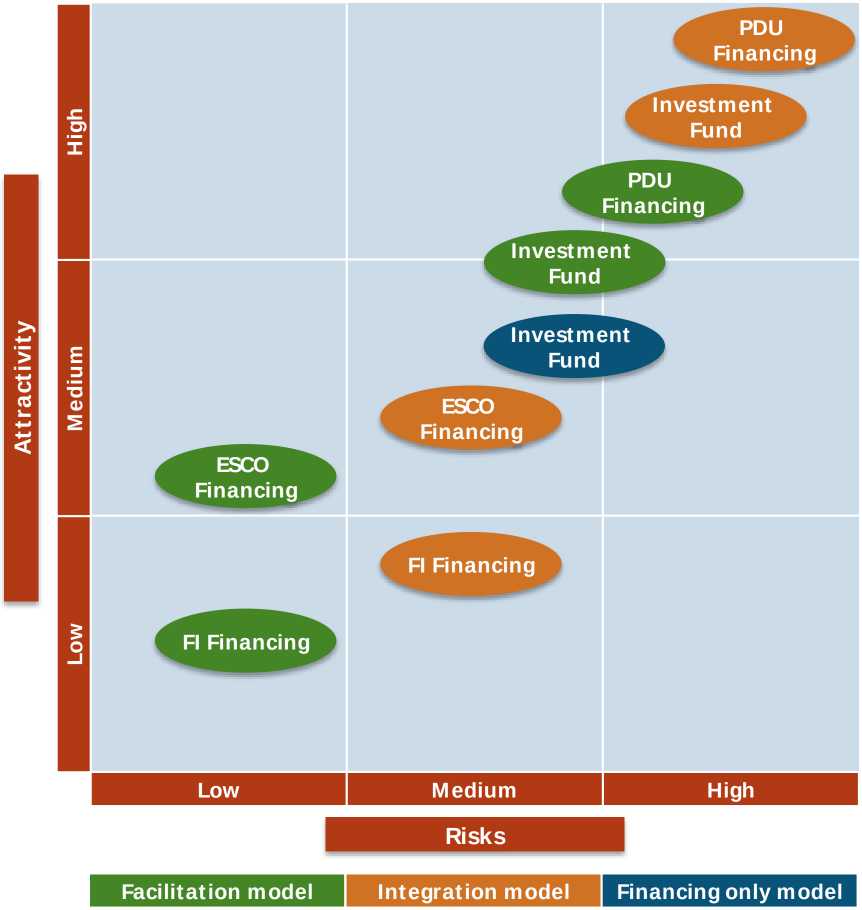
Level of ambition Models positioning synthesis

1	REDIBA	2	Berlin Energy Saving Partnership
3	RE:FIT	4	Vlaams Energiebedrijf
5	OSER	6	Fedesco
7	Eandis EDLB	8	ESCOLimburg 2020
9	Eco'Energies	10	Energy Fund Den Haag
11	Energies POSIT'IF	12	Climate Community Saerbeck
13	Cambridgeshire MLEI	14	Ox Futures
15	Rotterdam Green Building	16	Energy Efficiency Milan
17	ENSAMB	18	Brixton Energy Co-op
19	EERFS	20	SUNShINE
21	Warm Up North	22	SPEE Picardie
23	KredEx	24	PadovaFIT!



The great majority of the models targets Perimeter 1 or "standard market practice", though factor 2 (50% savings) models gain in attention, factor 4 (75% savings) remain marginal.

Attractiveness vs. Risks Models positioning synthesis

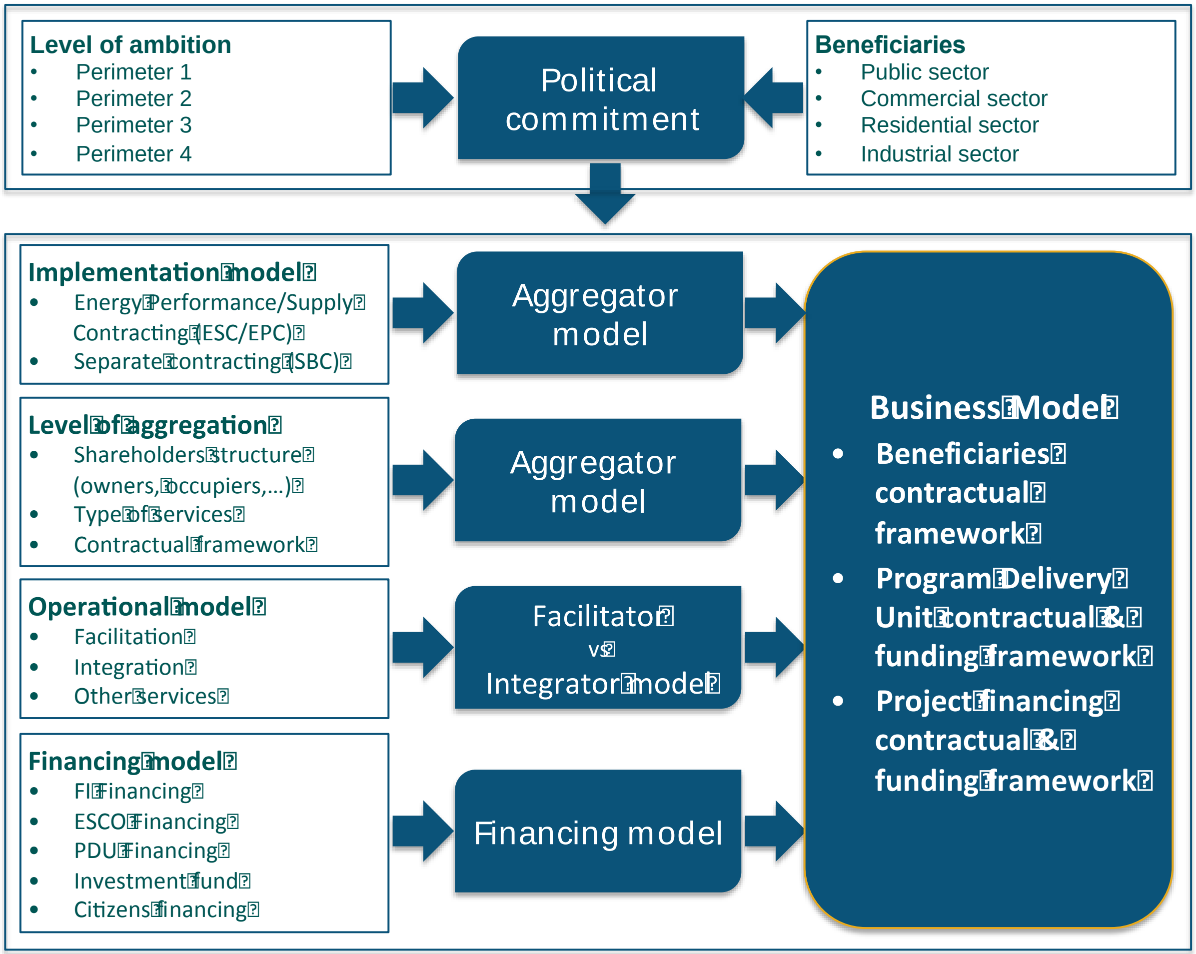


The attractiveness of the integrator model is very high (especially if it integrates financing) but comes along with higher risks for the integrator.

Conclusions Models positioning synthesis

- The success of the models often seem correlated with the existence of a well-functioning Program Delivery Unit, and…
- A clear leadership role of the public partner (ambition and willingness to invest)
- EPC/ESC implemented models are very fit for perimeter 1 energy efficiency ambition levels (<35% savings), mostly driven by facilitation models
- Factor 2 (50% savings) and factor 4 (75% savings) energy efficiency ambition levels are very often “integration” driven, both technically as financially.
- High energy efficiency ambition levels (factor 2 and factor 4) do not focus on short to medium pay-back terms

Next Follow the step-to-step guidance tools



Read the Citynvest Comparison report and make use of the tools at your disposal on our website:

- Recommandation-decision matrix.
- Strategic action plan template.
- Evaluation toolkit.

Thank You

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