

# Funding Energy Efficiency through Financial Instruments

A Policy Brief from the Policy Learning Platform on  
Low-carbon economy

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**Interreg  
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## Summary

Europe faces a major challenge to renovate its building stock and achieve its carbon emission targets. Doing so will not be achieved through public funds alone, but also requires investment from private funds. Public authorities can help to leverage private investment through financial instruments, which can incentivise investments by overcoming market failures and distortions. A number of financial instruments have been tested and used and are ready to be replicated throughout Europe, and Member States will need to be ready to implement financial instruments in their operational programmes for the next financial period of 2021-2027.

## The Renovation Challenge

The European Union aims to reduce its greenhouse gas emissions by 40% (from a 1990 base level) by 2030 and buildings are a main challenge, being responsible for 36% of total CO<sub>2</sub> emissions. The European Commission has calculated that 75% of Europe's housing stock is inefficient and has noted with concern that renovation rates remain far too low to reach decarbonisation targets, with an annual renovation rate of 3% needed to accomplish the EU's ambitions. To this end, the updated Energy Performance of Buildings Directive (2018) requires Member States to devise long-term renovation strategies, aiming for decarbonisation by 2050.

Renovations and other interventions (modernisation, retrofit, restoration, rehabilitation, maintenance, repairs, or replacement of energy using devices) can be costly with mid- to long-term payback times, and building owners (private or public) may be reluctant to invest in such interventions, being uncertain of payback, or having difficulty in accessing finance. The EPBD therefore requires each Member State's renovation strategy to include a financial component, considering a number of aspects, as elaborated in the extract below.

To support the mobilisation of investments into the renovation needed to achieve the goals referred to in paragraph one [*decarbonisation by 2050*], Member States shall facilitate access to appropriate mechanisms for:

- (a) the aggregation of projects, including by investment platforms or groups, and by consortia of small and medium-sized enterprises, to enable investor access as well as packaged solutions for potential clients;
- (b) the reduction of the perceived risk of energy efficiency operations for investors and the private sector;
- (c) the use of public funding to leverage additional private-sector investment or address specific market failures;
- (d) guiding investments into an energy efficient public building stock, in line with Eurostat guidance; and
- (e) accessible and transparent advisory tools, such as one-stop-shops for consumers and energy advisory services, on relevant energy efficiency renovations and financing instruments

Directive (EU) 2018/844 (EPBD), Article 2a§3



## Financing Renovation with European Structural Funds

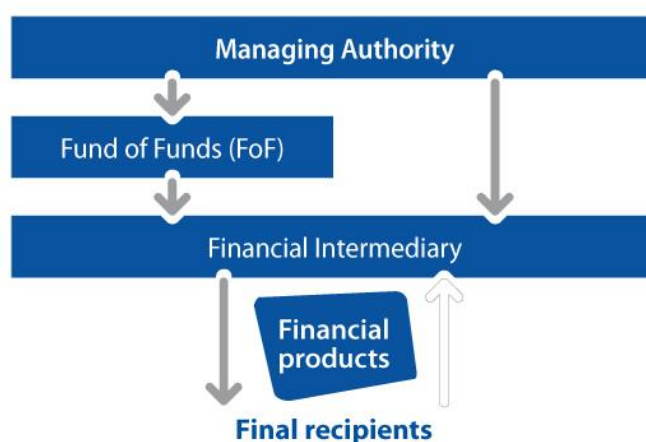
To support the EPBD, the Union’s European Structural and Investment Funds (ESIFs) and the European Fund for Strategic Investments (EFSI) have sought to improve the availability of finance for energy efficiency investments. For the period 2014-2020, the ESIFs have provided around EUR 23 billion for supporting the development of the low-carbon economy in Europe. The distribution of such funds has been determined by Operational Programmes: agreements between the Member States, their regions, and the European Commission, which distribute funds to European priorities. Building renovation has been an eligible cost under the European Regional Development Fund, the European Social Fund and the Cohesion Fund.

Most countries have offered grant-based systems using ESIFs to contribute partly, or completely, to the costs of renovations. However, the scale of the challenge, and the ambitions of the EPBD, show that we need to move from grant-based funds in ERDF operational programmes, towards more sustainable financial instruments and revolving funds.

For the 2021-2027 Union budget, ESIFs will have five main priorities, including, ‘a greener, carbon-free Europe’. As of the time of writing, the exact budget to be allocated to energy efficiency is not clear, but the total budget for the ERDF and Cohesion Fund is expected to amount to €273 billion. It is known though that the next period will put greater emphasis onto financial instruments than before, with rules being simplified to encourage their creation. This includes lighter ex-ante assessments, integrated rules for grants and financial instruments making it easier to combine instruments, and simpler rules on eligibility and payments.

## Financial Instruments

In European parlance, Financial Instruments (FIs) are structures that enable ESIFs to be used to offer financial products such as loans, equity and guarantees which can support projects that promote European policy aims. European FIs are managed by the Managing Authorities of the ESIFs, who can place funds into a pooled Fund of Funds, or allocate funds directly to a financial intermediary.



Source: European Investment Bank





The aim of the offered financial instruments is to achieve European objectives where investors are reluctant to invest, that is, they are used to de-risk investments or to tackle market failure and market barriers. This could include providing funding for procurement of near-to-market technologies which are not yet fully commercialised, encouraging investment where investors may overestimate risk as a result of unfamiliarity with the market, or supporting marginalised groups who are not able to obtain funding through traditional channels.

Financial instruments have a number of benefits compared to grant-based funding, mixing public and private funds to stimulate investment. Financial instruments use public money to leverage investment from the private sector by de-risking investments and offering long-term orientation, whilst the revolving nature of the instruments ensures that funds, plus interest, return to the instrument for re-investment. Since funds must be repaid, there is also an incentive for better performance than grant-based funding.

	R&D&I	ICT	SME support	Energy efficiency/renewables	Environ. & resource efficiency	Sust. transport
AT	0.0	0.0	1.8	0.0	0.0	0.0
BE	9.8	0.0	17.9	10.4	5.9	0.0
BG	10.3	0.0	36.6	7.3	11.4	0.0
CY	0.0	0.0	0.0	0.0	0.0	0.0
CZ	1.2	0.0	51.7	3.2	9.0	0.0
DE	8.5	0.0	31.5	2.1	3.0	0.0
DK	0.0	0.0	0.0	0.0	0.0	0.0
EE	10.9	0.0	48.3	0.0	0.0	0.0
ES	8.4	0.0	39.5	0.7	0.3	0.0
FI	0.5	0.0	7.7	0.0	0.0	0.0
FR	7.2	2.1	26.3	10.0	1.3	0.0
GR	36.7	14.2	49.0	4.0	3.5	0.8
HR	4.5	0.0	25.8	9.4	0.0	3.8
HU	29.9	42.4	34.4	24.4	0.0	0.0
IE	0.0	0.0	0.0	0.0	0.0	0.0
IT	18.1	2.7	38.0	9.8	1.1	0.0
LT	2.6	0.0	31.3	42.3	14.8	0.0
LU	0.0	0.0	0.0	0.0	0.0	0.0
LV	0.0	0.0	42.7	12.3	0.0	0.0
MT	0.0	0.0	38.2	26.0	0.0	0.0
NL	19.0	0.0	0.0	15.0	0.0	0.0
PL	7.2	0.0	25.4	9.8	0.0	0.0
PT	0.1	0.0	37.8	23.3	19.1	0.0
RO	5.1	0.0	47.1	2.5	0.0	0.0
SE	0.0	0.0	32.2	22.8	0.0	0.0
SI	27.7	0.0	48.3	23.8	0.0	0.0
SK	0.0	0.0	17.0	14.1	3.7	3.4
UK	8.9	0.0	45.0	9.6	9.8	0.0
<b>EU28</b>	<b>8.9</b>	<b>3.5</b>	<b>34.0</b>	<b>9.5</b>	<b>3.1</b>	<b>0.3</b>
<b>Target</b>	<b>5.0</b>	<b>10.0</b>	<b>50.0</b>	<b>20.0</b>	<b>5.0</b>	<b>10.0</b>
<b>Total FI €m</b>	<b>3667.7</b>	<b>468.4</b>	<b>11319.7</b>	<b>3748.5</b>	<b>1089.0</b>	<b>189.9</b>
<b>Total OP €m</b>	<b>41104.0</b>	<b>13308.1</b>	<b>33276.3</b>	<b>39661.4</b>	<b>34993.5</b>	<b>58523.8</b>

*Percentage of OP budget, per theme, allocated to financial instruments. Source: EPRC 2017*

Despite numerous benefits, however, the uptake of FIs has been slow. This may be because of an ingrained preference for grants schemes, which have been traditionally used for ESIF distribution, or because Managing Authorities are intimidated by the complexity of establishing an instrument. The management of financial instruments is governed by the Common Provisions Regulation, and before one can be established, it must undergo an ex-ante



assessment that demonstrates that it is fully aligned with the objectives of the ESIFs, establishes evidence of market failures, and demonstrates what recipients are to be reached, and what sort of impact is to be expected.

Only half of all 2014-2020 operational programmes allocated funds to financial instruments, and only five countries (Slovenia, Portugal, Hungary, Latvia and the UK) allocated more than 10% of their 2014-2020 ESIF budgets to them, whilst four countries (Ireland, Luxembourg, Denmark and Cyprus) did not allocate them any budget. The table on the previous page shows, as a percentage, the allocation of OP resources to FIs by investment area; by far, FIs for supporting SMEs were the most popular in the EU, followed (distantly) by research & innovation, and low-carbon economy. The EU-wide target was for 20% of OP funds for low-carbon development to be invested in financial instruments, but in the end, only 9.5% was achieved.

## Financial Products

One of the key challenges relates to deciding what type of instrument to establish and what sort of products to offer. A number of financial products can be used to distribute funds and leverage private investment from financial institutions. The type of product to be provided depends on the policy aims and the market flaw to be overcome, as well as on the target audience and the scale of the investment required. Products may be debt or equity-based, and in some cases may be combined with grant funding.



**Loans** are the most widely used financial instruments for energy efficiency investments, involving an organisation (usually a financial institution) lending money to an individual or organisation for renovation works. Loans are low-risk instruments, funding well-tested practices; they are not used for risky ventures. With a loan, the financial institution sets a repayment period with regularly scheduled transfers, making them easy instruments to manage, with a high potential number of recipients. Loans can be secured (backed up with assets) or unsecured, and with variable interest rates depending on the borrower. Most loans for energy efficiency investments are unsecured; that is, without taking the property as



collateral, though some institutions also provide energy efficiency mortgages, where additional funds are provided as part of the mortgage for renovating the newly purchased building.



### **GOOD PRACTICE: Implementing the KredEx scheme in Estonia**

Estonia faces a common challenge with many other European countries; around 70% of the country's housing stock was built between 1960 and 1990 when energy efficiency concerns were low. As a result, the building stock is responsible for around 50% of Estonia's final energy consumption. To tackle this, Estonia established the KredEx Revolving Fund in 2009, which uses European Structural Funds to offer a 15%, 25% or 40% reconstruction grant, coupled with a preferential loan offered by national banking partners. By the end of 2014, KredEx had provided funding for renovation of 615 apartment buildings, achieving an average energy saving of 40% compared to an expected 20% saving.

For more information, visit the [Social Green website](#).



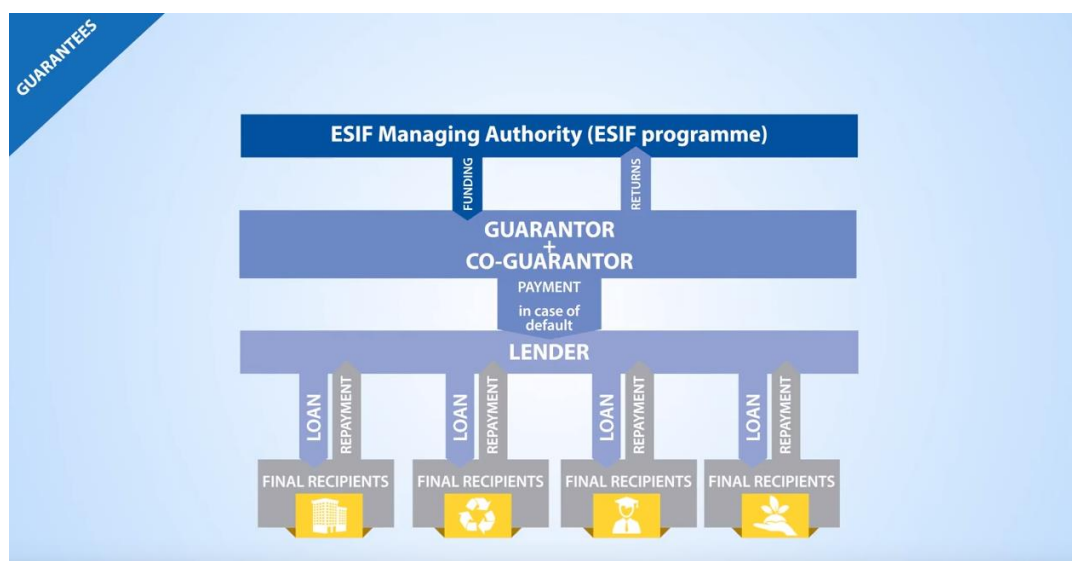
### **GOOD PRACTICE: Brussels Green Loan Scheme**

In 2008, the Brussels Ministry of Energy and Environment launched the 'Social Green Loan', a loan with 0% interest rate from credit co-operative CREDAL, which provides financial support for people on low income. In 2012, the scheme was renamed the Brussels Green Loan, and a new organisation, Energy House, was established to act as the front office of the scheme and provide information and support to applicants. Every year, 200,000 EUR from the Regional Energy Fund is used to subsidise interest rates, and 124,000 EUR from the regions budget is used to cover running costs. In its first five years, more than 520 loans were distributed amounting to more than EUR 4.5 million of bank loans.

For more information, visit the [FINERPOL website](#).



To help make loans for certain investments more attractive, governments can subsidise loans (for example, paying the interest), or banks can offer concessional loans with interest rates below the typical market value, or with delayed repayment. Different repayment schemes can also be set up, with repayment of both capital and interest from the beginning, or payment of interest only until the renovations are completed. Public authorities can use European or national funding to establish revolving funds to issue loans, with the fund being replenished by repayments from borrowers. European funds can be channelled through financial intermediaries (primarily banks), who are entrusted to run financial instruments on behalf of public authorities.



**Guarantees** are used to de-risk financing, by promising an investor or financial intermediary that the guarantor will take responsibility for financial obligations should the recipient not be able to meet them. In other words, should the beneficiary not be able to make its principle and interest payments, the guarantor is required to make the payment. Guarantees bring down the risk of lending money for a financial institution, and as they only need to be paid if a beneficiary defaults, they have a high multiplier effect (a guarantor can make many guarantees, knowing that not all will default).

**Public Revolving Funds** are instruments set up by a public body to disburse soft loans. This is an option for entities that have the budget (which can also be accumulated over several years) to set up an initial fund, as well as the budget to pay a fund manager or a commercial bank to manage the dedicated fund. Soft loans finance energy efficiency measures and are paid back with the cash flow generated through energy savings over time. As the loans return to the fund, they become available for investment in another project again. For example, FIRESPOL partner Latvia has set up the Revolving Fund of Riga in 2016, managed by the Riga Energy Agency.

Municipal Energy Service Companies (ESCOs) are the main example of this, with an ESCO planning, financing and implementing energy efficiency improvements for a public or private building owner (client), and then receiving payment from the client based on the energy savings achieved. In addition to functioning as revolving fund, the ESCOs distinguish themselves



through their own expertise to ensure the most effective renovations possible are implemented; starting with energy performance monitoring to determine the most suitable technologies and interventions are used.



### **GOOD PRACTICE: Financial Instrument for Urban Rehabilitation and Revitalization (IFRRU 2020)**

The IFRRU provides loan and guarantees for urban renovations throughout Portugal, bringing together European Structural Funds, finance from the European Investment Bank and the Council of Europe Development Bank, with commercial banking funds provided by four national partner banks. The loans offered are composed of up to 50% public funds, with interest rates below market values, maturity of up to 20 years, and a grace period of the duration of the investment, plus six months (up to four years). Guarantees are used to facilitate loans for riskier projects, covering up to 70% of the value of the loan. Applications can be made by any type of beneficiary at any branch of these four banks. Before the application is submitted, projects are assessed by the municipality in which they are located and an energy certification is held to determine the effectiveness of the proposed intervention. The instrument has a total budget until 2020 of EUR 1.4 billion, with more than 200 investment intentions registered so far, amounting to EUR 750 million.

For more information, visit the [FINERPOL website](#).

## **Third-party Finance and Energy Contracting**

The same principles as for revolving funds apply to third-party finance, with the difference that the funding for renovation comes from external sources, thus not tarnishing the balance sheet of the city or region. The investment in building energy efficiency is made by a third-party investor, the building owner then pays a service fee to the investor. This investor can be a private company, a cooperative or even a public body.

ESCOs will typically apply Energy Performance Contracting (EPC); whereby payments are linked to energy savings. Contracting can take either a shared savings or a guaranteed savings approach. In the former, savings are split between the contractor and the beneficiary, so the ESCO charges based upon the actual results. In the latter, the beneficiary pays for the renovations, but the ESCO must meet a minimum performance level, and may be required to pay the difference if performance falls short of what is guaranteed.





### **GOOD PRACTICE: Establishment of an Energy Service Company**

In 2016, the Lietuvos Energija group (owned by the Lithuanian Ministry of Finance), consolidated its energy efficiency projects under a single Energy Service Company (ESCO). The ESCO invests in modernisation of both public and private buildings, reclaiming investment from customers through a monthly service fee. As well as energy efficiency renovations, the ESCO also funds the development of electric vehicle charging infrastructure. Funding for the ESCO came from the Lietuvos Energija group, combined with money borrowed from commercial banks. In its first year of operation, the ESCO funded ten projects, saving 16,800,000kWh of energy.

For more information, visit the [EV Energy website](#).



### **GOOD PRACTICE: Energy Saving Performance Contracting in Östergötland**

The County Council of Östergötland in Southeast Sweden sought a public company to take over energy performance contracting for 189 public buildings within its boundaries, with a total energy consumption of 100 GWH per year. Siemens Buildings Technologies were awarded an Energy Saving Performance Contract. The first six months involved determining activities and calculating the payback time, followed by an 18 month implementation period. Following this, payback began from the savings of operation and performance costs. In total, EUR 8,000,000 was provided by the contractor, supported with EUR 2,000,000 from public funds. For implementation of the renovations. Savings amounted to EUR 800,000-1,000,000 per year in energy and water savings, as well as maintenance savings of EUR 7,500,000 over fifteen years and the creation of 130 full-time equivalent jobs.

For more information, visit the [FINERPOL website](#).



## European Support for Establishing Financial Instruments

As well as the European Structural and Investment Funds, the European Union provides both financial and technical support for the creation of new financial instruments:

- **“Off-the-shelf” instruments** are standardised financial instruments with pre-defined terms and conditions, designed for swift rollout in Member States, being already compatible with state aid rules. These include the Renovation Loan; a loan fund that is set up by a financial institution, providing at least 15% of the fund, with the remainder from the ESIFs.
- The European Investment Bank (EIB) runs the **JESSICA** (Joint European Support for Sustainable Investment in City Areas) initiative in collaboration with the European Commission and the Council of Europe Development Bank. JESSICA enables Member States to combine Structural Funds with other public and private funds into Urban Development Funds (UDFs), which can then be used to provide equity, loans and guarantees for urban development projects;
- The EIB and the European Commission also operate the **ELENA** (European Local energy Assistance) initiative, which provides technical assistance for energy efficiency, investment programmes of more than EUR 30 million. An ELENA grant can fund 90% of technical assistance and project development costs, including feasibility and market studies, programme structuring, business plans, energy audits and financial structuring;
- The **Horizon 2020** research and innovation programme provides funding for secure, clean and efficient energy, including a number of calls related to efficient buildings. Project development assistance has been provided under the EE20 call, ‘Project development assistance for innovative bankable and aggregated sustainable energy investment schemes and projects’. Project aggregation or bundling, setting up new financial instruments and capacity building for banks and investors are currently supported under the open calls EE9, EE10, and EE11;
- The **European Energy Efficiency Fund** (eeef) operates as a lender to provide dedicated support to local and regional authorities, as well as public and private entities acting on their behalf. The eeef makes direct investments into projects organised and managed by organisations related to energy efficiency and renewable energy markets, but can also make investments into financial institutions that can act as intermediaries with final beneficiaries;
- **fi-compass** is a platform for advisory services on financial instruments under the ESIFs, which provides access to statistics, country data and manuals, handbooks and case studies on financial instruments, a number of which are related to energy efficiency;
- The **Integrated Territorial Investment Instrument** (ITI) is a tool introduced in the 2014-2020 period for running territorial strategies that need funding from different sources. For example, combining investments in energy efficiency renovations with staff training;
- Finally, **Interreg Europe** has supported the exchange of knowledge between European regions, helping regions to create new financial instruments and improve existing ones. As well as funding projects, the programme funds peer reviews to bring together the necessary expertise to support regions that wish to improve their financial instruments.



The **FINERPOL** (Financial Instruments for Energy Renovation Policies) project is seeking to improve policies in seven European Regions for the creation of funding instruments (and especially Financial Instruments). The project partners noted, in particular, the impact of the financial crisis on grant funding schemes, and the need to move towards revolving funds. A key part of the project has involved finding good practices from across Europe for replication, and the project has launched a [map, with more than 100 available good practices](#). The project partners have now produced their action plans for regional framework improvement, including a loan scheme in the Czech Republic for apartment buildings, and the creation of a low-carbon investment fund in Plymouth, UK.

For more information, visit the [FINERPOL website](#).

## Recommendations

Many regions still have the chance to influence 2014-2020 operational programmes, and the following points should be taken into account to shape the priorities of both the current, and the future (2021-2027) programming periods:

- Business as usual is not an option as grant-based financing for energy efficiency in buildings is not yielding enough impact. Without financial instruments regions will most likely miss their decarbonisation targets;
- Managing Authorities have not succeeded in reaching European targets for investments through financial instruments. This may be down to a lack of awareness, the complexity of creating instruments that can pass the ex-ante assessment and be compatible with state aid rules. Significant capacity building is needed, and MAs should make use of the wide variety of European assistance provided;
- One route is that MAs can make use of the EU's "off the shelf" instruments, such as the Renovation Loan, but they should also take inspiration from successful bespoke schemes across Europe;
- There are many possible designs of financial instruments, recognising different realities and capabilities in regions and cities at the outset, working with different management modalities and using specific business models. They can be made suitable for every territorial entity;



- In the future, grants should be used to leverage larger (debt) funding from different sources to scale up the energy refurbishment rate;
- Combining grants and loans is possible in multiple ways:
  - Financing the interest rate to make soft commercial loans. Subsidised loans have proven relevant to almost all types of buildings and in many regions, as in the Brussels Green Loan Scheme and IFFRU 2020
  - Funding particularly ambitious, deep energy renovations (as done in the KredEx scheme in Estonia);
  - The scale of grant involvement should be related to the scope of the funded measure, so may be higher if the scheme is also trying to improve energy poverty, for example;
- Revolving funds are an attractive way to use and re-use funding as the money invested returns into the fund for new investment;
- ESCOs have proven themselves to be very successful instruments, providing both financial and technical support to energy renovation out of one hand, thus removing the barrier of perceived risk related to the savings measure;
- ESCOs can be public entities using public funding in a revolving manner and provide technical and project management and monitoring services from the technical departments of the city (as in the Lithuanian ESCO), or they can be private, using third-party funding and external expertise (as in the EPC in Östergötland);
- Project bundling and private EPCs go well together, as a portfolio approach to energy efficiency investments reduces the individual project's risk, while the larger scale of a bundle of projects reduces the transaction costs and makes the investments thus more attractive to large private companies, as the EPC in Östergötland demonstrates.
- There have so far been few financial instruments that have used guarantees (see IFFRU 2020) and equity for supporting energy efficiency, but they will become more prominent in future, especially for large-scale renovation efforts.

## Sources and Further Information

- EC Regulatory Guidance on implementation options for financial instruments by or under the responsibility of the managing authority
- fi-compass: [www.fi-compass.eu](http://www.fi-compass.eu)
- Commission implementing regulation (EU) No 964/2014 laying down rules as regards standard terms and conditions for financial instruments
- Improving the take-up and effectiveness of financial instruments, European Policy Research Centre (2017)
- Financing the energy renovation of residential buildings through soft loans and third-party investment schemes, INFINITE Solutions Project, Intelligent Energy Europe
- Ex-ante assessment methodology for financial instruments in the 2014-2020 programming period:
  - Volume I – General methodology
  - Volume IV – Supporting the shift towards low-carbon economy



*#EnergyEfficiency*  
*#Finance #ESIFs*  
*#FinancialInstruments*  
*#LowCarbon*



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