



Energy refurbishment of social housing using Energy Performance Contract

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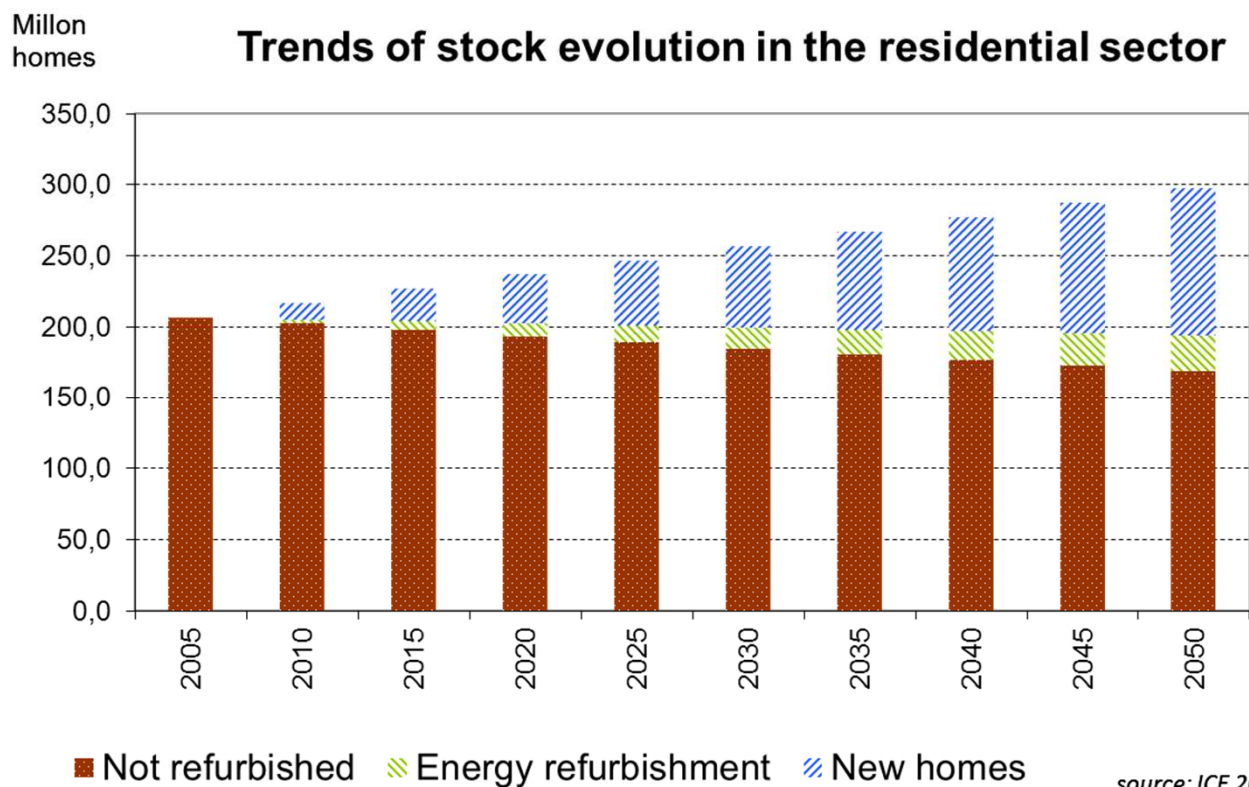


Current trends in the housing sector

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□ Housing in UE:

- 206,7 million homes⁽¹⁾
- 2,3 millions new houses /year⁽¹⁾
- 0,15% of the stock destroyed/year⁽²⁾
- 0,3% of the stock destroyed/year⁽³⁾



Change scale and accelerate refurbishment rhythm

(1) Federcasa 2006
(2) ICE based on UNECE 2001
(3) ICE based on DG-Tren 2007



Lack of adapted financing mechanisms

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- **“Factor 4” largely exceeds the direct investment capacity of most building owners**
 - ▣ 23k€ on average for low energy refurbishment⁽¹⁾
 - ▣ 1,500 up to 4,000 billion € at European level between 2010 - 2050
40 up to 100 billion € / year for 40 years on average
- **The only financial resource available in an appropriate volume is the energy savings**
 - ▣ Cost of refurbishment 80 up to 200 €/year/40 years on average per inhabitant
 - ▣ To be compared with UE budget in 2010 of 280 €/year/UE inhabitant⁽²⁾
 - ▣ To be compared with average domestic energy bill of 590€/inhabitant/year⁽³⁾
- **Is Energy Performance Contract a solution ?**

(1) Source: IDDRI 2010

(2) Source: Euractiv 2010

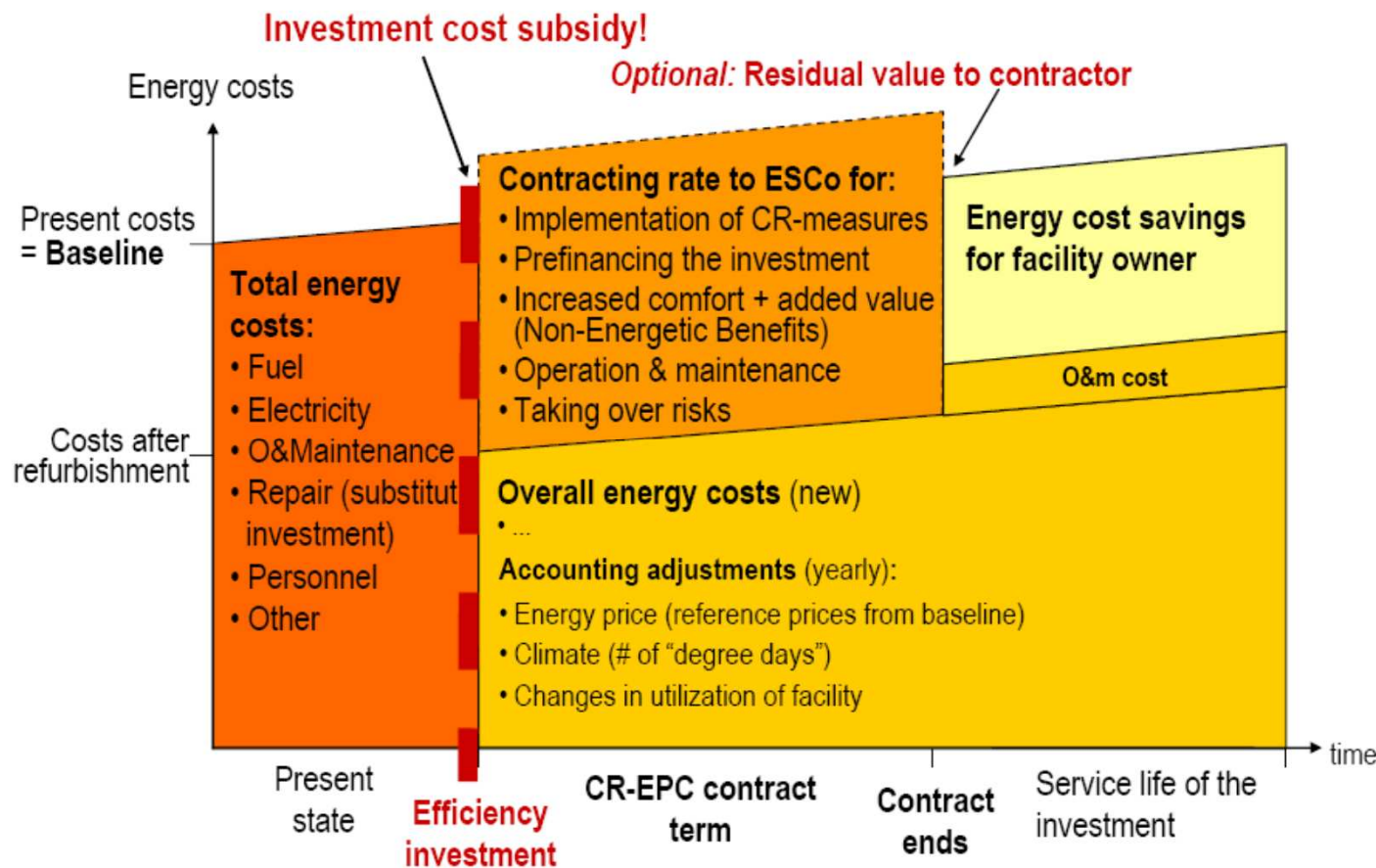
(3) INSEE 2006; data for France (71% heating; 13% light and appliances; 10% hot water; 6% cooking)



EPC: a tool for comprehensive energy retrofitting?

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- 3 innovations:
 - Design-implement-operate contract for works and services by an ESCO
 - Guarantee on energy performance in the operation phase
 - Third party financing (optional)



Source: IEA DSM / Graz Energy Agency,
Comprehensive Refurbishment
of Buildings through Energy Performance
Contracting. November 2008. www.ieadsm.org





FRESH overview

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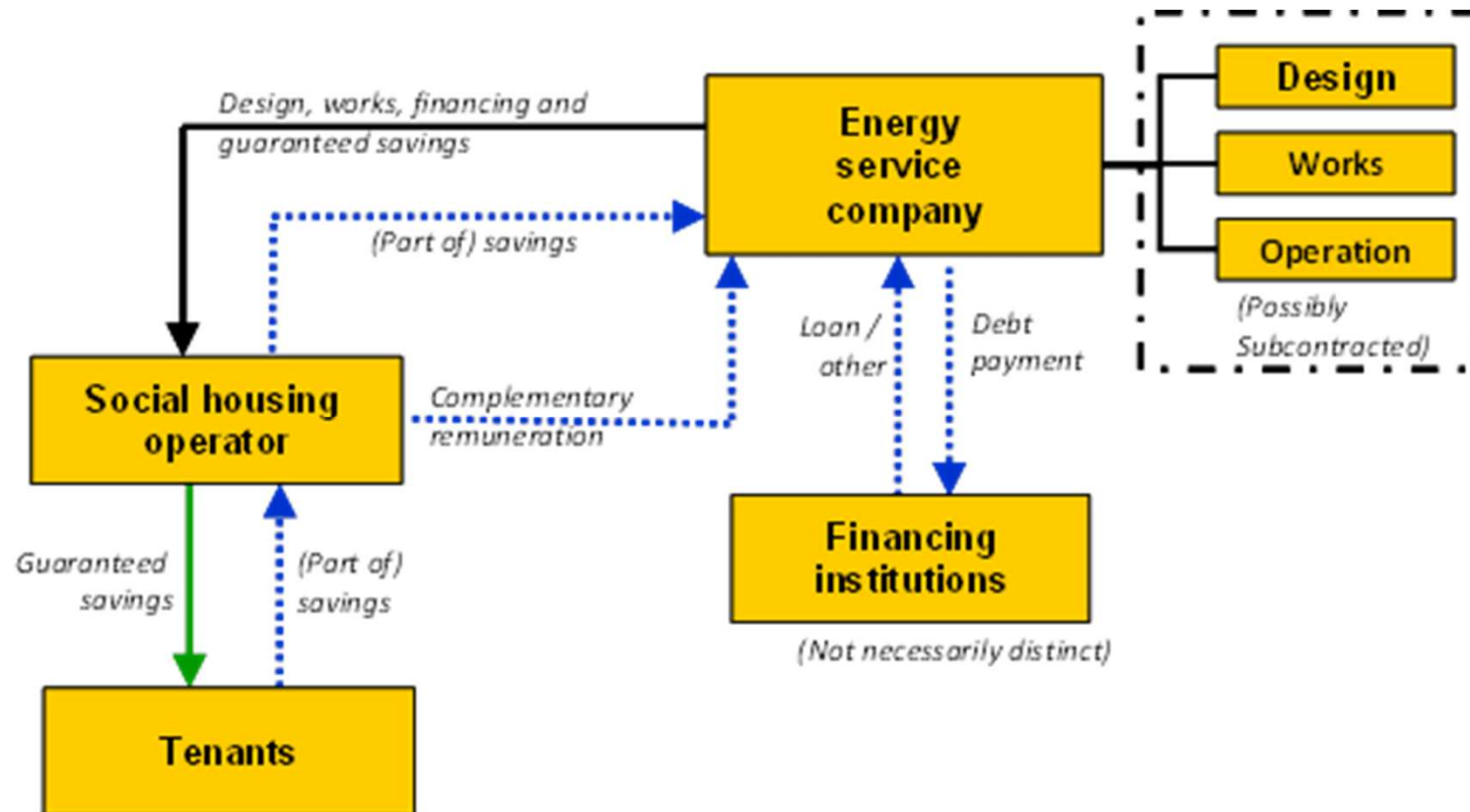
- Comprehensive Social Housing Refurbishment through EPC with 3rd party financing
- Test implementation in France, UK, Italy and Bulgaria:
 - ▣ French EPC nearly signed (20 years contract)
 - ▣ UK contract under negotiation
 - ▣ Italian tender in preparation (tenant's agreement missing)
- Demonstrate feasibility conditions to social housing operators and authorities
- Produce guides and tools for large scale replication
 - ▣ National and European **handbook** for EPC's in social housing
 - ▣ National and European **recommendations** for public authorities



Specificities in Social Housing

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- Capped rents (except Bulgaria, owner occupied)
- No contractual relationship between the ESCO and the tenant (France, Italy)
- The SHO has an EP contract with the ESCO
- EPC costs are integrated in the traditional rent contract like O&M charges





Obstacles and conditions for up scaling

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- Energy savings cannot be recouped from tenants
 - ▣ Italy: can be recouped with the agreement of 100% tenants
 - ▣ France: 50% of savings can be recouped but:
 - That is only 50%, fix amount for 15 years whereas energy will rise
 - With 25 years average payback, that represents 30% of investment without financial charges
- With current conditions, energy savings recouped from tenants (if any) are not sufficient to repay a significant share of investment
- Rent laws need to be adapted:
 - ▣ Switch to « warm rent » (FR, IT, UK): tenants pay a total fee for their rent and energy charges
 - ▣ Make a specific status for EPC's in rental charges?
 - ▣ Increase the share / duration of savings recouped from tenants?



Obstacles and conditions for up scaling

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- Need for an integrated service supply (design, build, operate AND finance)
- Third party financing operators should be initiated by public authorities
 - ▣ Enable « factor 4 » EPC's with very long contracts
 - ▣ Reduce engineering costs
 - ▣ Facilitate access of SME's to the market
 - ▣ Accessing low cost debt for third party financing
 - EIB loans
 - Jessica revolving funds (EIB): using ERDF grants as equity
 - Other...
- Framework for risk management:
 - ▣ Insurance for EPC providers need to be developed to enable SME's to access the market
 - ▣ Measurement and Verification protocols should be simplified and adapted for comprehensive refurbishment



Conclusion

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- Due to rent regulations, the « conceptual » EPC model does not work in social housing
- Factor 4 will not be self-financed, even with long term contracts
 - ▣ They will always require an additional contribution of the owner
 - ▣ Yet: increased « green value » of buildings, legal obligations... the owner should pay for a part anyway!
- Engineering costs will remain high: EPC's make sense on pools of dwellings, not 1 building
- They could be a real tool for SHO's to:
 - ▣ Guarantee the efficiency of investments (green value / tenants)
 - ▣ Boost the realisation of energy strategy
 - ▣ Outsource debt / do more with our equity
- **EPC are not THE solution! But one more tool in the toolbox for social housing**

Thank you for your attention

Project Coordination

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