Energy efficiency financing principles and mechanisms

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To achieve “66% 2°C” scenario requires average investment into energy efficiency > USD 1 trillion a year between 2016 and 2050

i.e. circa 5 x current level
Types of EE projects

**Retrofits**
- Stand-alone
- Primary purpose is EE
  - e.g. LED conversion

**Embedded**
- Part of a wider renovation/refurbishment project
- Primary purpose is something other than EE
  - e.g. major building refurbishment to bring it up to modern standards

**New build**
- New buildings or facilities that are more efficient than codes / regulations / norms
- e.g. new building built to Passivhaus standard
The project life cycle

Development Period | Underwriting Period | Invest | Performance Period
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Development finance
- Equity
- Grant (PDA)

Project finance
- Debt

Low Risk

High Risk

Scarce

Abundant
Mechanisms for financing EE

- Own capital
- Loans/mortgages – residential/commercial buildings
- Leasing
- Specialised energy efficiency Funds
- Property funds specialising in energy efficient buildings
- Financing of energy service contracts through ESCOs and Super ESCOs
  - EPC / Chauffage / ESA / MESA / MEETS / LaaS / P4P
- On Bill Recovery (OBR)
- Property Assessed Clean Energy (PACE)
- Guarantee funds
- Forfaiting funds
- Green bonds
- YieldCos
To scale up we need to assemble the jigsaw of energy efficiency finance.

- Project development finance e.g. equity
- Long term project finance e.g. debt
- Build capacity in demand side (end users)
- Build capacity on supply side (supply chain)
- Build capacity in finance industry
- Aggregate projects through procurement frameworks or Super ESCOs
- Standardised development & documentation through Investor Confidence Project
- Standardized systems & Underwriting
Specialised energy efficiency funds

London Energy Efficiency Fund (LEEF)
- Established by the Mayor of London
- Long term debt fund
- ERDF funds plus private sector debt
- Managed by Amber Infrastructure
- Invested more than £110m
- Invested in public sector and private sector

http://www.leef.co.uk/index.html
On-Tax Financing

Property Assessed Clean Energy (PACE)
- Started in the US in 2008
- Has grown to finance €4.7 billion of residential & commercial projects in US
- Covers 100% of project costs
- Repayable over 20 years by an addition to property tax
- Low risk
- Copied in Canada, Australia and elsewhere
- Now being developed in Europe through Horizon 2020 project EuroPACE

http://www.europace2020.eu
Latvian Baltic Energy Efficiency Fund (LABEEF)

- Facility to purchase long-term cash flows from renovation of multi-family buildings through Energy Performance Contracts
- Addressing massive problem of low efficiency, crumbling Soviet era housing – common across C&EE
- Private initiative
- Supported by EBRD and F³

ESCos, Super-ESCOs and procurement frameworks

Energy Service Companies (ESCOs) offer guaranteed savings through contracts such as Energy Performance Contracts (EPCs)

- High transaction costs
- Useful model – particularly for the public sector
- Does not transfer well into other sectors
- ESCOs only respond to RFQs – they don’t undertake high risk development
- Super-ESCOs can be “super developers” and do undertake development risk

An international framework for reducing owner and investor risk, lowering due diligence costs, increasing certainty of savings achievement and enabling aggregation.

Investor Ready Energy Efficiency™ is the quality mark like BREEAM or LEED but for an ENERGY EFFICIENCY RETROFIT PROJECT

Ensures transparency, consistency and trust-worthiness through best practice and independent verification.

Available across EU for buildings, industry, street lighting and district energy projects.
Building capacity in the financial sector

EEFIG UNDERWRITING TOOLKIT
Value and Risk Appraisal for Energy Efficiency Financing

A tool to assist financial institutions to scale up the deployment of capital into energy efficiency

I strongly recommend this toolkit to project promoters, banks, financial institutions and anyone else interested in financing energy efficiency.
Forwarded by Ward Stettler, European Commision VP

It will make it easier for financial institutions to carry out value and risk appraisals, for developers to attract capital, for businesses to fund projects.
Forwarded by Erik Solheim, UN Environment

The EEFIG Underwriting Toolkit

valueandrisk.eefig.eu
Cities can play a major role in assembling the jigsaw of energy efficiency finance

- Provide finance
  - Enable low cost finance including bonds and funds
  - Support finance mechanisms such as PACE
- Develop pipeline
  - Aggregate own estate
  - Local regulations and standards e.g. MEES
  - Convene other real estate owners
- Build capacity
  - Link to vocational training and education
  - Lead on quality standards
- Standardisation
  - Standardised development & documentation through Investor Confidence Project
  - Standardized systems & Underwriting
Energy efficiency financing is a developing market with massive potential

- It is not just about the money
  - Need Finance, Pipeline, Standardisation & Capacity building to come together – the EE financing jigsaw

- Distinguish between development finance and project finance
  - Development finance = high risk = scarce
  - Project finance = low risk = abundant

- Many different types of mechanism
  - Optimum will depend on market segment being addressed

- Lack of standardisation needs addressing
  - The mechanisms exists through the Investor Confidence Project’s Investor Ready Energy Efficiency™

- Lack of capacity in financial sector needs addressing
  - Through tools like the EEFIG Underwriting Toolkit
  - Derisking tools like EEFIG Derisking Energy Efficiency Platform (DEEP)