



CONCERTED ACTION
ENERGY EFFICIENCY
DIRECTIVE

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Concerted Action Energy
Efficiency Directive

4

Funds and financing for energy efficiency

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1 Introduction and context

The Concerted Action for the Energy Efficiency Directive (CA EED) was launched in spring 2013 in order to support the effective implementation of the Directive on Energy Efficiency (2012/27/EU) in all EU Member States as well as Norway.

This report summarises the work carried out between January 2013 and March 2014 by the Concerted Action for the Energy Efficiency Directive (CA EED) on funds and financing for energy efficiency. It focuses on analysing financial measures used for energy efficiency (EE) and finding successful examples of funding and financial mechanisms within the CA EED.

Energy efficiency measures and projects are supported in different ways. The public sector, national and local governments and the European Union are continuously working on incentives to encourage investment in energy efficiency in different sectors. Involvement of bank financing in energy efficiency will gain even more attention in the future across all sectors. In principle, EE financing should rely more on market mechanisms, and public funds should only be used where market failure occurs. The preamble of the EED says that "Member States should encourage the use of financing facilities to further the objectives of this Directive". Bank financing is critical for developing energy efficiency projects at scale and Member States' ability to reach carbon reduction targets will in part be reliant on the deployment of private sector as well as public finance in the right packages and at the right scale.

An intensive desk research exercise was undertaken to scan through European Union legislation, studies and project outputs. Information was also collected from countries through interviews and questionnaires. This approach gathered knowledge of overall circumstances within the countries and found national examples of successful methods, which can be shared among participants. This can foster the adaptation of well-established financial solutions into national circumstances.

2 Involving banks in energy efficiency financing

Bank financing is critical for developing energy efficiency projects at scale and Member States' ability to reach carbon reduction targets will in part be reliant on the deployment of private sector as well as public finance in the right packages and at the right scale.

Many banks have realised the opportunity of energy efficiency financing and have developed specific packages for households and companies to support EE (and renewable energy and broader green) investments or to complement (to cover own contribution, match funding) national EE programmes.

Involvement of bank financing in energy efficiency will gain even more attention in the future across all sectors. Examples already exist in many countries, using finance from private as well as national banks. Not all countries have national banks but where they exist they tend to support commercial banks e.g. with dedicated financial sources or guarantees.

As noted above, banks have developed specific packages for households and companies to support EE investments or to complement national EE programmes. Providing energy services also involves bank financing in many cases, where loans are taken by the end user or the energy service provider.

Types of instruments/mechanisms

Many different economic instruments are in place, from fiscal instruments to financial mechanisms used by governments to support energy efficiency improvements. Economic instruments can be categorised under four main headings:

- Fiscal instruments, e.g. tax relief, taxes, charges, levies
- Financial measures, e.g. loans, grants
- Trading schemes, e.g. emission trading schemes, White Certificate schemes

- Direct investments, e.g. public procurement rules, public infrastructure, research and development investments

Economic instruments can also be categorised by their origin, i.e. they can be either public or private. They can also be used in combination.

- Public financing mechanisms: tax relief, feed-in tariff, grants, guarantees, public loan, loans combined with grants
- Private financing mechanisms: loans, investment schemes, leasing

Barriers to EE finance

There are many barriers that prevent lenders providing financing and borrowers receiving funds for energy efficiency investments. It must be also noted that different beneficiaries (e.g. households, SMEs, municipalities, etc.) have different needs,

therefore financial products have to be adjusted to their requirements. Energy efficiency technologies can be mature or still in the development stage, which again requires different types or amounts of financing.

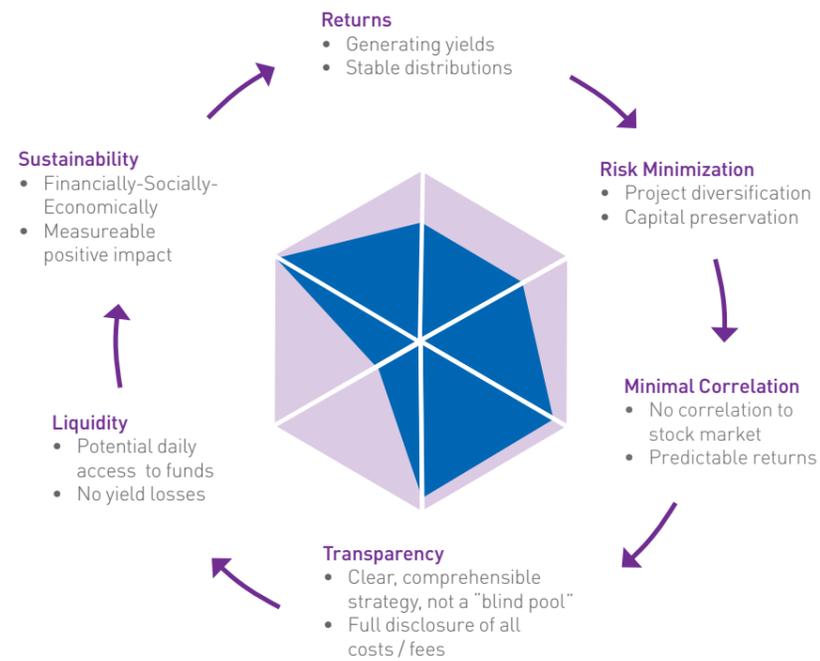
Top barriers for recipients:	Top barriers for financiers:
1. Lack of knowledge, awareness of EE & EE products/benefits	1. Small size and large scale of projects (=> many more risks), lack of project pipeline/bundling/standardisation (problem of refinancing)
2. Lack of comprehension of finance products/application process	2. Return on investment/less profitable than other investments
3. Long payback periods (so it is not only about current activities, but about activities 20 years from now)	3. Lender's risk perception (lack of track record, no asset class)
4. Mistrust of financiers/EE suppliers, etc.	4. Lack of communication between financiers & beneficiaries / lack of supportive policy

Classification of energy efficiency financing barriers (Source: Limaye, D.R. (2011). Taken from IEA (2011): Joint Public-Private Approaches for Energy Efficiency Finance)



Energy efficiency financing is not considered as a standard investment on the market because of its perceived risks. The diagram below shows what investors expect and what EE investments can offer for them.

Investors' expectations regarding EE investments (Source: P.Fankhauser, Susi Partners (2012):
Energy efficiency for institutional investors. How to make energy efficiency investments attractive to institutional investors)



Good practice examples

✓ The Green Fund Scheme (GFS) in the Netherlands

Provides cheaper loans for environmentally beneficial projects, secured returns for investors, helps build a green image for the banks proposing it, and all this at low public costs (banks do the work), with benefits for the environment and contributing to EU targets. It is based on a tax exemption on capital gains for savers choosing to invest in the GFS. It has a large multiplier effect, resulting from a successful co-operation between government and the financial sector.

Every EUR of public funds spent generates a private investment of 40 EUR.

Key achievements

This is a long running scheme which started in 1995. Since then, over 7,400 projects have been realised. Apart from the increase in the volume of projects, a clear achievement is getting over a quarter of a million investors involved in environmentally sound investments. Not only has funding been generated but awareness in the banking sector and among end-users has been increased.

Further information:

www.agentschapnl.nl/groenbeleggen
www.agentschapnl.nl/sites/default/files/bijlagen/SEN040%20DOW%20A4%20Greenfunds_tcm24-119449.pdf

✓ "Energy Efficient Construction and Refurbishment" in Germany

KfW promotional programmes for energy efficiency in the residential housing sector.

KfW is Germany's state owned promotional bank and is mandated by law to carry out its promotional activities. KfW acts in close cooperation with the Federal Ministry of Building, Transport and Urban Development. Refinancing for the promotional loans is provided by KfW, via the capital market. The interest rate of the promotional loan is further subsidised by funds provided by the Federal Ministry of Building, Transport and Urban Development.

The objective of the programme "Energy Efficient Construction and Refurbishment" is to provide financing by way of soft loans and grants for energy efficient construction and refurbishment activities for the German residential sector.

Key principles of promotion:

In order to benefit from the advantages of promotional financing conditions, it is a precondition that the efficiency standards achieved are better than the requirements as set out in the German Energy Savings Ordinance. The programme reduces the complex legal requirements to two values: first, the annual primary energy demand compared to the demand of a new building (the so called "reference building") and second, the structural heat insulation (specific transmission heat loss) likewise compared to the reference building.

The basis for measuring the level of energy efficiency is the so-called "KfW-Efficiency House Standard".



The "KfW Efficiency House" standard has become a market-wide brand for energy efficiency in buildings

Key achievements

- The promotional programmes are available for all private investors in the residential building sector in Germany, as well as housing companies, on equal terms.
- Broad reach: the promotional programmes reach a high number of households: in 2012 alone, 240,000 housing units were refurbished to more energy efficient levels and 116,000 energy efficient new housing units were built with support of the programmes (roughly every second newly built housing unit in Germany).
- One of the successes of the scheme is that it has a leverage effect of around 1 to 12, meaning that 1 EUR state contribution results in 12 EUR investment covered by private sources.

Further information:

www.kfw.de/inlandsfoerderung/Privatpersonen/Neubau/Finanzierungsangebote

www.ca-eed.eu/private-area/good-practices/good-practice-factsheets/financing

3 Financing renovation of 3% of central government buildings

Article 5 of the EED states that “each Member State shall ensure that, as from 1 January 2014, 3 % of the total floor area of heated and/or cooled buildings owned and occupied by its central government is renovated each year”... or “opt for an alternative approach [...], to achieve, by 2020, an amount of energy savings [...] that is at least equivalent”.

Most MS were unable to estimate their future needs in terms of budget, but for those who were, their analysis showed that a lot more of money is needed than is currently used.

Barriers/problems/difficulties affecting Member States' (MS) ability to finance EED targets for public buildings:

- Government capacity to develop a financial plan, i.e. inventory of buildings and financial calculations;
- Availability of financial sources to reach Article 5 targets;
- Accounting and statistical problems, mainly related to energy performance contracting;
- The limited availability of EU financial resources;
- The lack of administrative human resources and the lack of financial resources to collect / update statistical data on the energy performance of buildings.

The main financing opportunities for MS are:

- EU Structural and Cohesion Funds, the use of which depends on the priorities of the respective MS;
- Financing options at national, regional and local level, including both public and private financing;
- Energy Efficiency Funds (EEF);
- JESSICA - Joint European Support for Sustainable Investment in City Areas;
- ELENA - European Local Energy Assistance.

Good practice examples

✓ Bulgarian Energy Efficiency and Renewable Sources Fund (EERSF)

Establishment of EERSF

- EERSF is a revolving mechanism for developing and financing commercially viable EE and renewable energy projects
- Established in 2005 pursuant to Energy Efficiency Act from 2004
- Initial capitalisation – approx. BGN 22 million (\$15 m)
- Donations from the World Bank (Global Environment Facility (\$10 m), Bulgarian Government, Government of Austria, Eurobank EFG, “Lukoil” AD, Brunata Bulgaria, Enemona AD and others.

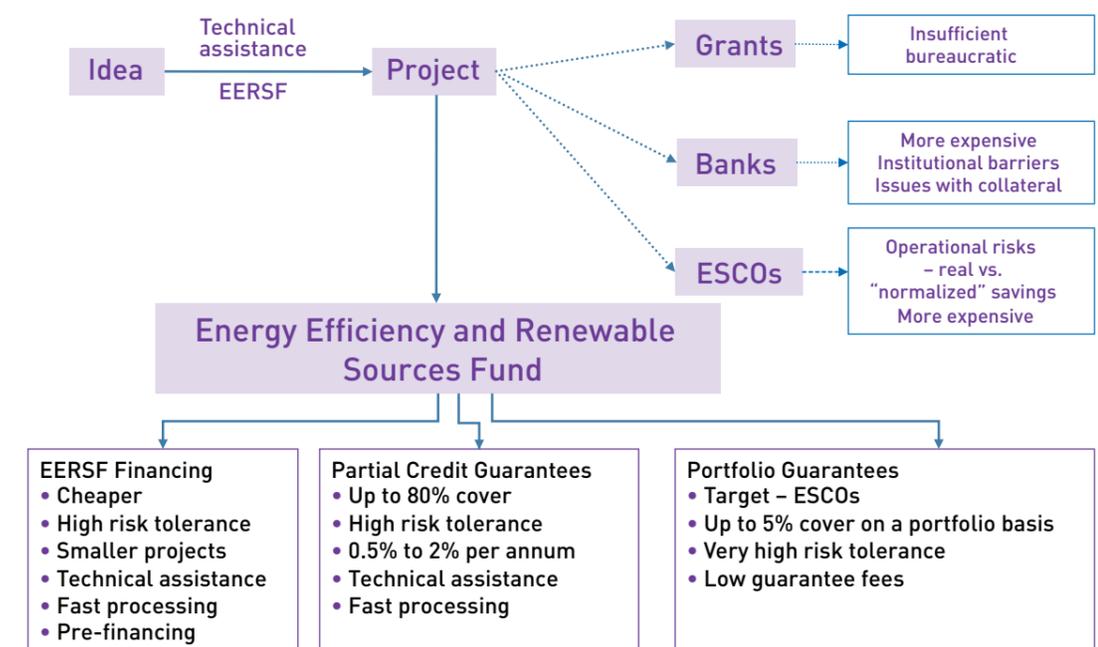
Main objective

- Development of the Bulgarian energy efficiency market.
- New function under the Energy from Renewable Sources Act from 2011
- Funding projects for production of energy from renewable sources for own final energy consumption (off-grid projects)



Energy Efficiency and Renewable Sources Fund

Rationale behind EERSF



taken from Energy Efficiency and Renewable Sources Fund presentation

✓ Special product - ESCO Portfolio Guarantees

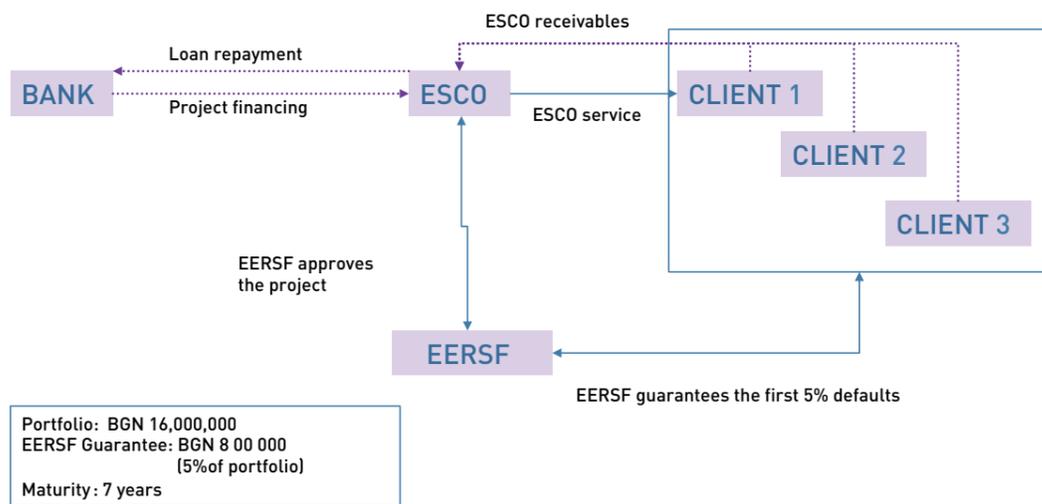
- Guarantees the first 5% of defaults in the portfolio of projects
- Application: ESCO companies to guarantee the receivables from their clients
- Instrument of average financial risk, which is statistically measurable
- Un-collateralised
- Small guarantee covers large number of projects (e.g. guarantee for BGN 500 thousand can cover 10 million portfolio)
- Portfolio Guarantee contract with the Energetics and Energy Savings Fund SPV (EESF) from April, 2008
- 29 ESCO projects under the coverage

Preconditions for successful EERSF

- Legal framework facilitating investments;
- Market based energy prices;
- Flexible approach to financing energy efficiency - National Supporting Schemes;
- Higher project and client risks;
- Customise the financial products to the client's needs;
- Promote the establishment of new ESCOs;
- Set up partnerships with commercial banks;
- Provide technical assistance for project development.



Portfolio Guarantee ESCO Application



Key messages

- The least energy efficient buildings should be targeted first.
- Energy performance as a whole avoids lock-in effects but also gives flexibility to reach clear targets in the most cost-effective way.
- Governments should seek greater involvement of banks.
- There is an important role for ESCOs in renovating public sector buildings and in energy performance contracting.

Recommendations

- Collect and/or centralise data on current renovation rate of governmental buildings and on the budget currently allocated to reach this rate.
- Diversify funding sources.

4 Best practice in leveraging market finance through public funds

Previous CA working group reports have identified that stringent EU purchasing rules can make it very complicated for public bodies to work with energy performance contracts / ESCOs and that there are implications for financing models relating to accounting and statistical treatment of funding for the renovation of public sector buildings (e.g. on/off general government's balance sheet assets vs. services as a basis for contracting vs. resource budgets). Our work has also identified that, with on/off balance sheet accounting, MS are not sufficiently aware of some of the key issues, emphasising the need for more information on the subject.

Nature of the problem

- Since costs for the renovations may be recovered through ongoing independently audited and verified energy bill savings, EPC/ESCO models are of interest in a time of restricted public sector budgets.
- There are a variety of risk sharing and contractual models whereby ownership of assets and finance for the project may remain on or off the public sector balance sheet.
- Public expenditure will usually be governed by national accounting rules, procedures and regulations and these are in turn regulated by the European system of national and regional accounts, abbreviated as ESA95, which provides a system to ensure that individual Member State accounts are comparable.
- The on/off balance sheet treatment of ESCO and other energy efficiency finance may therefore be restricted by a desire to limit levels of recorded public sector spending and borrowing.

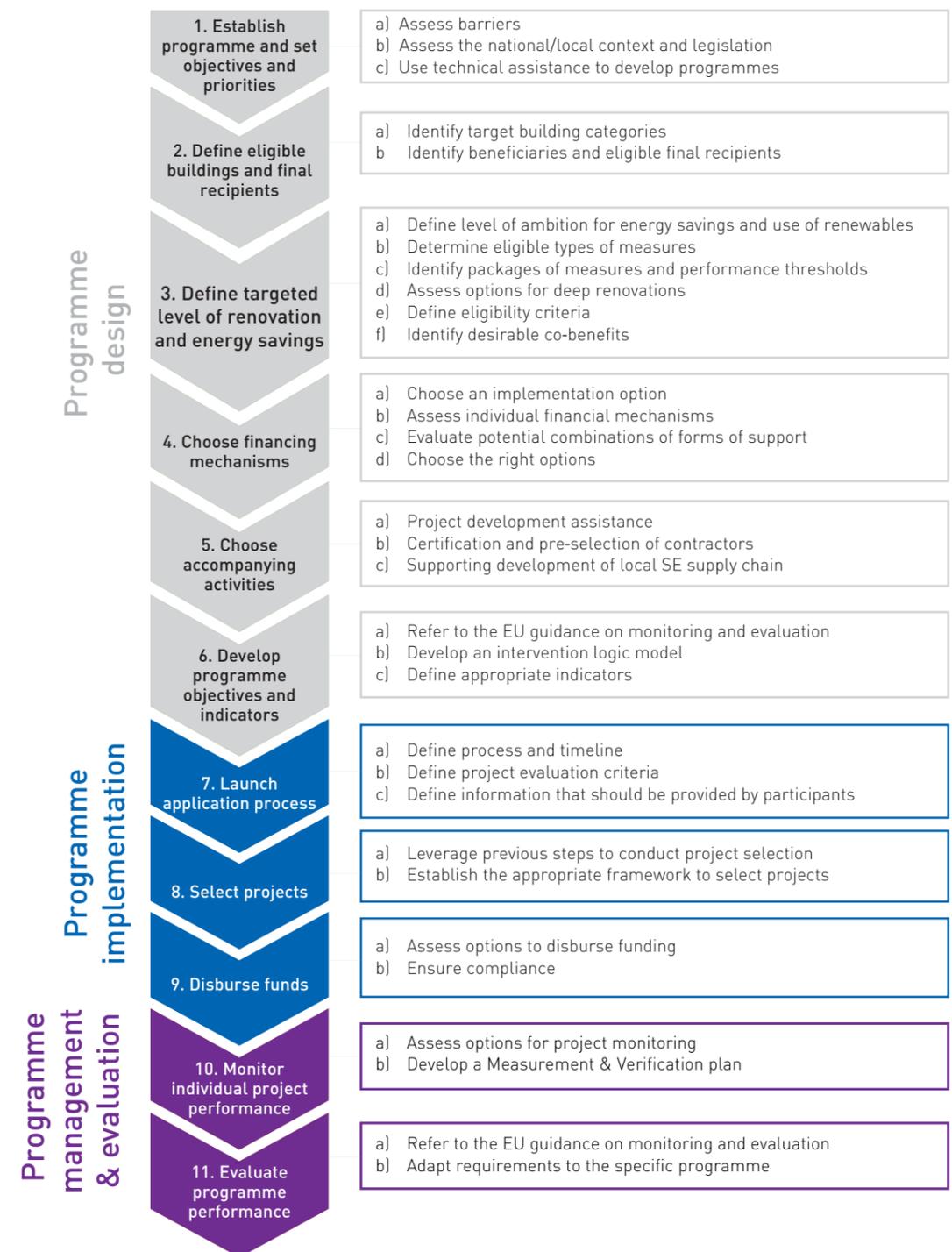
Challenges/barriers in MS

- Issues of public debt and the implementation of national and EU accounting rules (a number of references to ESA95).
- Concern about the use of EU funds on ESCO projects (structural funds were specifically mentioned).
- Difficulties in preparing an accurate emissions baseline.
- A feeling that transactional costs for smaller projects were high.
- A lack of trust between the public sector and ESCO companies, meaning that risk sharing on projects was not always handled in the right way.

Guidance on Financing the Energy Renovation of Buildings with Cohesion Policy Funding

- In February 2014, the European Commission published guidance on financing the energy renovation of buildings with cohesion policy funding²;
- The guidance document aims to help Managing Authorities (MAs) in the Member States plan and deploy Sustainable Energy (SE) investments in buildings within Operational Programmes;
- It provides a list of good practice approaches and case studies and informs MAs about the European requirements on buildings and energy efficiency;
- It also explores the different financing mechanisms that MAs can use to support sustainable energy projects within an Operational Programme.

Figure 1. Roadmap to implement a programme for financing the energy renovation of buildings using Cohesion Policy funding²



² www.ec.europa.eu/regional_policy/sources/docgener/studies/pdf/financing_energy_renovation.pdf

Figure 1 provides an overview of the key steps that are described in this guide. These steps are based on the different stages of development and implementation of the Operational Programmes and the projects they finance and are aimed to provide high-level guidance to MAs and project promoters.

This guidance report also provides a summary of the financing options available to MAs depending on the type of final recipient (further described in Step 4): preferential loans, renovation loan (off-the-shelf instrument), a combination of grants and loans, guarantees, equity, and energy performance contracting. Depending on the local context, the type of buildings, the final recipient targeted and the objectives of the programme, MAs should evaluate the appropriateness of using certain financial mechanisms versus others.

Energy efficiency retrofits, unlike other investments, do not produce direct income streams; rather they create avoided costs. Energy savings and associated cost savings are therefore often not considered a tangible revenue stream by financial institutions. This is mainly because of the uncertainty surrounding the scale of the actual savings that can be achieved. Inappropriate

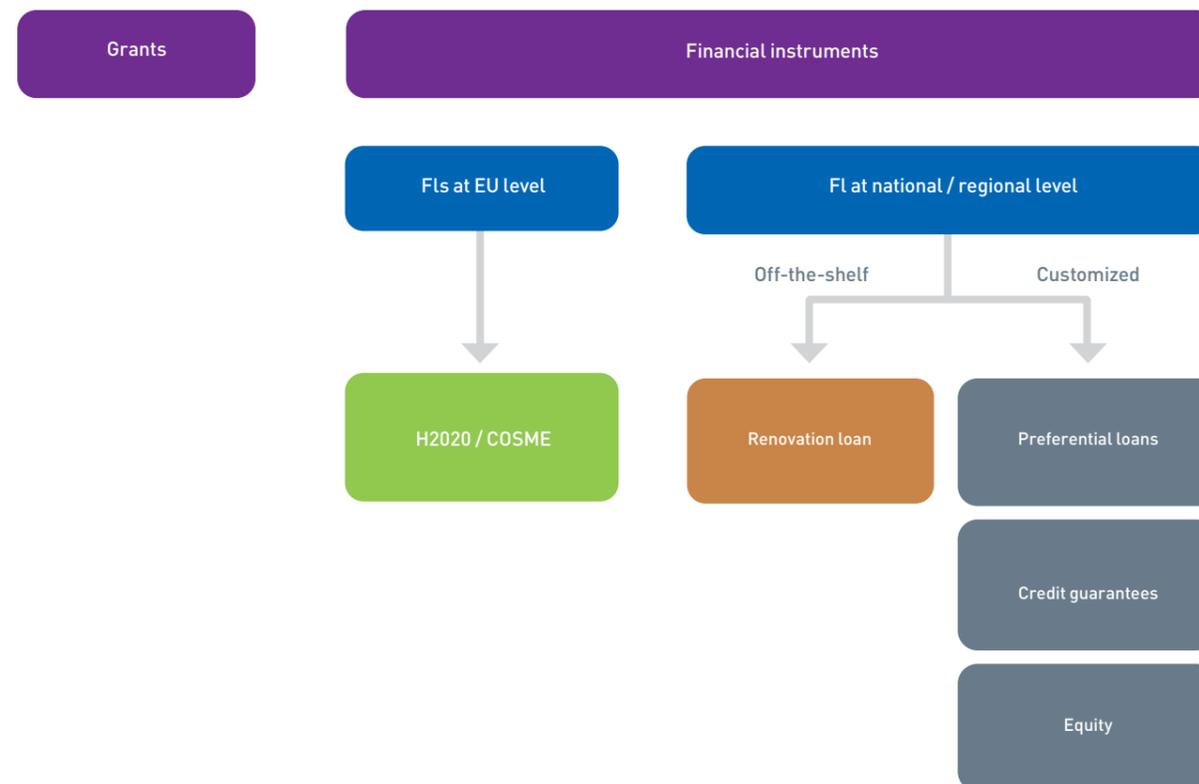
design, implementation and operation of the building and its equipment (including potential 'comfort taking' by occupants) can all influence the final savings realised in practice.

Figure 2 (below) shows the main types of financial instruments available to Managing Authorities.

Useful models presented in the CA EED

- **UK** – Green Investment Bank, Salix finance: www.salixfinance.co.uk/
- **Belgium** – FEDESCO: www.fedesco.be/
- **Ireland** – Energy Performance Contracting handbook: www.seai.ie/Your_Business/National_Energy_Services_Framework/EPC_Handbook/EPC-Handbook.pdf
- **European Energy Service Initiative:** www.european-energy-service-initiative.net/

Figure 2. Financial mechanisms for sustainable energy financing



5 Concluding remarks

If energy efficiency improvements are to happen, there is a need for financing from a wide range of resources. The European Union and national funds, as well as private capital, are available to start an investment; however, there is still a mismatch between the demand and offer sides. The CA EED provided the opportunity for CA representatives from the Member States to gather information and find possible solutions to existing financial gaps.

Two key lessons emerged:

Make use of professional help, share information:

Financial sources are available but sometimes it is difficult to make good use of them. Existing success stories on financing schemes and instruments to support EE investments must be made more publicly available and more bilateral consultations are needed between countries.

Combine funding sources:

When planning a policy or a programme, it is beneficial to combine funding sources with other instruments (e.g. regulations, tax schemes, enhancing private capital, etc.) Public finance is often needed to kickstart the EE market; however, the goal is to shift more towards market based financing solutions.

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The Concerted Action for the Energy Efficiency Directive (CA EED) was launched by Intelligent Energy Europe (IEE) in spring 2013 to provide a structured framework for the exchange of information between the 28 Member States and Norway during their implementation of the Energy Efficiency Directive (EED).

For further information please visit www.ca-eed.eu or email caeed@ca-eed.eu



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