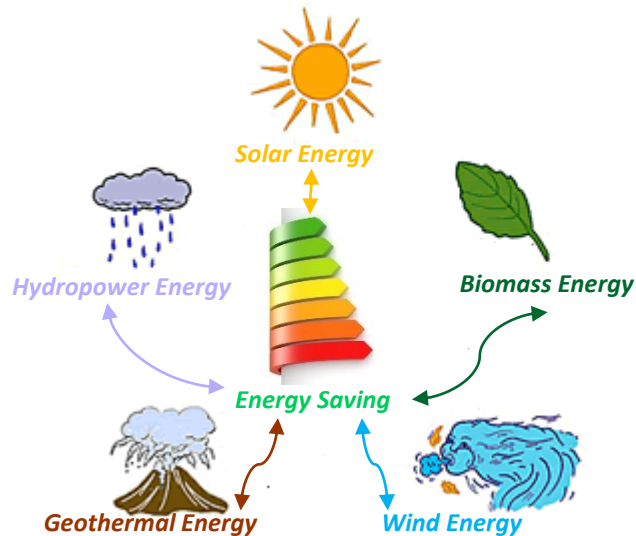




Energy Renovation

It's Time for a Paradigm Shift in Policy Design!



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*Making the Negawatt
dream a global reality*



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The “Winter Package” confirms the pivotal role of buildings in Europe’s decarbonisation strategy



Percentage change of GHG emissions per sector compared to the baseline scenario (EUCO27)



The decarbonisation strategy of the demand side is based only on buildings

But policy measures are not aligned with the decarbonisation objectives

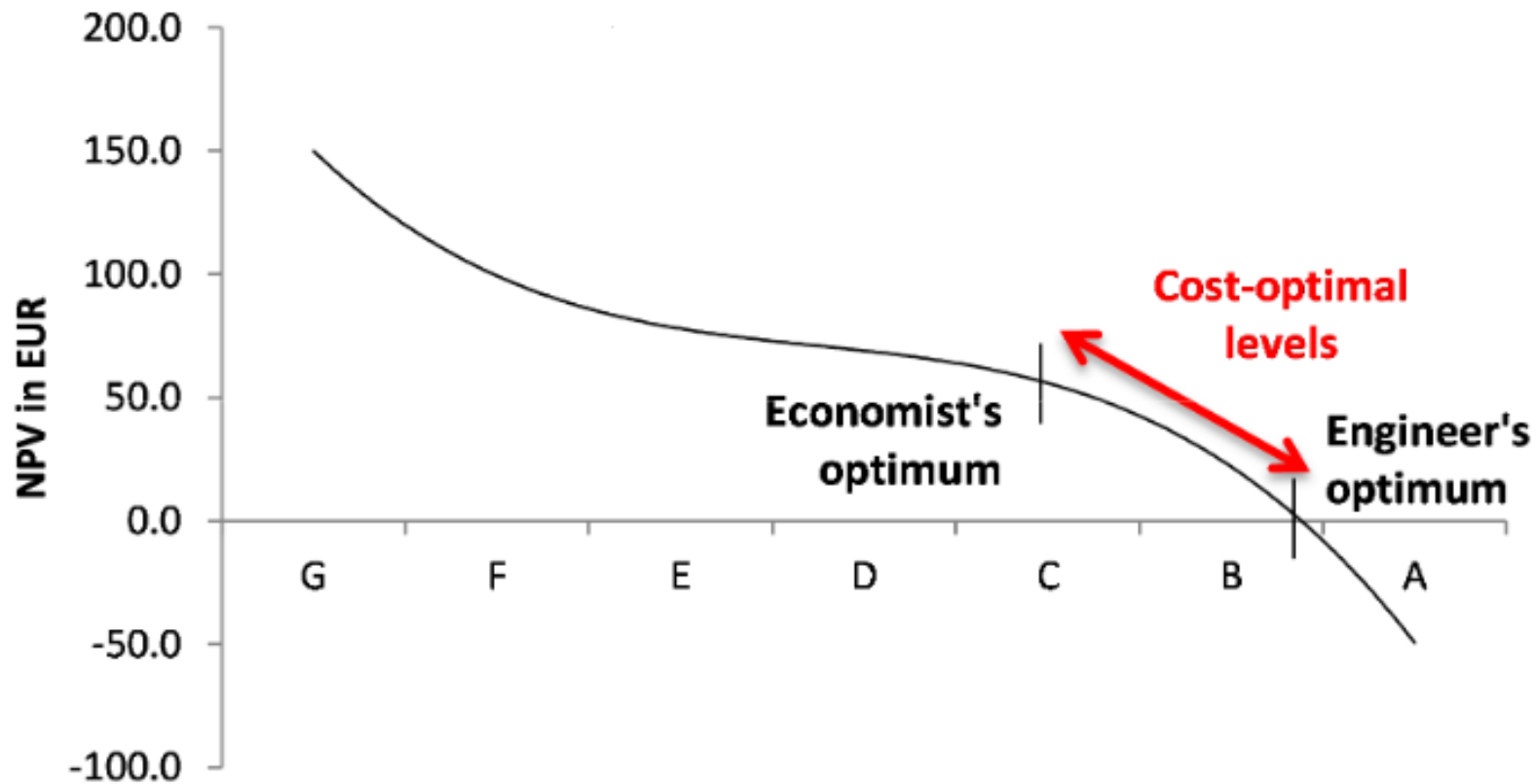


- Energy renovation is required only if buildings undergo major renovation.
- [The current cost-optimum encourages shallow renovation and discourages deep renovation.](#)
- Definition of deep renovation leaves the door open to shallow renovation.
- The expected increase of renovation rates is uncertain, especially for deep renovation, as building owners are not required to renovate their buildings.
- [The expected impact of “Smart Finance for Smart Buildings \(SFSB\)” initiative is uncertain.](#)
- Energy renovation’s cost is not tackled by the « winter package »

The current cost-optimum level is far from making renovated buildings zero energy and carbon neutral



Net Present Value of Energy Renovation Projects



Ambitious energy renovation is currently not cost-effective

“Smart Finance for Smart Building (SFSB)” initiative is a non-legislative proposal to be implemented by MSs on a voluntary basis



SFSB is a de-risking framework, structured around 3 pillars:

- **Pillar 1:** Bundling EU funding dedicated to energy renovation through Investment Platforms.
- **Pillar 2:** Developing project pipelines of bankable projects and bundling small projects into larger ones through local One-Stop-Shops.
- **Pillar 3:** Reducing investors' perceived risks by providing tailored information through the “De-risking Energy Efficiency Platform (DEEP)” and other information tools

The triggering impact of public finance is lowered by the fragmentation of funding sources



Existing funding sources and how they will be bundled under the Smart Finance for Smart Building (SFSB) initiative

To be bundled under SFSB Investment Platforms

EU instrument	Funding sources	Who is managing the funding source
European Investment Plan	European Fund for Strategic Investment (EFSI)	EIB
Multi-annual Financial Framework	European Structural and Investment Funds (ESIF)	EIB/DG REGIO
Electricity and gas directives	Energy Taxes	Member State
Emission Trading Scheme (ETS) Directive	Carbon trading revenues	Member State
Energy Efficiency Directive	Energy Efficiency Obligations Schemes (EEOSs)	Member State

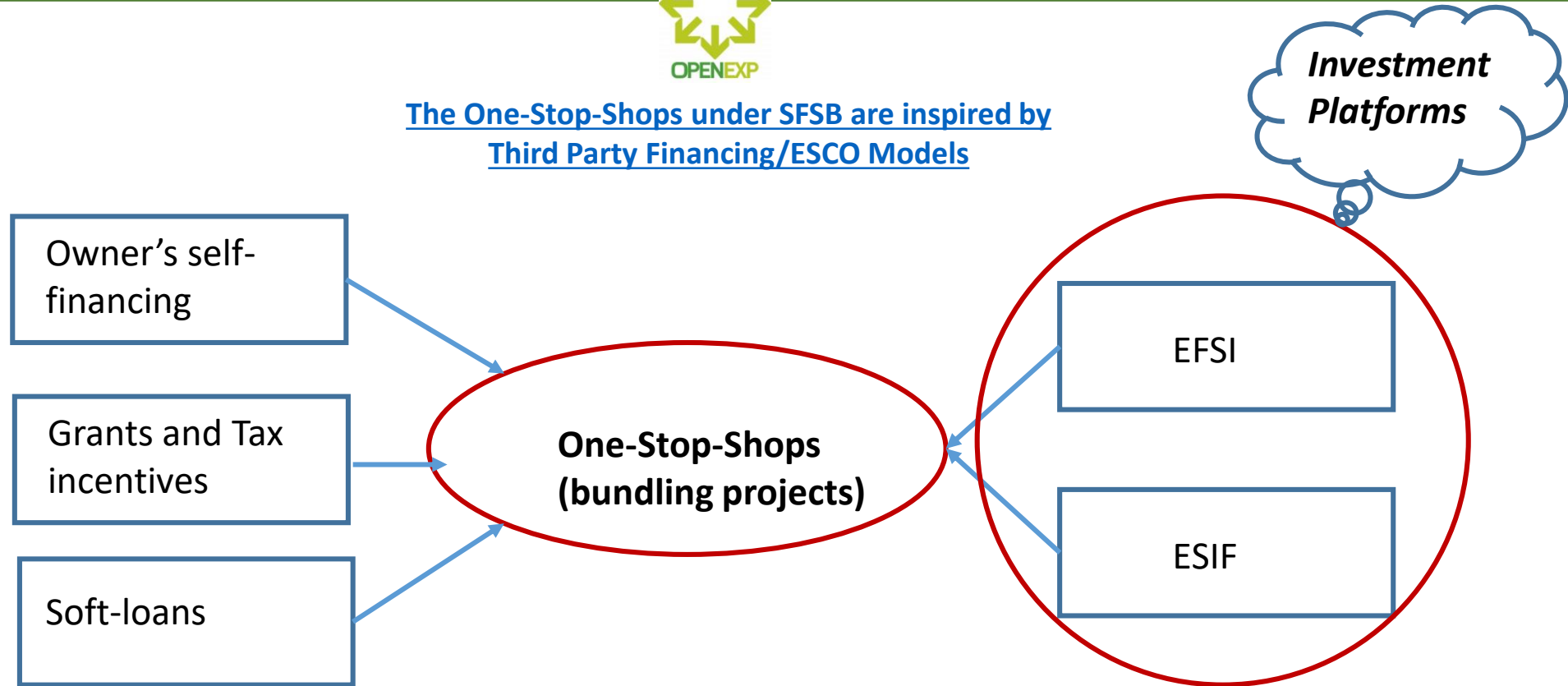
The partial bundling proposed under SFSB will limit the impact of the initiative



“One-Stop-Shops” may well overlap with Investment Platforms



The One-Stop-Shops under SFSB are inspired by
Third Party Financing/ESCO Models

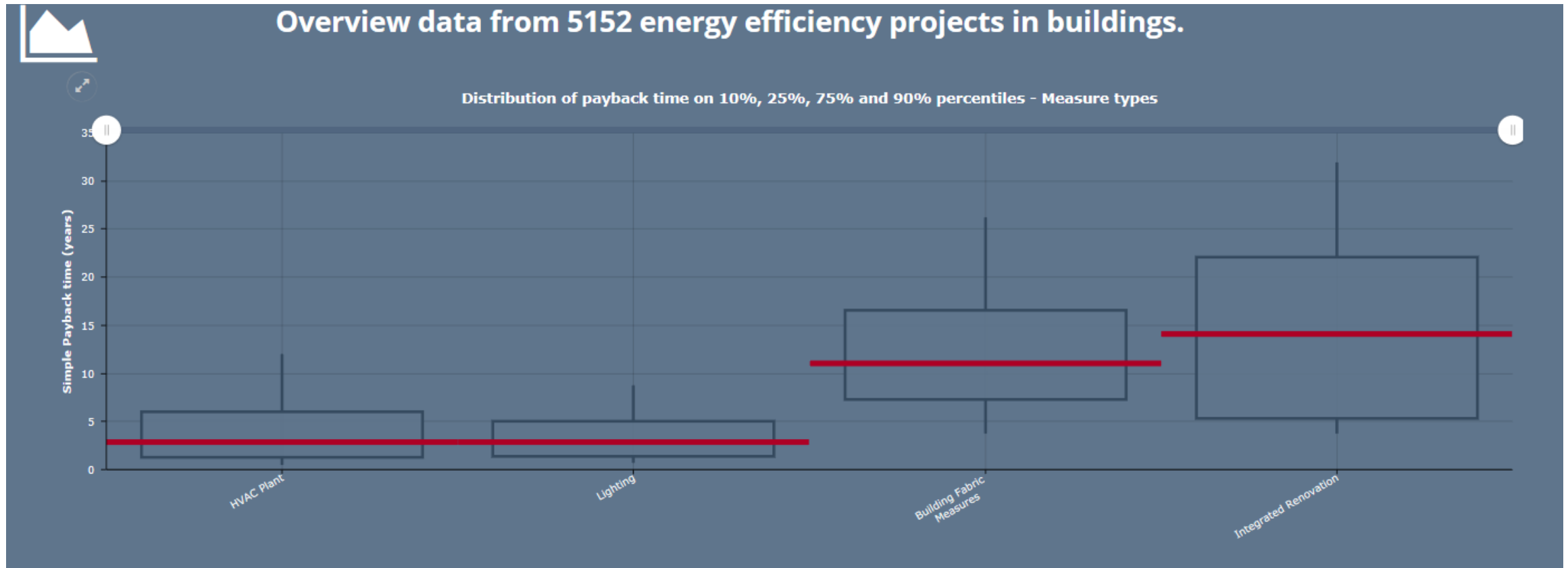


*The proposed One-Stop-Shops are expected to mitigate the financial and technical risks.
Warning: Experiences from the field* show that risk mitigation is, usually, prioritised over
ambitious energy renovation by existing One-Stop-Shops.*

Unclear how to trigger investors' confidence without disclosing energy renovation costs (1)



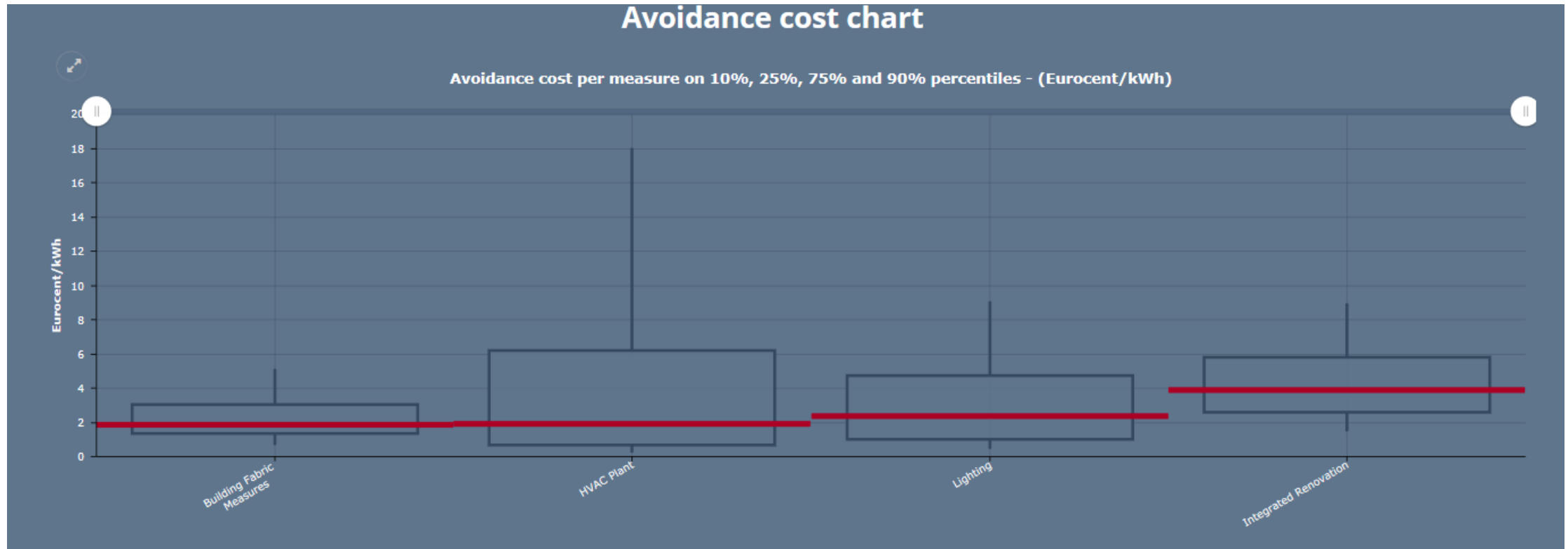
Information provided by DEEP database



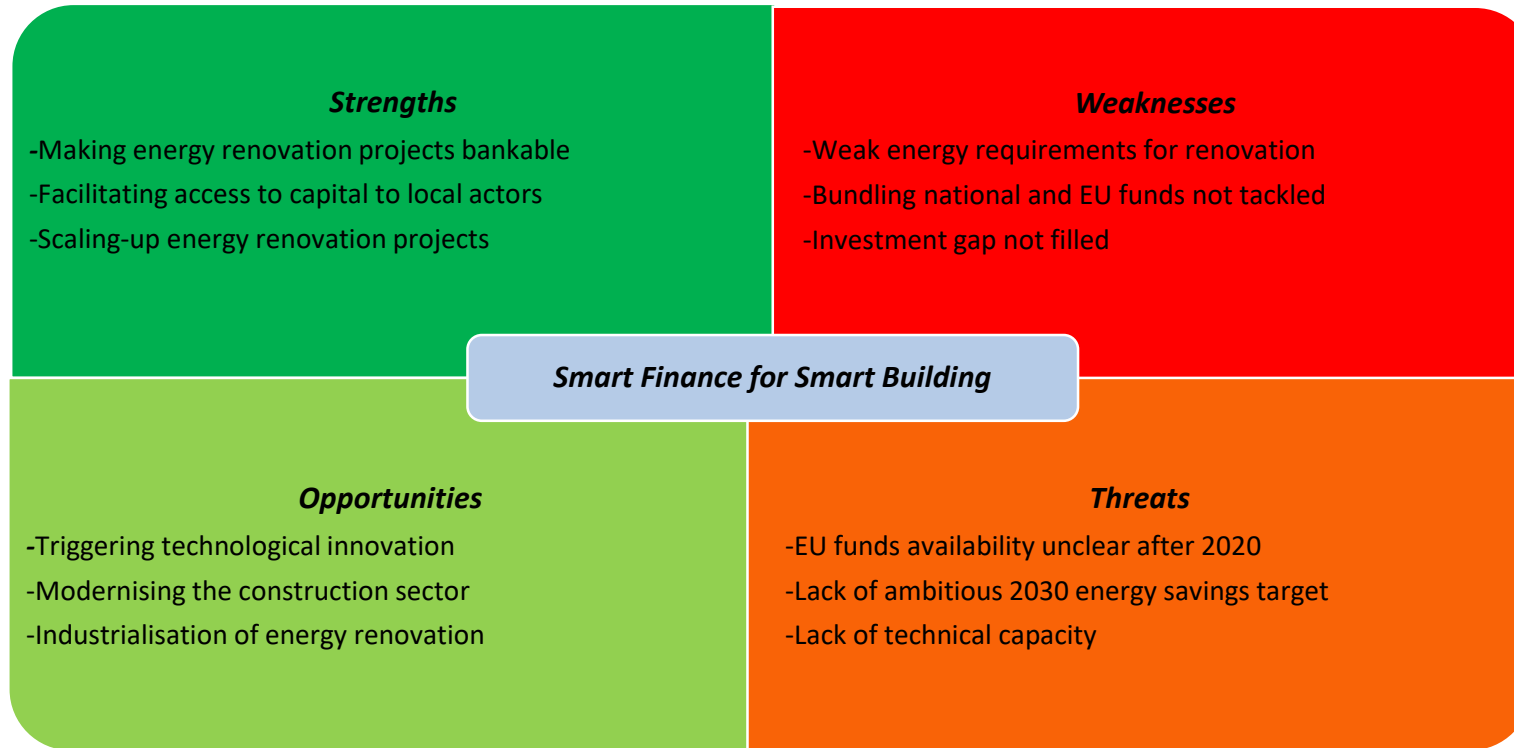
Unclear how to trigger investors' confidence without disclosing energy renovation costs (2)



Information provided by DEEP database



Summing-up: SFSB could play a role of a de-risking framework if the initiative and the EPBD are strengthened



The last 4 slides show that SFSB will at the best increase the size of the emerging market of shallow renovation

France ticks all boxes of “Best Practices” but cannot meet its renovation target nor its climate and energy objectives



- Making the overall building stock low energy consumption by 2050.
- A target to renovate annually 500,000 homes out of which half should be occupied by low-income families.
- Energy renovation is required each time a building is renovated. However, shallow renovation is allowed:
 - Buildings with more than 1,000m² and/or built after 1948:
 - Residential buildings: Primary energy consumption target between 80 to 195 kWh/m²/yr.
 - Non-residential buildings are required to reduce energy consumption by 30% compared to the current consumption.
 - Buildings with less than 1,000m² and/or built before 1948:
 - Requirements are set for each building component separately.
- France is champion in the use of available EU funds for energy renovation.
- Eco-loans at zero interest rate are available for all if renovation work aims at implementing 2 to 3 measures.
- Households can bundle all existing incentives (grants, tax credits, reduced VAT, eco-loans at zero interest rate).
- Information about energy renovation is provided to consumers through Regional Energy Renovation Advisors.
- A certification scheme of renovation companies/workers is implemented.
- R&D and training programmes exist since 2009.

If equally distributed, France would have invested 31,400 € per renovated home



EU instrument	Funding mechanism	Total amount (€ million)	Public investment in energy renovation (€ million)	Leverage factor	Total investment in energy renovation (€ million)	Direct contribution of each instrument to energy renovation	Total contribution when considering leveraged private finance
ETS directive	ETS revenues	215*	215	1	215	1.76%	1.76%
EED	EEOSs revenues	713	480	1.37	657	3.93%	5.38%
Electricity and gas directives	Energy taxes	14,282	1,600 (Tax credits)	5	8,000	23.03%	85.40%
			1,100 (Reduced VAT)	2	2,200		
			110 (Eco-loans)	2	220		
Multi-annual Financial Framework	European Structural and Investment Fund		66.4	2	133	0.54%	1.09%
European Investment Plan	European Fund for Strategic Investment		194	4	776	1.59%	6.36%
Total investment for the 388,000* renovated homes in 2015					12,201		

SFSB

*: In the absence of data from 2015, those from 2014 were used

Take away from the French experience



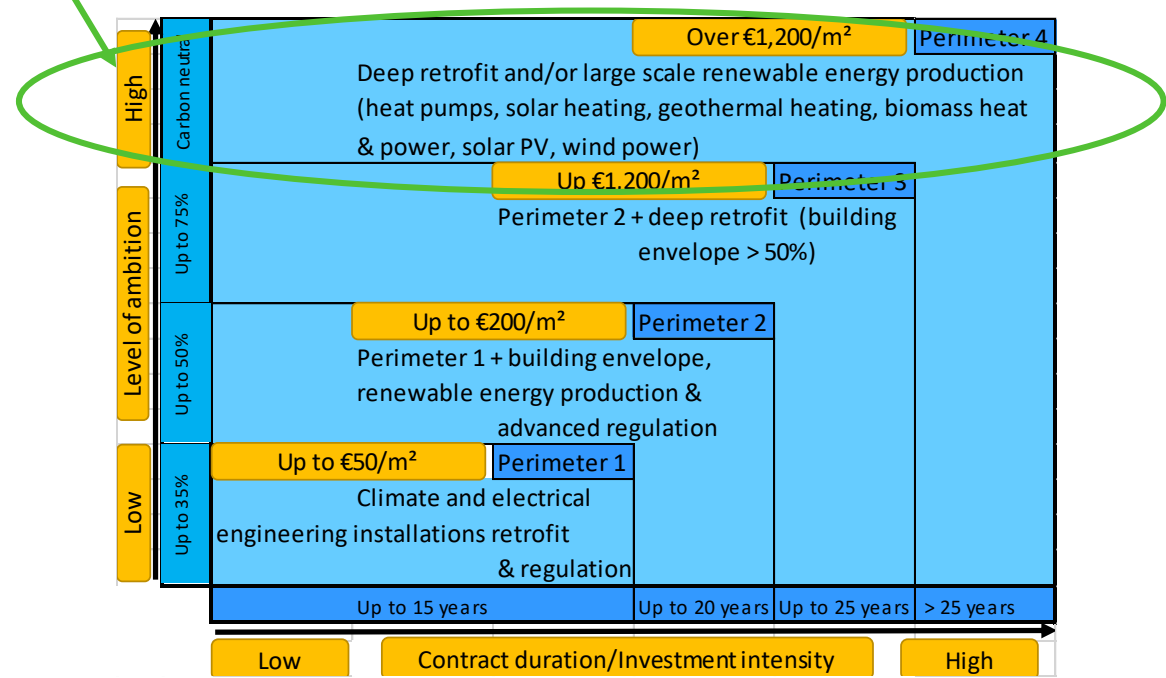
- Contribution of ETS and EEOs revenues to energy renovation is quite limited:
 - The use of 100% of ETS revenues for energy renovation is equivalent to 1,76% of total investment.
 - The use of 67% of EEOs revenues for energy renovation is equivalent to 3,93% of total investment.
- Direct contribution to energy renovation of EU Funds (proposed for bundling under SFSB) is equivalent to 2.13% of total investment.
- Private finance is the main contributor to investment in energy renovation:
 - France used 20% of households' energy taxes for energy renovation. This is equivalent to 23% of total investment.
 - Households have directly contributed to total investment in energy renovation by 70%.
 - In total, more than 90% of total investment in energy renovation was financed by households.
- The use of 80% of households' energy taxes is unclear.
- Unlocking public finance for energy renovation and reducing energy renovation costs should be Europe's priorities.

Energy renovation costs must be divided by 4 to decarbonise Europe's building stock



Business As Usual model

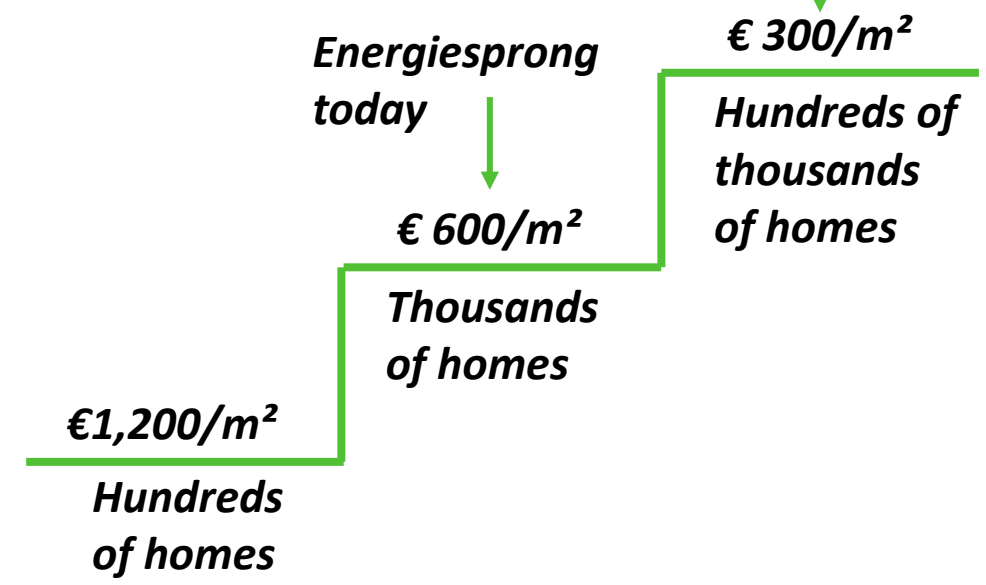
The energy renovation to aim for to meet 2030 energy and climate targets



With 31,400 € per home, the level of ambition of French renovation projects was at the best up to 50% energy savings!

Innovative model

The cost to target to renovate Europe



It will be hard to decarbonise the EU building stock without drastic cut in energy renovation costs

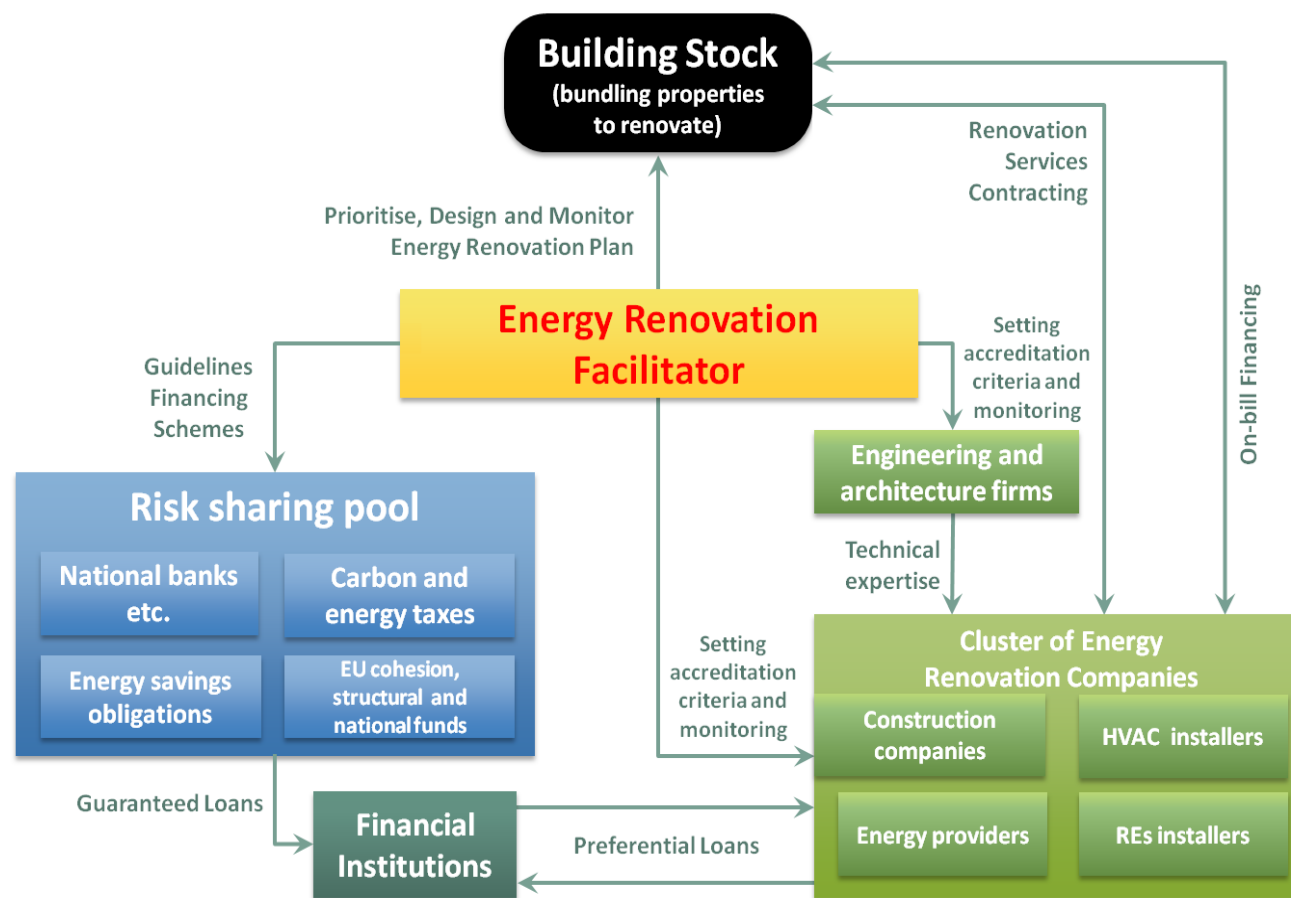


A revolutionary vision of energy renovation is needed to deliver on the revolutionary Paris Climate Agreement



- Direct subsidies to consumers should be stopped and all existing funding should be considered for bundling by the Investment Platforms.
- Public finance should be used to provide loans to companies delivering zero energy renovation projects.
- Public finance should be used only for projects aiming at zero energy/carbon renovation.
- One-Stop-Shops should be independent entities which do not mitigate any risk to allow them to facilitate the process needed to deliver zero energy/carbon renovation projects.
- Renovation process should be industrialised to make zero energy renovation cost-effective and to reduce the on-site intervention time.
- Long-term energy renovation contracting with properties (and not with individuals) should be used to address the split incentive, the mobility and up-front cost issues.
- The diagram included in the next slide summarises the market framework described above.

Summing-up: A paradigm shift in policy design is needed to renovate Europe and meet Europe's obligations under the Paris Climate Agreement





Thank you for your attention

The discussion paper and the presentation
are available on the event page of:

<https://www.openexp.eu/events/smart-finance-smart-buildings>