

ClearSupport - IEE-06-189

Clearinghouse Facilitation
Paving Way for Better Energy Building Performance

Financing Instrument

Report D3.2



WP3: Financing Schemes

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List of contents

1	Introduction	3
1.1	Findings from D 3.1.....	3
1.2	Financing instrument	4
2	Scope/structure of report	5
3	Main Parameters of the financing instrument	6
3.1	Sort and conditions of the financing instrument	6
3.2	Source of Credit and Conditons of loans	7
3.3	Managing institute	10
3.4	Eligible measures.....	11
3.4.1	Standards	11
3.4.2	Measure packages	11
3.5	Involvement of other stakeholders	12
3.5.1	Private credit institutes	12
3.5.2	ESCOs	12
4	Annex	14
4.1	Crete	14
4.2	Czech Republic	15
4.3	Latvia.....	16
4.4	Lithuania	17
4.5	Poland.....	18
4.6	Slovenia	19

1 Introduction

This report is a result of the work conducted as a part of work package 3 (WP3) “Financing Schemes” of the project “Clearinghouse Facilitation - Paving the Way for better Energy Building Performance in EU Less Developed Regions”. The project acronym is ClearSupport and the project is based on the EC’s intentions for establishing a clearinghouse for promotion of small and medium scale sustainability energy projects as stated in the EU Green Paper on Energy Efficiency. The technology focus is on Rational Use of Energy (RUE) in building measures.

WP3 is dedicated to provide financial knowledge and instruments to the Project Service Facilities (PSF). The main focus is on building retrofitting, and to a minor extent designing for RUE in new buildings. A wide range of measures exist for RUE building retrofitting and must be made operational for the operation of the Project Service Facilities (PSF) and thus shall facilitate ClearingHouse penetration in general.

Latvia, Lithuania, Poland, Czech Republic and Crete have PSF in place. On one hand, the role of each PSF is to provide practical assistance to project owners (including housing associations, municipalities and building project developers). On the other hand financial institutes, political stakeholders and institutions/companies related to execution of the work on site are important target groups of PSF-action. To these target groups PSF should provide knowledge and experience about Energy Efficiency Ratio (EER) measures. In discussions with these stakeholders PSF should improve the framework conditions for Energy EER projects.

1.1 Findings from D 3.1

The main conclusions and recommendations of the report D 3.1 are that existing financing instruments are often not sustainable depending on the annual state budget and unsuitable because usual a too small part of the costs is covered. Other

findings are that financing instruments are often unavailable because their volume is not satisfying the demand and they are particularly unpredictable based on the shifting political frameworks.

A main outcome of the programme “Commercializing Energy Efficiency Financing (CEEF)” is a standardized measurement which should be fixed. The Baltic Energy Efficiency Network (BEEN) project has shown that better adapted long-term loans are requested. Existing subsidy programmes absorb a lot of state money and are often used by those who have the funds to finance the investment anyway. Therefore, low interest rate loans below market conditions with long-term durations of up to 20 years covering approximately 75 - 100 % of the investment costs, are much more preferably.

In general all financing instruments should be simple, transparent and should prescribe the best available but proven technology. Special loan security schemes are needed that provide an undivided common loan for the renovation of the joint property and in addition serve as collateral in case of failures of single owners.

1.2 Financing instrument

After the stocktaking and assessment phase which is considered as a functional part of strategy development in order to define priorities and objectives (see D 3.1) the next essential step is the elaboration of the main components of this financing instrument. This financing instrument should be a proposal for instrument that eliminates the disadvantages of the existing financing instruments. Regional requirements should be considered. The questionnaire is therefore a suitable tool. The creation of main parameters for the “perfect” financing instrument for each region is inevitable. Furthermore these parameters should be used as a basis for further discussions with relevant stakeholders.

2 Scope/structure of report

The scope of this report is to create an “innovative financing instrument” which shall be developed as a future option for an optimal financing structure. The main target should include small projects on the local and regional level (EU-wide focus). A combination of different items and details will differ between the regions. In this context innovative financing for building retrofitting focuses on bridging the gap between good projects and financing by establishing risk mitigation, risk transparency and risk sharing – and in addition may transfer the value of socio-economic benefits to projects in form of public subsidies.

Innovative financing addresses this complex and provides financing which is overall optimal; thus reducing the overall financial costs. This may encompass mixed financing containing elements of:

- Subsidies
- Local credits
- National subsidies
- National guarantees
- International credits
- Private capital / ESCOs
- Uptake of proposals for risk management funds

Developing financial instruments for clearing house operation in the five target countries/regions take into account technical aspects (WP 4) and framework conditions (WP 5). The work will moreover assess and evaluate needed country and technology specific interest rate level and include numerous meetings and discussions with involved stakeholders; i.e. public financing/subsidy agencies, commercial banks, user groupings, technical peers etc. Involvement of stakeholders is vital early in the development of a financing instrument. Stakeholders have clear and relevant views on what a financing instrument should provide, and these views can be captured and synthesized with relative ease.

In spite of all care we cannot accept liability for completeness and correctness of the results of this elaboration.

The PSF should organise and coordinate such a process on the basis of the proposal elaborated in this report.

This report contains a general description of the proposed components of the financing instrument, values and detailed information for each region are reported in the Annex.

3 Main Parameters of the financing instrument

An investment in an energy efficiency project is like any other capital investment. Consequently, a customer or firm will follow its normal capital investment evaluation process when considering an investment in energy efficiency. In a normal project cycle, the company will go through a number of typical activities. The company will first assess the relative importance and costs of energy as a share of total costs, and its impact on profitability. Then, an assessment of potential efficiency activities will be made. Energy audits are very important at this stage and, before a final decision is made, the assessment will include an "investment grade" audit to identify energy efficiency measures to be implemented. These measures will be cost out, their rates of return estimated, and, if an investment meets the company's investment criteria, a decision will be made as to how to finance and implement the investment.

3.1 Sort and conditions of the financing instrument

A suitable instrument to tackle the requirements for supporting the investments should be a long term loan with low interest rates. The difference between interest level of market credits and the interest level of this credit should create an advantage which is comparable or better than the existing subsidy programs.

The loan should be carried out as an annuity loan. An annuity loan is a loan, which is paid back in constant rates. Usually an annuity loan is used for real-estate credits. The repayment duration should comply with the lifetime of investment goods which is in between 20 and 30 years. The rate which can be paid is called annuity and is the sum of interest payment and amortization payment. Since by the repayment the credit sum decreases, also the interest which has to be paid becomes lower, thereby the repayment part (amortization payment) in annuity rises. The recommended fixed-interest period should be minimum 10 years. After this period the interest rate has to be fixed newly. But even if the interest rate will increase after 10 years this burden will be affordable for the loan taker because since then the credit amount is smaller (due to repayments) and the energy prices (and so the cost savings) and incomes have been increased.

The credit terms and conditions should accept an early or additional full or partial repayment during the fixed-interest period.

3.2 Source of Credit and Conditions of loans

The source for the credits should be a "Revolving fund" especially founded for this purpose. A revolving fund is a pool of capital from own capital and market capital / fund capital that is used to provide credit. A revolving fund should respond to a clearly defined need, which will determine the fund mission, structure and functions. Revolving funds can be simple lines of credit with few conditions, providing a purely financial service. An advantage of the revolving fund is that loans can be disbursed with a low interest rate and in the end the own capital and market capital is repaid.

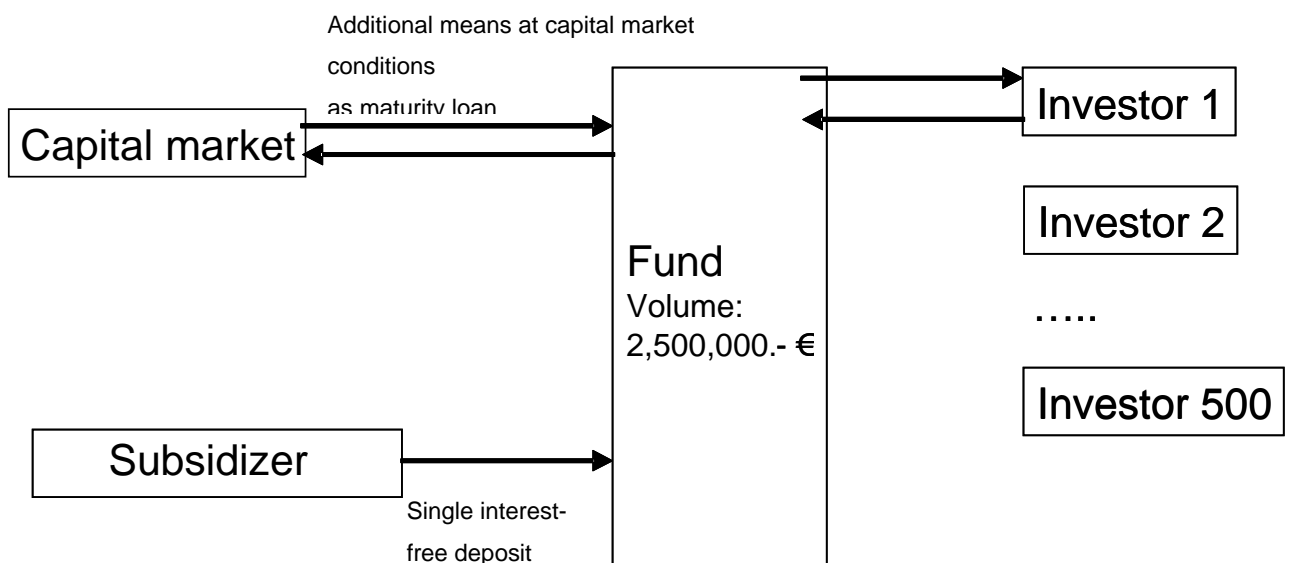
The basis for raising a revolving fund is the deposit of the fund capital. This fund capital may consist of own capital and/or capital market means. As an example: approximately 77% own capital (from states budget or EU-money with 0% payment of interest) and approximately 23% outside capital (e.g. 8% payment of interest) is considered. The outside capital can be borrowed as a maturity loan, so that during the fund duration just interests and no amortization is paid. The mixed interest rate would be then 1.81%.

A start capital of the fund of EUR 2,500,000 is assumed. This capital is sufficient for a financing of 500 investments per EUR 5,000. The mixed interest rate of own capital and outside capital is 1.81%. The debit from the credit of EUR 5,000 is 300 €/a.

The capital flow in the fund is shown by the following simplified figure:

1st year:

During the first year the entire fund capital is spent in form of low-interest loans. 500 projects are financed.

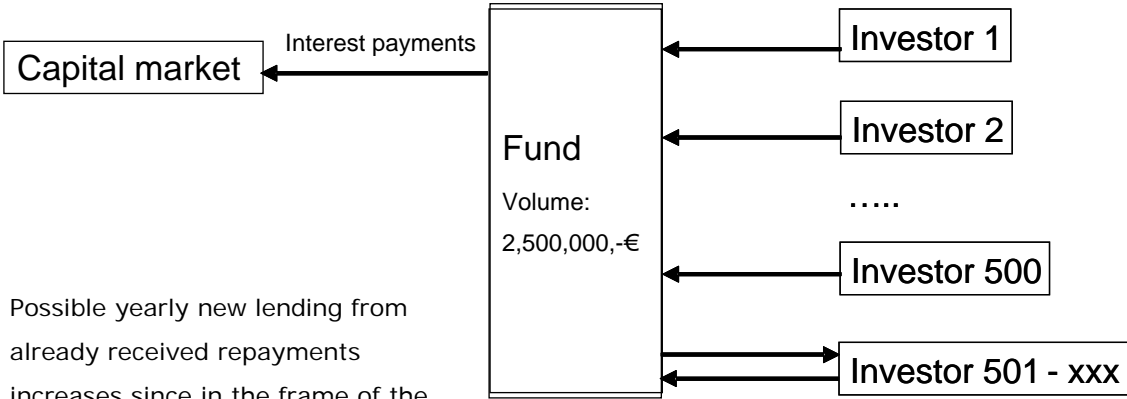


2nd year:

From the interest payments of the granted loans the interests for the capital market means are served. Since the amount of the granted loans is significantly higher than the proportion of the capital market means the income from the loan's interest rate of 1.81% are sufficient to pay the interests of the borrowed capital. From the first repayments in the 2nd year of the lendings 20 further credits can be granted.

3rd year:

Since the repayments increased over the duration due to the annuity repayment of the current credits already 23 new credits can be granted in the 3rd year from the repayment flows.



Possible yearly new lending from already received repayments increases since in the frame of the annuity repayment the annual repayment instalment increases for already granted loans.

Next years:

The backflow is increasing by the growing repayment proportion which results in an increased number of possible new lending's. This results in 780 additional lendings in 20 years. With the used own capital of 1,935,000 € 1,280 credits with an amount of EUR 5,000 each can be granted, thus enabling an interest-reduced financing of investments with an amount of EUR 6,400,000.

The largest hurdle for the installation of a revolving fund is the procurement of the own capital. The procurement of the own capital in the first year assumed in the simplified presentation will be stretched over several years in practice. It is unconditionally to be investigated how far EU means can be used for raising own capital. The investment support task of the EU means is reached in a more sustainable and economical way by this programme than by integration of grant programmes. After the end of the investment support task and backflow of all granted loans (20 years after the end of the investment support task) the means can be used for other investment support tasks or repaid to the EU or states budget.

The additional money from financial market could be come from institutions like European Bank for Refurbishment and Development (EBRD) or European Investment bank (EIB) or commercial banks.

3.3 Managing institute

For the administration and an optimum management of the fund a governmental institution with bank know-how in form of an investment support bank should be available.

A vital part of the project preparations concerns the mechanisms relating to the financial aspects of the investment. A description of the role of the bank participating

either as a direct investor or as an intermediary in any form for the transaction of investment funds is necessary.

Related to the role of the bank involved in the project is the attraction of actual funds to finance the project; these are described in a financial plan. Therefore, the amount of financial resources available compared to projects costs and, accordingly, the origin of and the ratio between own funds, debt and equity is to be clarified. The assumptions are as a rule presented in local currency and euros.

3.4 Eligible measures

3.4.1 Standards

To be eligible the financed measures have to achieve a minimum standard which is stronger than the standard requested by law or regulations.

Standards shall be fixed for the following components:

- external walls
- roof
- windows
- ceiling of basement
- heating boilers

The description of each component will be provided in the Annex.

3.4.2 Measure packages

To ensure a maximum effect of the financed project and reach synergy effects between measures only packages of different measures will be eligible. Three packages with fixed combinations of measures are available, which could be

combined freely. The free combination has to reach fixed savings of CO₂/m² or kWh/m². The savings have to be verified by a certified energy audit.

3.5 Involvement of other stakeholders

For acceptance and easy handling involvement of other stakeholder is necessary. Local decision making processes in host countries could be improved by extending stakeholder involvement. This would sharpen the focus on the local benefits of the ClearSupport projects, which is needed to make the ClearSupport work in the field.

3.5.1 Private credit institutes

Distribution of the loans via regional branches as an intermediate actor between loan taker and managing institute should be fulfilled especially in the case when the managing institute has no regional branches. Offering additional loans for the remaining share of 25% of the investment is essential.

3.5.2 ESCOs

Energy Services Companies (ESCOs) may play a more active role in Energy Efficiency Ratio. The financing instrument should increase possibilities. An ESCO provides customers with a means to reduce their energy use and demand through performance based contracting. The ESCO serves as a general contractor using standard overhead and profit margins and is capable of financing and guaranteeing its performance if it serves as a design/builder. The ESCO minimizes the risk to the customer of inflated construction costs and underachieved savings. The firm provides maintenance services, if necessary and required by the customer. The challenge for the ESCO is working with the customer to overcome their concerns regarding value of service and amount of their payment. It is the ability of the ESCO to move with

the customer and to satisfy their concerns that defines the ESCO's success. The ESCO typically promises to generate energy efficiency and cost savings through its Energy Service Agreement. The customer commits to a payment schedule.

The ultimate objective of the ESCO is to provide performance-based financing. When ESCO's payments are contingent upon the realization of energy cost savings, then the vast majority of customer objections can be quickly and decisively eliminated. Contingent-based payments require that the system be installed according to design, alleviating the issue of cost overruns for the customer. This places the performance of the system squarely on the shoulders of the ESCO. By making it possible for the ESCO to provide these contractual rights to the customer, the market framework is set for the ESCO to be able to move sufficiently to build the industry and to be adequately interesting for the customer and possibly the banks to partake¹.

¹ Alternative Market Frameworks for ESCO Finance: Designing instruments and institutional strategies for financing energy efficiency products in Brazil, Prepared by: International Institute for Energy Conservation (IIEC), Econergy International and Instituto Nacional de Eficiencia Energetica, page 7

4 Annex

4.1 Crete

No.	Headline	Definitinon
1.	Sort and conditions	
1.1	Sort	Revolving fund sourced by EU-grant/states money and market money 75% of investment costs max xxx €/m ² living area
1.2	Interest rate	3,5 %
1.3	duration	20 years (10-30)
1.4	Binding period for interest rate	
2.	Managing institute	National Bank of Greece
3.	Standards	
3.1	Walls	0,7 W/m ² K (standard)
3.2	Roof	0,5 W/m ² K (standard)
3.3	Windows	2,3 W/m ² K (standard)
3.4	Ceiling basement	0,7 w/m ² K
3.5	Heating system	boiler with flexible and low flow temperature
4.	Measure Packages	
4.1	Package 1	roof, walls, windows, ceiling of basement
4.2	Package 2	walls, windows, oil heating boiler with solar heating for drinking hot water or biomass boiler
4.3	Package 3	roof, windows, ceilling of basement, oil heating boiler with solar heating for drinking hot water or biomass boiler
4.4	Free Package	
5.	Involvement of stakeholders	
5.1	Private financing institutes	<ul style="list-style-type: none"> ➤ contact to credit taker via regional branches ➤ Additional credit offer for remaining 25%
5.2	ESCO's	Not possible

4.2 Czech Republic

No.	Headline	Definitinon
1.	Sort and conditions	
1.1	Sort	Revolving fund sourced by EU-grant/states money and market money 75% of investment costs max xxx €/m ² living area
1.2	Interest rate	3,5 %
1.3	duration	25 years (15-30)
1.4	Binding period for interest rate	
2.	Managing institute	Czech Moravian Guarantee Bank
3.	Standards	
3.1	Walls	0,38 W/m ² K
3.2	Roof	0,24 W/m ² K (standard)
3.3	Windows	1,7 W/m ² K (standard)
3.4	Ceiling basement	0,45 w/m ² K
3.5	Heating system	Oil boiler with flexible and low flow temperature Gas condensing boiler
4.	Measure Packages	
4.1	Package 1	roof, walls, windows, ceiling of basement
4.2	Package 2	walls, windows, oil/gas heating boiler or biomass boiler or new DH-substation, installation of metering systems
4.3	Package 3	roof, windows, ceiling of basement, oil/gas boiler or biomass boiler or new DH-substation, installation of metering systems
4.4	Free Package	free combination of measures with a minimum saving of 40 kg CO ₂ /m ² or xxx kWh/m ² to be proved by energy audit
5.	Involvement of stakeholders	
5.1	Private financing institutes	<ul style="list-style-type: none"> ➤ contact to credit taker via regional branches ➤ Additional credit offer for remaining 25%
5.2	ESCO's	possible

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4.3 Latvia

No.	Headline	Definitinon
1.	Sort and conditions	
1.1	Sort	Revolving fund sourced by EU-grant/states money and market money 75% of investment costs max xxx €/m ² living area
1.2	Interest rate	3,5 %
1.3	duration	20 years (10-30)
1.4	Binding period for interest rate	
2.	Managing institute	Latvian Land and Mortgage Bank
3.	Standards	
3.1	Walls	0,3 W/m ² K
3.2	Roof	0,2 W/m ² K (standard)
3.3	Windows	1,8 W/m ² K (standard)
3.4	Ceiling basement	0,25 w/m ² K
3.5	Heating system	Oil boiler with flexible and low flow temperature Gas condensing boiler
4.	Measure Packages	
4.1	Package 1	roof, walls, windows, ceiling of basement
4.2	Package 2	walls, windows, oil/gas heating boiler or biomass boiler or new DH-substation, installation of metering systems
4.3	Package 3	roof, windows, ceiling of basement, oil/gas boiler or biomass boiler or new DH-substation, installation of metering systems
4.4	Free Package	free combination of measures with a minimum saving of 40 kg CO ₂ /m ² or xxx kWh/m ² to be proved by energy audit
5.	Involvement of stakeholders	
5.1	Private financing institutes	<ul style="list-style-type: none"> ➤ contact to credit taker via regional branches ➤ Additional credit offer for remaining 25%

5.2	ESCO's	possible

4.4 Lithuania

No.	Headline	Definitinion
1.	Sort and conditions	
1.1	Sort	Revolving fund sourced by EU-grant/states money and market money 75% of investment costs max xxx €/m ² living area
1.2	Interest rate	5 %
1.3	duration	25 years (15-30)
1.4	Binding period for interest rate	
2.	Managing institute	SEB Banka –private bank-
3.	Standards	
3.1	Walls	0,2 W/m ² K
3.2	Roof	0,2 W/m ² K (standard)
3.3	Windows	1,4 W/m ² K (standard)
3.4	Ceiling basement	0,3 w/m ² K
3.5	Heating system	Oil boiler with flexible and low flow temperature Gas condensing boiler
4.	Measure Packages	
4.1	Package 1	roof, walls, windows, ceiling of basement
4.2	Package 2	walls, windows, oil/gas heating boiler or biomass boiler or new DH-substation, installation of metering systems
4.3	Package 3	roof, windows, ceiling of basement, oil/gas boiler or biomass boiler or new DH-substation, installation of metering systems
4.4	Free Package	free combination of measures with a minimum saving of 40 kg CO ₂ /m ² or xxx kWh/m ² to be proved by energy audit
5.	Involvement of stakeholders	

5.1	Private financing institutes	<ul style="list-style-type: none"> ➤ contact to credit taker via regional branches ➤ Additional credit offer for remaining 25%
5.2	ESCO's	possible

4.5 Poland

No.	Headline	Definitinion
1.	Sort and conditions	
1.1	Sort	Revolving fund sourced by EU-grant/states money and market money 75% of investment costs max xxx €/m ² living area
1.2	Interest rate	
1.3	duration	
1.4	Binding period for interest rate	
2.	Managing institute	
3.	Standards	
3.1	Walls	
3.2	Roof	
3.3	Windows	
3.4	Ceiling basement	
3.5	Heating system	Oil boiler with flexible and low flow temperature Gas condensing boiler
4.	Measure Packages	
4.1	Package 1	roof, walls, windows, ceiling of basement
4.2	Package 2	walls, windows, oil/gas heating boiler or biomass boiler or new DH-substation, installation of metering systems
4.3	Package 3	roof, windows, ceiling of basement, oil/gas boiler or biomass boiler or new DH-substation, installation of metering systems
4.4	Free Package	free combination of measures with a minimum saving of 40 kg CO ₂ /m ² or xxx kWh/m ² to be proved by

		energy audit
5.	Involvement of stakeholders	
5.1	Private financing institutes	<ul style="list-style-type: none"> ➤ contact to credit taker via regional branches ➤ Additional credit offer for remaining 25%
5.2	ESCO's	

4.6 Slovenia

No.	Headline	Definitinon
1.	Sort and conditions	
1.1	Sort	Revolving fund sourced by EU-grant/states money and market money 75% of investment costs max xxx €/m ² living area
1.2	Interest rate	
1.3	duration	
1.4	Binding period for interest rate	
2.	Managing institute	
3.	Standards	
3.1	Walls	
3.2	Roof	
3.3	Windows	
3.4	Ceiling basement	
3.5	Heating system	Oil boiler with flexible and low flow temperature Gas condensing boiler
4.	Measure Packages	
4.1	Package 1	roof, walls, windows, ceiling of basement
4.2	Package 2	walls, windows, oil/gas heating boiler or biomass boiler or new DH-substation, installation of metering systems
4.3	Package 3	roof, windows, ceiling of basement, oil/gas boiler or biomass boiler or new DH-substation, installation of metering systems

4.4	Free Package	free combination of measures with a minimum saving of 40 kg CO ₂ /m ² or xxx kWh/m ² to be proved by energy audit
5.	Involvement of stakeholders	
5.1	Private financing institutes	<ul style="list-style-type: none"> ➤ contact to credit taker via regional branches ➤ Additional credit offer for remaining 25%
5.2	ESCO's	