

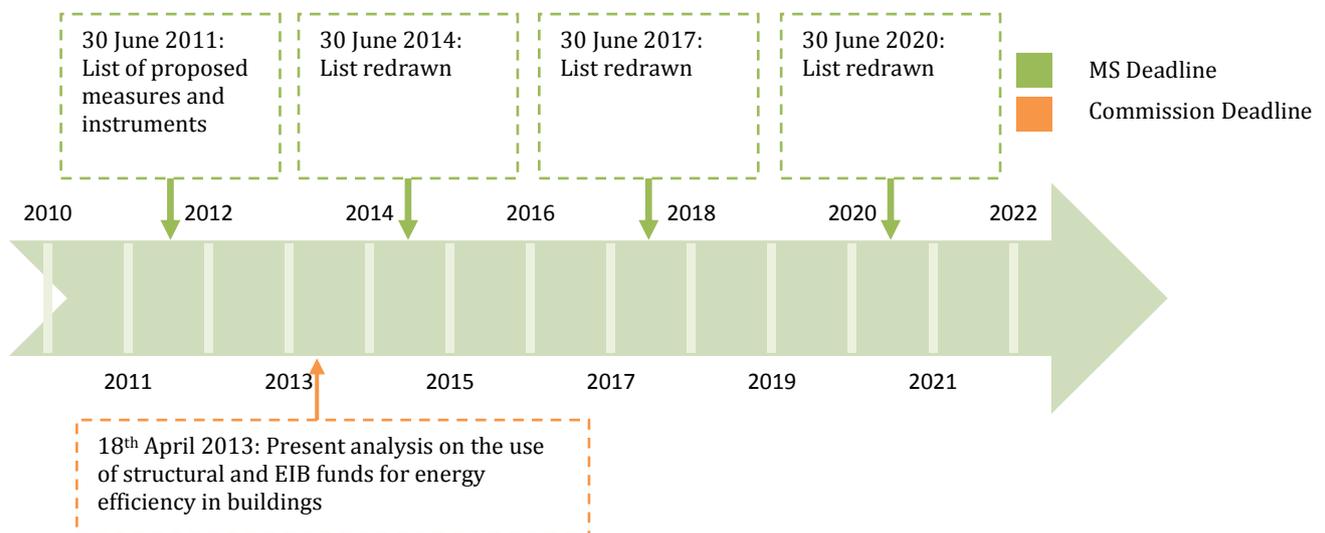
## Factsheet on Finance

*Other factsheets in toolkit: Cost-Optimality, Nearly Zero-Energy Buildings, Energy Performance Certificates, Training*

### Why finance?

Investing in the energy efficiency of buildings is often said to be one of the lowest cost means of carbon reduction available, providing reliable returns for investors whilst reducing carbon emissions. It also brings significant multiple benefits including increases to public finances<sup>1</sup>. However, to realise these returns, upfront capital must be provided, which means that an accessible way to finance improvements will be the key to meeting the objectives for the EU building stock.

### Description



When it was first introduced in 2002, the Energy Performance of Buildings Directive (EPBD) had no requirements for Member States to facilitate the financing of energy efficiency investments. The Recast contains a new Article relating to ‘financial incentives and market barriers’.

Article 10 requires that National Governments publish, by 30th June 2011, a list of existing and proposed measures and instruments (including those of a financial nature) that promote the objectives of the Directive. This list must exclude measures and instruments that are required by the Directive, thus showing additional measures and instruments being considered by the Member States. The list may be included in the Member State’s National Energy Efficiency Action Plan (also due by 30<sup>th</sup> June 2011, under the Energy Service Directive). The European Commission (EC) will then examine the effectiveness of the listed proposals and provide advice or recommendations to Member States if necessary. If asked by the Member State, the EC will help with the setting up of national or regional financial support programmes by supporting the exchange of best practice between the responsible authorities.

<sup>1</sup> Cf: Copenhagen Economics Study on the multiple benefits of investing in energy efficient renovation programmes at: [www.renovate-europe.eu/Multiple-Benefits-Study](http://www.renovate-europe.eu/Multiple-Benefits-Study)

The EC also committed to presenting an analysis on the use of EU funds to help finance national energy efficiency investments. It presented the analysis in a report that it issued in April 2013. The analysis covers:

- the effectiveness of Structural Funds that have already been used to increase the energy efficiency of buildings (especially housing);
- the effectiveness of the use of funds from the European Investment Bank and other financial institutions;
- the coordination of EU and national funding and other forms of support that might leverage additional investment.

On the basis of this analysis the Commission is considering whether or not to submit proposals for EU instruments to the European Parliament and the Council. Article 10 also states that “cost-optimal” levels of energy performance must be taken into account when providing incentives for construction or major renovation of buildings.

### Key issues

There are a number of barriers and market distortions that prevent individuals and businesses from getting finance for energy efficiency improvements. Member States will need to put finance schemes and incentives in place to help overcome these barriers.

### Market barriers

Barriers add to the cost of borrowing and if not addressed, can make deeper renovation un-economic:

- **Available capital is devoted to other more visible priorities, particularly in a time of recession** - Kfw loans (Exhibit A) mitigate this barrier by linking energy efficiency to higher priority works, low interest finance is available for home improvement works only if energy efficiency is improved at the same time.
- **The lack of trusted, relevant information and uncertainties in energy saving investments add a ‘risk premium’ to investments** - the UK’s Green Deal policy framework [Exhibit B] requires that all works supported by the finance mechanism to result from an independent energy audit of the home to calculate savings and be carried out by certified tradesmen.
- **The small scale, disperse nature of domestic energy efficiency investments create high transaction costs** – disparate works and resources can be pooled to enable access to capital in a number of ways: by obliging energy suppliers to promote energy efficiency improvements; through a large government backed fund reserved for efficiency investment ; or through an ESCO model.

#### Exhibit A – German Kfw Bankengruppe

The German Development Loan Bank, Kfw Bankengruppe, runs a CO<sub>2</sub> building refurbishment programme as part of the German climate protection programme and the Federal Government’s programme for growth and employment.

The programme offers low-rate long term loans to households for home improvements if they invest in energy efficiency whilst the general improvements are made. The interest rate is reduced using Federal Government funding for the first 10 years of the loan. There is also additional support in the form of repayment or capital subsidies. The loans are given to retrofits of existing buildings and to new-build properties that go beyond the current regulations in terms of efficiency. Incentives of greater capital subsidy or additional credit are given depending on the level of efficiency achieved in the building.

In the earlier years of the scheme, it was able to leverage investment worth around three times the federal funding used. Since the financial crisis, the scale of federal funding of the scheme has increased greatly (360 M€ in 2005 compared to 2,200 M€ in 2009) but is now only able to leverage investment worth about twice the federal funding used.

- ***In a domestic setting many personal, non-financial factors will influence the decision of whether to invest.***

### **Market failures**

There are three main market failures that result in the under valuing of energy efficiency improvements:

- Split incentives (e.g. landlord/tenant) can mean those best placed to invest cannot always recoup the value of energy savings made; and
- The future energy costs of a building are not fully valued in the sale price; and
- The full societal cost of energy consumption is not reflected in the price of energy.

### **European sources of finance**

The Commission's review of the effectiveness of using **EU Structural Funds** for energy efficiency projects may result in a greater proportion of this money being made available. Of the four structural funds the €308bn **European Regional Development Fund (ERDF)** is the most relevant for energy efficiency. In the 2007-2013 period, expenditure on energy efficiency improvements and the use of renewable energy in existing social housing is eligible for up to 4% of the total ERDF allocation. In the forthcoming period from 2014-2020, the amount of money available will be increased to around €12bn and the allowable percentages will be 12% for less-developed regions and 20% for more-developed regions.

**European Investment Bank** lending for energy efficiency doubled to €1.5bn between 2008 and 2009 and continued to grow to €2.3bn in 2010. In general, energy efficiency considerations are being mainstreamed into all projects appraised by the Bank and it is extending its use of intermediated loans to "high-street" banks for energy efficient projects.

The **European Local Energy Assistance fund (ELENA)** is available to 'Covenant of Mayors' signatories. It offers technical assistance and expertise to support the early stages of local projects including retrofitting of public and private buildings, sustainable building and energy-efficient district heating and cooling networks. The Local or Regional authority is supported by the ELENA facility, and can be eligible for a community grant of up to 90% of eligible costs. To date, every euro spent through ELENA has leveraged at least €20 in investments in real projects.

### **National Government funding and leveraging private investment**

National governments will have an important role in encouraging the improvement of their building stocks. They will be an important source of lower cost capital and also a provider of incentives. Funds for energy efficiency improvements can be raised by ring-fencing environmental taxes. The Czech Republic's Green Savings programme has an

#### **Exhibit B - UK 'Green Deal' finance**

As part of the UK Government's 'Green Deal' policy package, legislation has been put in place to allow households to borrow the up-front capital for efficiency improvements and pay back the money through a charge on the fuel bill. The package of finance and improvements must meet a 'golden rule' that repayments are lower than the savings made on energy bills. The loan is tied to the property rather than the individual and passes to the new bill payer if the property is sold. This mechanism helps to get around the problem of an individual's investment not being fully valued when the property is sold and also provides a mechanism for landlords to pass the costs to those who benefit from lower fuel bills.

The packages of measures and finance will be offered by private companies and it is expected that marketing skill and existing trusted brands will help sell energy efficiency. There is still uncertainty over the level of public interest particularly as loans will be offered at commercial interest rates.

overall allocation of about €1bn from the sale of **EU Emissions Trading Scheme (EU ETS)** certificates.

As many national Governments are under pressure to reduce their borrowing, other sources of capital investment should be considered. Banking institutions may be able to invest in individual properties by providing personal loans. Private venture capital may be able to take on the risk of larger scale projects based on an ESCO model. But for this to take place energy assessment and accreditation systems must be strong. Incentives (regulatory, fiscal and financial) must also be put in place to encourage uptake of potentially more expensive private capital.

Larger institutional investors such as pension schemes are unlikely to take on the risk of many small projects or be interested in 'personal debt' models. Packaging investments into 'Green Bonds' may help to unlock this very large resource. A central institution such as the UK's recently established 'Green Investment Bank' could issue government backed bonds that provide the guaranteed returns required by large investors and then lend the money onwards to smaller energy efficiency projects.

At present energy suppliers earn profit on every kWh of energy consumed whether it is utilised or wasted. This means that they have no incentive to invest in the efficiency of their customers' properties. Many countries (including the UK, Denmark, France and Italy) get around this by requiring energy suppliers to improve the energy efficiency of their customers' homes through an energy supplier obligation (or white certificate scheme).<sup>2</sup> This approach is now required of all EU Member States under Article 7 of the Energy Efficiency Directive. Alternatively, suppliers can take on an energy services ESCO model. However, care should be taken in adopting this approach to ensure that suppliers undertake meaningful improvements to their customers' homes and avoid damage competition in the existing energy efficiency and ESCO market.

### *Encouraging individuals to invest*

Whilst the large up-front cost is the main barrier to households improving home energy efficiency, good financing schemes also help to address the other barriers and market failures highlighted in the key issues section above. Many people do not like taking on debt and the reasons for this are more than just the costs of borrowing. Trusted providers such as local authorities can be used to make the idea seem more reasonable. In the UK's 'Green Deal', trusted retail brands will be used and the debt disguised with repayments made through the household energy bill.

One of the main non-financial barriers for households is the problem of fitting improvement works around day to day life. Finance schemes should target households at times when the work would cause least disruption. The German KfW scheme issues loans through local banks and this allows the banks to market the offer to those moving house or seeking finance for home improvements – an ideal time to install energy efficiency measures.

The impact of subsidies and incentives can be maximised by tying them to finance options as this will leverage additional funds from households. The German KfW scheme offers enhanced subsidy or extended credit to those making deeper efficiency improvements. Different ways of providing a subsidy may be more or less popular depending on the perceived value of the offer. Tax rebates may be cheaper to implement than a cash subsidy but may not be valued as highly because extra money is more 'visible' than a reduced bill. Therefore, the success of financial schemes for low energy

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<sup>2</sup> The introduction of national energy efficiency obligation schemes with an annual reductions target of 1.5% of final energy was considered for introduction in the Energy Efficiency Directive this option was rejected.

buildings requires good communication about the long term benefits on the top of astute financial engineering.

## Resources

### *Guides to energy efficiency finance*

1. **European Commission:** *Financial support for financing energy efficiency in buildings:*  
[http://ec.europa.eu/energy/efficiency/buildings/doc/report\\_financing\\_ee\\_buildings\\_com\\_2013\\_225\\_en.pdf](http://ec.europa.eu/energy/efficiency/buildings/doc/report_financing_ee_buildings_com_2013_225_en.pdf)
2. **European Commission:** *Staff Working Paper accompanying report at (1) above:*  
[http://ec.europa.eu/energy/efficiency/buildings/doc/swd\\_2013\\_143\\_accomp\\_report\\_financing\\_ee\\_buildings.pdf](http://ec.europa.eu/energy/efficiency/buildings/doc/swd_2013_143_accomp_report_financing_ee_buildings.pdf)
3. **EuroACE** (2010) *Making Money Work for Buildings, Financial and Fiscal Instruments for Energy Efficiency in Buildings;* [www.euroace.org/MediaPublications/PublicationsReports.aspx](http://www.euroace.org/MediaPublications/PublicationsReports.aspx)
4. **Building Performance Institute Europe (BPIE):** *State of Play of Financial Instruments - where Europe stands now* [http://www.bpie.eu/financial\\_instruments.html](http://www.bpie.eu/financial_instruments.html)
5. **The Coalition for Energy Savings** (2011) *Financial Issues for Energy Efficiency;*  
[www.euroace.org/PublicDocumentDownload.aspx?Command=Core\\_Download&EntryId=366](http://www.euroace.org/PublicDocumentDownload.aspx?Command=Core_Download&EntryId=366)
6. **EURIMA** (2012): *Financing Mechanisms for Europe's Buildings Renovation:*  
[http://www.eurima.org/uploads/ModuleXtender/Publications/82/Eurima-Financing\\_Mechanisms.pdf](http://www.eurima.org/uploads/ModuleXtender/Publications/82/Eurima-Financing_Mechanisms.pdf)
7. **Institute for Building Efficiency** (2010) *Financing models for energy efficiency and renewable energy in existing buildings*  
[http://www.institutebe.com/InstituteBE/media/Library/Resources/Financing%20Clean%20Energy/JohnsonControls-IBE\\_EE-Financing-Models-Whitepaper\\_2010Sept.pdf](http://www.institutebe.com/InstituteBE/media/Library/Resources/Financing%20Clean%20Energy/JohnsonControls-IBE_EE-Financing-Models-Whitepaper_2010Sept.pdf)
8. **Institute for Building Efficiency** (2010) *Unlocking the building retrofit market: commercial PACE financing*  
<http://www.institutebe.com/InstituteBE/media/Library/Resources/Financing%20Clean%20Energy/Issue-Brief---Unlocking-the-Building-Retrofit-Market---PACE-Financing.pdf>
9. **Institute for Building Efficiency** (2011) *EU public-sector experiences with building efficiency: exploring barriers to Performance Contracting and deep energy retrofits*  
[http://www.institutebe.com/InstituteBE/media/Library/Resources/Existing%20Building%20Retrofits/IB\\_EU-EPC\\_r2.pdf](http://www.institutebe.com/InstituteBE/media/Library/Resources/Existing%20Building%20Retrofits/IB_EU-EPC_r2.pdf)
10. **2<sup>nd</sup> National Energy Efficiency Action Plans** containing lists of measures and instruments:  
[ec.europa.eu/energy/efficiency/end-use\\_en.htm](http://ec.europa.eu/energy/efficiency/end-use_en.htm)
11. **E3G** (2011) *Financing the Green Deal;* [www.e3g.org/programmes/systems-articles/financing-the-green-deal](http://www.e3g.org/programmes/systems-articles/financing-the-green-deal)
12. **EPBD Concerted Action:** *Building Energy Performance under the EPBD – Taking Stock and Looking Forward*  
<http://www.epbd-ca.eu/archives/610>

### *Other resources*

13. **European Investment Bank;** [www.eib.org](http://www.eib.org)
14. **European Local Energy Assistance fund (ELENA);**  
[www.eib.org/products/technical\\_assistance/elena/index.htm](http://www.eib.org/products/technical_assistance/elena/index.htm)
15. **European Regional Development Fund;**  
[ec.europa.eu/regional\\_policy/thefunds/regional/index\\_en.cfm](http://ec.europa.eu/regional_policy/thefunds/regional/index_en.cfm)
16. **EU Emissions Trading Scheme;**  
[ec.europa.eu/clima/policies/ets/index\\_en.htm](http://ec.europa.eu/clima/policies/ets/index_en.htm)

### *Basic guides to the EPBD recast*

Accessible, short and direct guides to the new EPBD and some of the key questions around the recast:

- **ECEEE** (2010) *Steering through the Maze 1 Your guide to the EPBD recast;*  
[www.eceee.org/buildings/Mazeguide1\\_EPBDrecastRev090310.pdf](http://www.eceee.org/buildings/Mazeguide1_EPBDrecastRev090310.pdf)

- **ECEEE** (2010) *Steering through the Maze 3 Your guide to FAQs on the EPBD recast*; [www.eceee.org/buildings/Mazeguide3-FAQ-EPBD.pdf](http://www.eceee.org/buildings/Mazeguide3-FAQ-EPBD.pdf)