



# How to Upscale Deep Renovations Using Financial Mechanisms

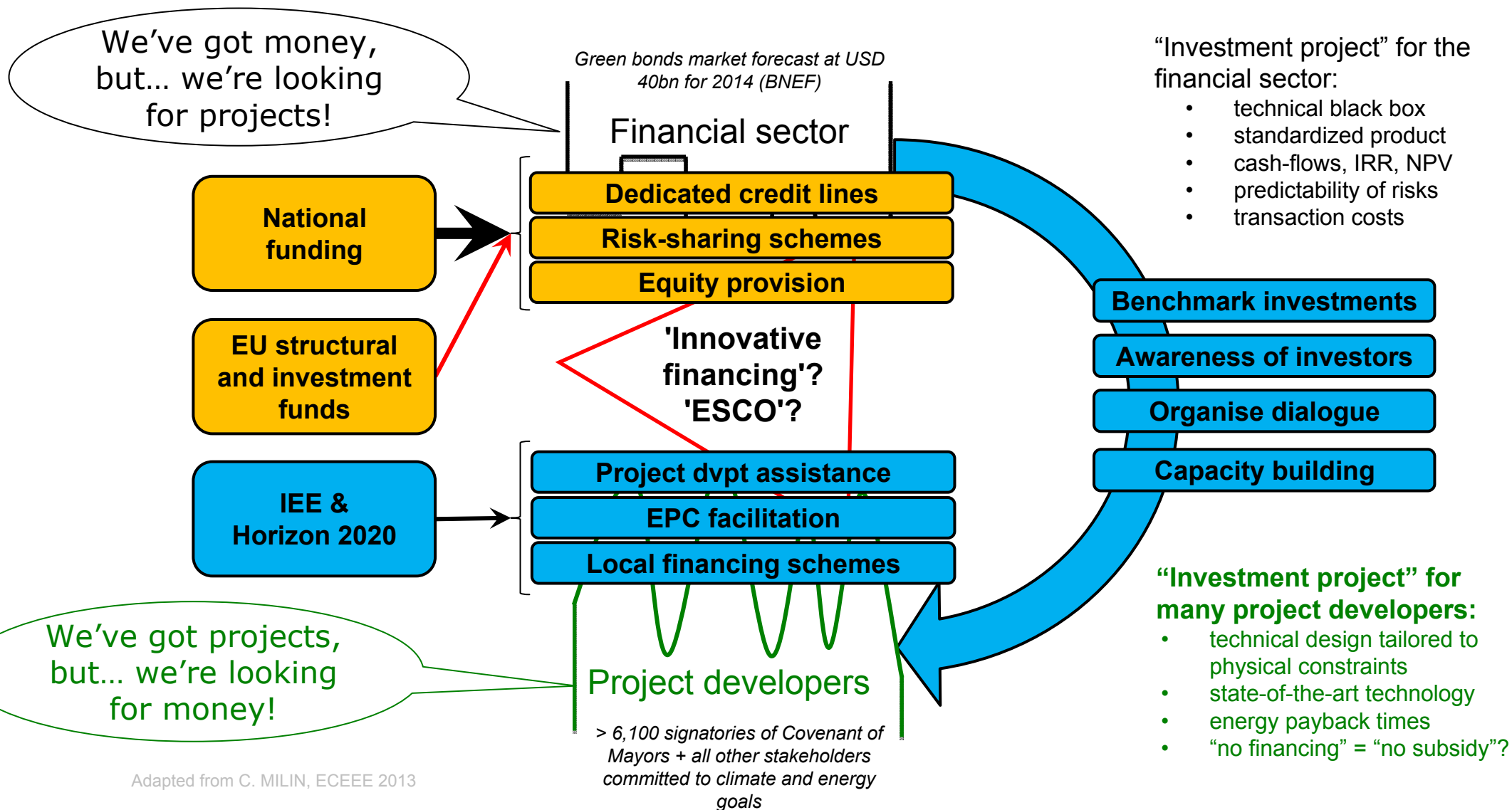
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# Finance and energy efficiency investments: filling the gap through EU programmes



Adapted from C. MILIN, ECEEE 2013

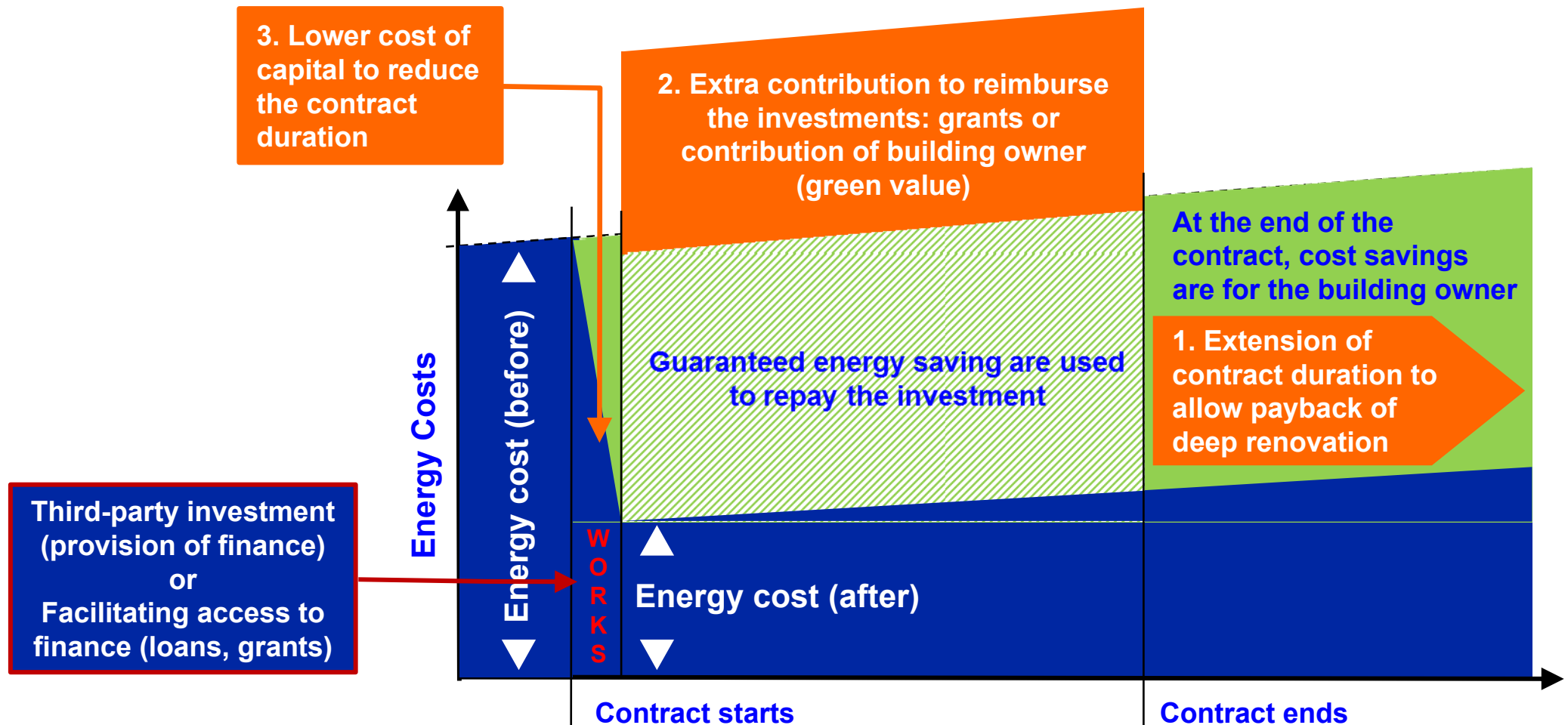
# Deep renovation and the finance puzzle



- **Technical challenge of deep renovations is being overcome**
  - e.g. France: 100,000 dwellings, 580,000 m<sup>2</sup> commercial in 'BBC Renovation'
- **... but energy savings are not yet a credible business for banks**
  - Lack of track record leads to higher cost of capital or balance sheet requirements
  - High transaction costs due to lack of technical standardisation
- **Long-term paybacks are an issue for building owners**
- **We need to develop financial models that:**
  - use public money to leverage in private finance
  - overcome building owners' aversion to debt (balance sheet issues, time horizon, tenant/landlord split incentive...)
- **Combine deep renovation vision with different pieces of the puzzle:**
  - Public support to drive the supply of finance: soft loans, risk-sharing
  - Public support to drive demand: project development assistance, aggregation / standardisation of small investments
  - Innovative financing schemes to bridge the gap between demand and supply
    - ✓ e.g. energy performance contracting, on-bill finance, on-tax finance

# Energy (savings) performance contracting (EPC)

## How to maximise energy savings?



# Limits of energy (savings) performance contracting

## ➤ Confusion on market actors – 'ESCO' ≠ EPC

- EPC is seen to focus on "low hanging fruits" – mostly due to the client's demand
- Traditional ESCOs focussed on HVAC but in deep retrofit most of the investment is implemented by construction companies
- Companies supplying EPC for deep retrofit don't necessarily label themselves as ESCOs!

## ➤ EPC procurement is more complicated

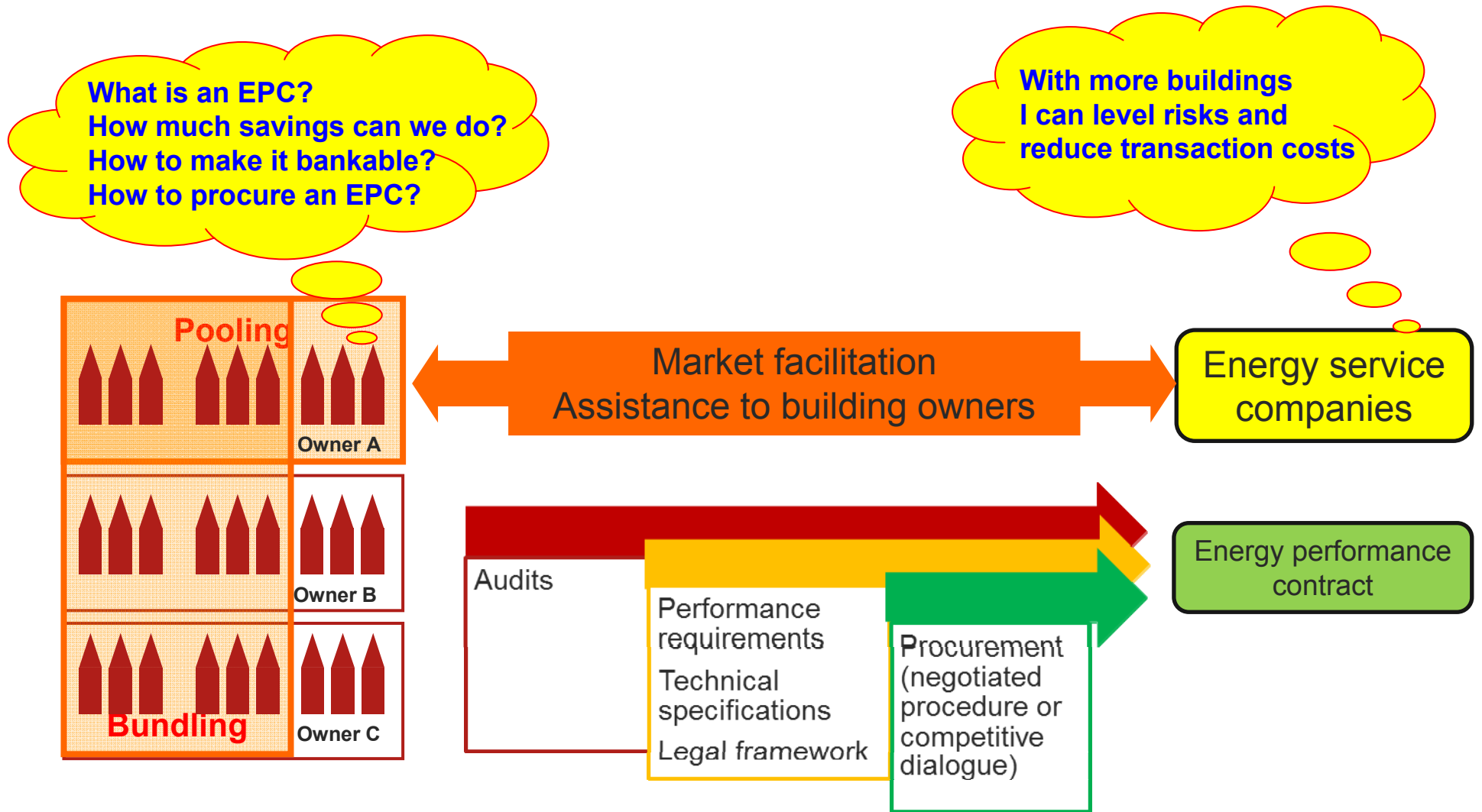
- Building shell = Terra incognita!
- Stronger interactions with safety regulation (fire hazard) and user interaction (noise, natural light, maintenance in housing)
- Procurement through competitive dialogue is more adapted but heavier!

## ➤ Financial issues

- EPC may not repay all upfront costs for deep retrofit – but is that really a problem?
- **High transaction costs** (procurement) and operation costs (M&V): focus on large buildings
- Higher financial costs for a savings guarantee / loss of fiscal incentives
- Off-balance sheet accounting depends on Member States

## ➤ **No good contract without a good client!** So clients need assistance

# Supporting EPC market uptake



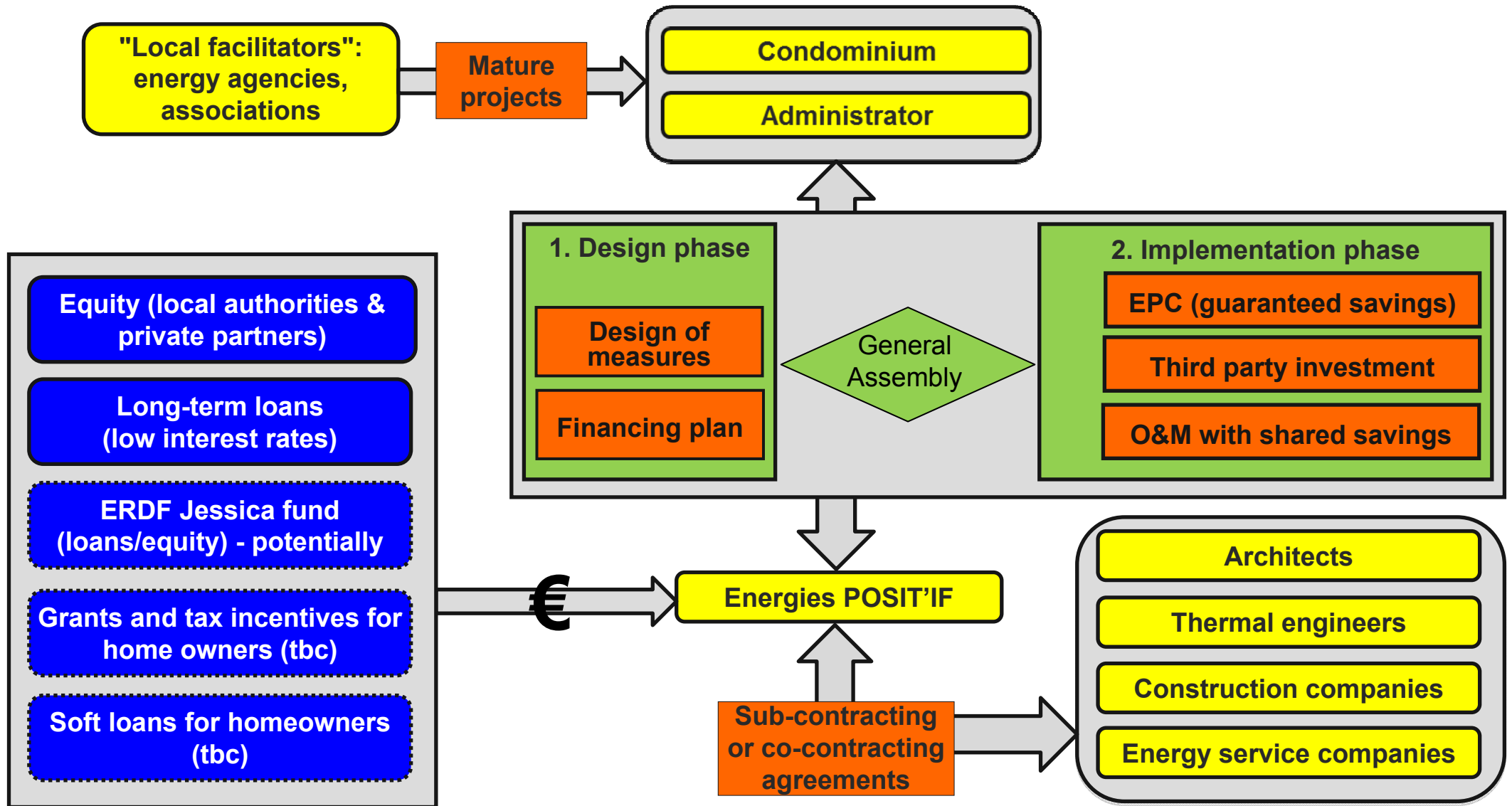
Source: A. Bullier , ECEEE 2013

# Emergence of public third-party investment operators to foster (EPC for) deep renovation

- **Deep renovation EPC is not happening due to:**
  - Lack of demand and capacity of building owners
  - Low appetite of the private sector to finance long-term EPCs
- **Some regions in France are creating public TPI operators aiming to:**
  - Develop projects based on EPC
  - Provide financing for deep renovation EPC
  - Outsource technical management to private construction companies and ESCOs
- **TPI operator for public buildings: OSER (Rhône-Alpes region, France)**
- **TPI operator for condominiums: Energies Positif (Ile de France region, FR)**
  - Equity from the Region, other local authorities and private sector
  - Acts as a trusted third-party for condominiums (multifamily buildings)
  - Audits and technical specifications for deep renovation (50-80% savings)
  - Financial engineering for each household
  - EPC provider, works and maintenance are sub-contracted to private sector
  - Expected investments of EUR 100m for 2014-2016 (4,000 dwellings)
  - [www.energiespositif.fr](http://www.energiespositif.fr)

# MLEI POSIT'IF (Ile de France, FR) (funded under IEE programme)

## Public ESCO scheme for condominiums



Source: José Lopez, Energies POSIT'IF



# **SPL OSER (Rhône Alpes, France)**

## **In-house ESCO for deep retrofit of public buildings**

- **Public local company (SPL) created by the Region and 8 local authorities to:**
  - carry out the preparatory works to an EPC on behalf of the local authority: feasibility studies, building surveys, etc
  - procure an ESCO to implement the works and guarantee savings
- **Leasing contract OSER / local authorities (on balance sheet)**
  - OSER sub-contracts the operational part of the EPC to private sector (back-to-back)
  - Provides the skills to procure AND manage long-term complex contracts
  - Finance the works which are repaid by the LA over time – average 22 years
- **Targeted savings 40-75% - savings to cover 35 to 50% of the LA's annuities**
- **OSER expects to refinance itself through forfeiting of claims on LA**
- **EUR 50 million investments expected in 2014-2016, first tenders mid-2014**
- **<http://spl-oser.fr>**

# Disconnecting debt from the building owner

## ➤ How to overcome aversion for debt?

- Attach the debt to the building, not the owner
- Collect investment repayment to a secured channel to reduce risks and transaction costs

## ➤ 2 key models rolled out

- Green Deal (UK): loan is attached to the energy meter, debt collected by energy supplier
- PACE (US): loan is attached to the property, debt collected through local property taxes

## ➤ Advantages:

- No performance guarantee reduces transaction costs and financial risk
- Overcome tenant / landlord split incentive
- Can be passed on to the next owner / tenant
- Standard contracts can be securitised and sold to institutional investors

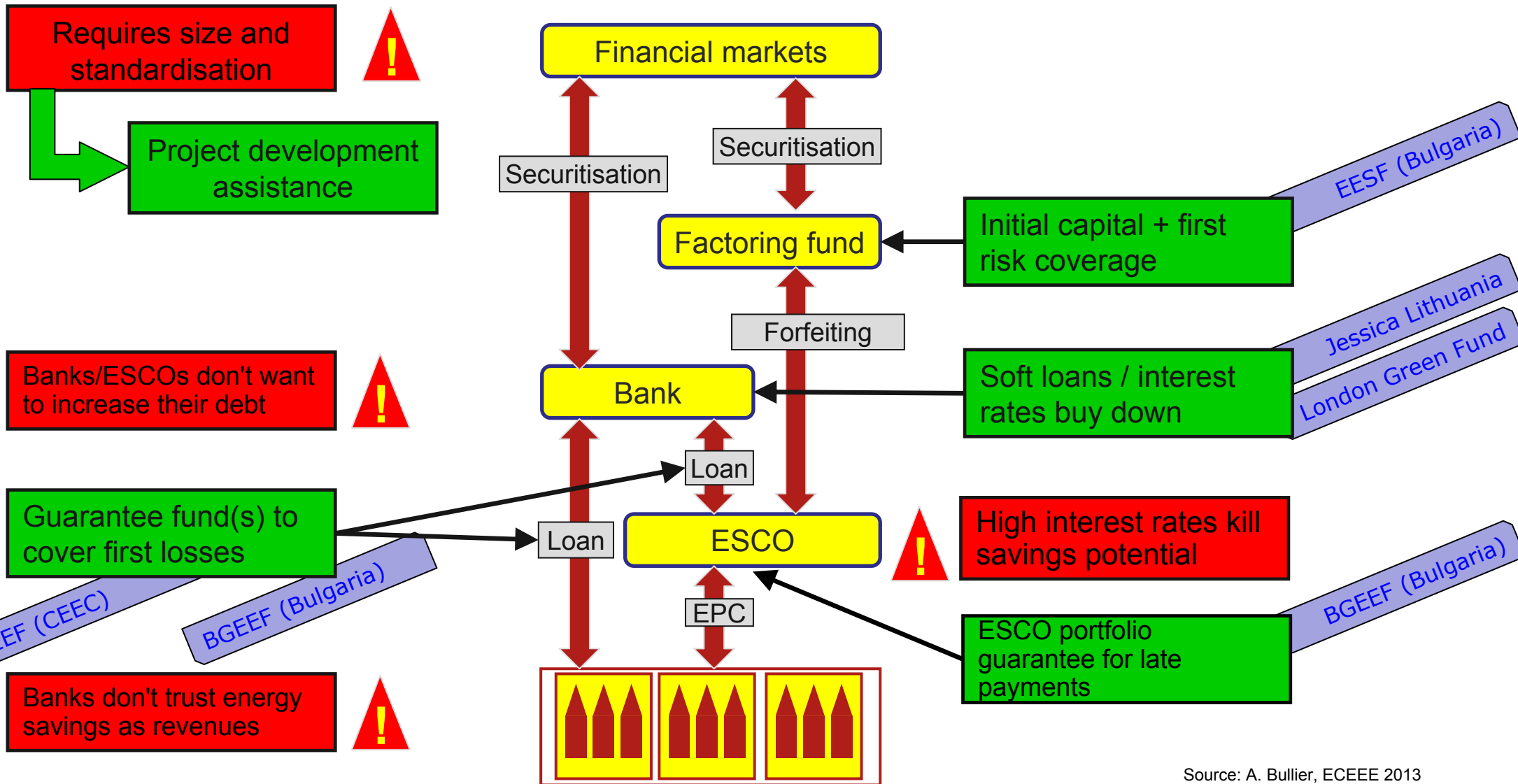
## ➤ But so far not targeted on deep renovations!

# **MLEI PSEE Alsace (FR)** (funded under IEE programme)

## **Deep renovation of detached housing with on-tax financing**

- **Public Service for Energy Efficiency (PSEE) to assist homeowners to:**
  - Carry out energy audits
  - Draft technical specifications
  - Structure the financing plan
  - Procure and supervise the works
  - Operate and maintain correctly the renovated home
- **PSEE to match the funding gap for the works**
  - loan repaid over time through occupancy taxes (similar to PACE)
  - no guaranteed savings but aims to cover reimbursements through savings
  - the "debt" can be passed on or reimbursed when the house is sold or let to a new tenant
- **Scheme aimed at low-energy retrofit – 40-75% savings**
- **Currently engineering the scheme, first investments expected in 2015**
- **1,000 homes / €40 million targeted**

# Public schemes to support finance for building renovation



Source: A. Bullier, ECEEE 2013

# Supporting uptake of financing schemes for deep renovation

- **Energy Efficiency Obligations (art 7 of the Energy Efficiency Directive):**
  - 1.5% energy savings year on year to be delivered by energy suppliers
  - Create additional funding sources for energy savings
  - Leverage the customer relationship of utilities
  - most EU Member States are planning to develop EEO schemes
- **EU structural and investment funds:**
  - allocation to low carbon economy quadrupled: EUR 38 billion for 2013-2020
  - will be increasingly used through financial instruments e.g home renovation loans
  - grants should be increasingly allocated for deep renovation
- **Liaising with the Energy Efficiency Financial Institutions Group (EEFIG)**
  - Interim report on buildings (April 2014)
  - Final report on buildings and industry (March 2015)
- **Horizon 2020 programme provides funding for**
  - project development assistance (including ELENA facilities): create a pipeline
  - development and replication of innovative financing schemes
  - Capacity building
  - Engagement of finance sector to increase financial flows on energy efficiency

# Thanks for your attention

## For more information:

- Horizon 2020 Energy Efficiency call for proposals: <http://ec.europa.eu/easme/en/energy>
- Energy Efficiency Financial Institutions Group (EEFIG) – Interim report on buildings (April 2014) - <http://bit.ly/1q0FbPf>
- Innovative financing solutions: experiences from Intelligent Energy Europe projects <http://bit.ly/1G9L9VQ>
- Innovative financing for energy efficiency and renewables: feedback from successful projects: <http://bit.ly/1G7tMXC>
- Adrien Bullier & Christophe Milin, Alternative Financing Schemes for Energy Efficiency in Buildings, ECEEE 2013 Summer Study <http://bit.ly/1G9L9VQ>



THE EU FRAMEWORK PROGRAMME  
FOR RESEARCH AND INNOVATION

# HORIZON 2020

**Finance for sustainable  
energy**

**Energy Efficiency call for proposals  
Topics EE19-20-21**



**Disclaimer: The content of this presentation is for information purposes only. The relevant legal instruments and the text of the call shall take precedence over the information contained in this presentation. The European Commission or EASME does not accept responsibility for any use made of the information contained therein.**

# Energy Efficiency funding in Horizon 2020

- Horizon 2020 is the new EU Framework Programme for Research and Innovation.
- Its Energy Challenge on 'Secure, clean and efficient energy' includes activities that build on the experience of the previous Intelligent Energy Europe Programme (<http://bit.ly/1aWGYgW>) in facilitating market uptake of energy technologies and services.
- Projects to be financed extend from research to market, including activities building on the experience of the previous IEE Programme in facilitating market uptake of energy technologies and services
- Funding topics are defined indicatively for 2 years ahead
- Annual calls for proposals – next deadline: 4<sup>th</sup> June 2015



## H2020 – Energy Efficiency - Finance for Sustainable Energy

### Key objectives



- Engage with financial sector and increase investor confidence
- Build a pipeline of lighthouse projects
- Roll out of Energy Services (incl Energy Performance Contracting) and other innovative financing schemes
- Build capacity for sustainable energy finance solutions in all sectors
- "Sustainable energy" refers to energy efficiency and/or renewable energy
- Grants under topics EE19-20-21 do not fund hardware investments

## H2020 – Energy Efficiency - Finance for sustainable energy

### Overview of topics

- EE 19: Improving the financeability and attractiveness of sustainable energy investments
  1. Development of frameworks for the standardisation and benchmarking of investments
  2. Targeting public institutional investors (e.g. public or semi-public pension schemes)
  3. EU and national sustainable energy financing platforms
- EE 20: Project development assistance (PDA)
  - Public and private entities to develop lighthouse projects
  - Focus on public & private buildings, retail energy market infrastructure, commercial & logistic properties and sites
  - EUR 1 from the EU must lead to EUR 15 in investments
- EE 21: innovative energy services and financial schemes for sustainable energy
  1. Roll-out of innovative energy efficiency services (e.g. EPC)
  2. Replication of successful innovative financing solutions and energy services
  3. Large-scale capacity building for public authorities and SMEs on innovative financing

→ Call Deadline 4 June 2015

## H2020 – Energy Efficiency - Finance for Sustainable Energy

### Which topics are of interest to whom?

- Topics EE19-20-21 could be interesting to the following stakeholders or their representatives (associations, federations...)
  - **this list is indicative and not exhaustive:**
    - financial market actors,
    - standardisation and valuation entities,
    - industry,
    - public authorities,
    - consumers
    - property owners
    - public institutional investors
    - public and private project promoters,
    - public/private infrastructure operators,
    - retail chains,
    - cities,
    - SMEs/industry
    - energy services industry

# EE 19: Improving the financeability and attractiveness of sustainable energy investments

## 3 sub-topics:

1. Development of frameworks for the standardisation and benchmarking of investments
2. Targeting public institutional investors (e.g. public or semi-public pension schemes)
3. EU and national sustainable energy financing platforms

➤ Proposals must associate 3 entities from 3 countries, except for national platforms where 1 entity is sufficient

➤ Expected impact (depending on the projects):

- reduced uncertainty, increased investors' confidence and trust
- innovative (and relevant) asset valuation methodologies agreed by the market
- standardised descriptions of sustainable energy investments or measures/contracts
- labelling schemes
- standardised descriptions of sustainable energy investments or measures/contracts
- labelling schemes or harmonised frameworks for sustainable energy investments
- national strategies for financing sustainable energy investments

## EE 19: Improving the financeability and attractiveness of sustainable energy investments

### 1. Development of frameworks for the standardisation and benchmarking of investments, such as

- labelling and standardisation of sustainable energy investments or portfolios
  - valuation techniques integrating the 'green value' of buildings
- Proposals integrated in a broader approach such as socially responsible investment or 'green buildings' should focus on the energy component.

### 2. Target public institutional investors (e.g. public or semi-public pension schemes) in order to

- increase the share of their funds invested in sustainable energy
- to develop specific funds or investment products

# EE 19: Improving the financeability and attractiveness of sustainable energy investments

## 3. Sustainable energy financing platforms

- Bridge the gap between the financial sector and the sustainable energy sector:
  - organise dialogue between all relevant stakeholders
  - develop roadmaps
  - propose improvements in the legal frameworks
  - develop template documents and contracts leading to a better understanding of the market.
- **Proposals from 1 single entity are eligible for this sub-topic**
- The mechanism for knowledge sharing between countries will be established by the Commission services

## EE 20: Project development assistance (PDA)

- **€1 of EU support must trigger €15 of investments to be launched by the end of the project (not necessarily fully implemented)**
- Support project promoters to
  - mobilise all relevant stakeholders, draw up investment inventories, develop feasibility studies,
  - set up financial engineering instruments,
  - address legal and procurement issues
- Targeted at public **and private** project promoters, e.g.
  - public authorities    - retail chains
  - public/private infrastructure operators                                    - real estate managers
  - SMEs/ industry
- **Proposals from 1 single entity are eligible for this topic**

## EE 20: Project development assistance (PDA)

- Triggered investments should be of **€6-50 million** and target
  - public and private buildings,
  - retail energy market infrastructure, e.g. smart grids, e-mobility charging points, public lighting networks, district heating networks, distributed renewables (on-site PV, micro-CHP...), demand response, etc.
  - commercial and logistic properties and sites
- Investments must have a **lighthouse** dimension
- Projects should contain **organisational innovation** in the mobilisation of the investments and/or the financial approach
  - Innovation should be demonstrated taking into account the situation in the targeted country.
  - No technical innovation is required
- FAQs on PDA: <http://bit.ly/OCPJZD>



## EE 21: innovative energy services and financial schemes for sustainable energy

1. Roll-out of business models for innovative energy efficiency services (e.g. **energy performance contracting**), enabling to fully monetise the resulting energy savings
  2. **Replication** of successful innovative financing solutions and energy services already implemented across the EU.
    - Particular attention should be given to innovative solutions enabling **aggregation, securitisation, project bundling, structuring of clearing houses**, or developing new investment mechanisms (e.g. **crowd-funding** for sustainable energy).
  3. Large-scale **capacity building** for public authorities and SMEs to set-up or use innovative financing schemes for sustainable energy
- Proposals must associate 3 entities from 3 countries
- Expected impacts (depending on the project):
- Savings of at least 25 GWh/year for every million Euro of EU support
  - larger investments in sustainable energy and generated renewable energy
  - better implementation of energy-efficiency policies, number of policy makers influenced
  - number of people with increased skills
  - number of people changing their behaviour.

# H2020 – Energy Efficiency call

## Deadline 4 June 2015 17:00 CET - Online resources

- EASME Energy Efficiency webpage: <http://ec.europa.eu/easme/en/energy>
- Horizon 2020 work programme 2014-2015
  - Secure, clean and efficient energy challenge
    - Energy Efficiency call
      - Section D: Finance for sustainable energy
        - Topics EE19, EE20, EE21
  - [http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014\\_2015/main/h2020-wp1415-energy\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014_2015/main/h2020-wp1415-energy_en.pdf)
- EE 19: Improving the financeability and attractiveness of sustainable energy investments
  - Call H2020-EE-2014-3-MarketUptake <http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/2379-ee-19-2015.html>
- EE 20: Project development assistance (PDA)
  - Call H2020-EE-2014-4-PDA <https://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-ee-2015-4-pda.html>
  - FAQs on PDA: <http://ec.europa.eu/easme/sites/easme-site/files/documents/PDA-FAQ-v1.pdf>
- EE 21: innovative energy services and financial schemes for sustainable energy
  - Call H2020-EE-2014-3-MarketUptake <http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/2365-ee-21-2014.html>
- Practical information on H2020: <http://ec.europa.eu/programmes/horizon2020/en/how-get-funding>

**For all questions on the Energy efficiency call, please contact:  
Executive Agency for Small and Medium-Sized Enterprises  
(EASME – formerly EACI)**

**[EASME-Energy@ec.europa.eu](mailto:EASME-Energy@ec.europa.eu)**

**or**

**contact your National Contact Point:**

**[http://ec.europa.eu/research/participants/portal/desktop/en/support/national\\_contact\\_points.html](http://ec.europa.eu/research/participants/portal/desktop/en/support/national_contact_points.html)**