Energy Efficient and Integrated Urban Development Action

URB Energy

WP 5 Financing

Interim Report WP5

On national financing schemes and mechanisms with consideration of EU-funds

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KREDEX

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List of Abbreviation

IUD	Integrated Urban Development
IUDC	Integrated Urban Development Concept
EER	Energy Efficient Refurbishment
RES	Renewable Energy Sources
UDF	Urban Development Fund
JESSICA	Joint European Support for Sustainable Investments in City Areas
MA´s	Managing Authorities
MS	Member States
NMS / EU-12	New Member states of the EU since 2004
WP	Work Package
TA	Target Area
OP	Operational program

Introduction

The WP5 discusses the issue of financing of IUD and EER which are subjects of WP3 and WP4. The aim of WP5 is to support the development and the implementation of innovative financing programs in the TA. With those financing tools the findings from the two other WP shall be realized.

This interim report shows the results that have been worked out until the end of project period 5 (July 2011). It presents the development of national financing schemes in the TA with special attention to the consideration of EU-funds.

It gives a catalogue of support programs that already exist in the TA. It shows their structure and their aims and compares it with the findings from the Urb.Energy project.

It presents the financing scheme which is appropriate for the implementation in the TA. This scheme has been discussed during the project and this report gives information about its value for relevant measures. It includes a list of appropriate financing sources on EU-level and evaluates them.

IUD and EER Measures

Generally speaking one can say that IUD and EER measures comply with different demands. They raise the standard of living and appreciate the neighbourhood. Those measures valorize the quarter and probably can help solving social problems. Especially EER measures protect the environment, avoid CO_2 emissions and save money because of less energy demand.

Some of these measures make good economic sense. As a rule one can say that energy related measures often belong to that kind. A good building insulation lowers the heat demand of that building and means saving energy and money. Further it is more attractive to its inhabitant because it is cosier and more comfortable than as it was before. A sustainable heating system will spare fuel resources, lower the CO_2 emissions and save money again. The value of that building rises.

The advantages of other measures are not that obvious. Projects that aim for the improvement of the quarter often turn out cost-intensive and won't repay itself off. Its economic efficiency often can't be measured in figures. In most cases, this appears at second glance. These benefits can for example be decrease of criminality, safe road traffic or attraction for various populaces.

There is also the fact, that preparative like urban development planning, public promotion, project assistance etc. are more complex and expensive when they are carried out properly. An acceptable result requires a lot of effort in the run up. Often the targets are laid down in operational programs (OP) on national, regional or local level.

If it comes to the refurbishment of a whole quarter, one will have a lot of different parties that are involved in that project. Starting with flat owners or tenants, planners, investors financers, municipal administration and probably politicians are just a few of the possible persons involved.

Often it is sensible to combine measures of different kinds. Once one started to e.g. upgrade a building energetically it can be worthwhile to implement measures that improve the surrounding of this building as well. One probably can make use of synergetic effects.

But this is not always easy to realize, because often different parties are responsible for these different kinds of measures. In many cases the inhabitants of the buildings are to invest in their property. These inhabitants should be merged to apartment associations, housing associations or communities of apartment owners. These merged now have a common interest and can be represented by one person and one do not have to deal with many parties which in most cases is very cumbersome. This is a good basis for extensive refurbishment measures that affect the entire building. Mainly these measures rather help to improve the energetic standard of buildings.

The responsibility to improve the quarter in many cases lies with the municipalities. It often is their task to care for the spaces between the buildings which basically means green areas, play grounds, car park, street lighting and so on. These measures mainly do not repay itself off.

These different parties do not only have various requirements concerning the kinds and extend of these measures, but they also have different needs for financing. Most municipalities do have a yearly budget for the implementation of several projects. Often enough this budget is not sufficient to realize entire urban development which often causes an accumulation of necessary projects. An appropriate financing offer which allows to distribute needed investments over suitable terms.

Whereas private investors like flat owners in most cases do not have sufficient financial reserves to fund refurbishment measures. They depend on loans if they implement extensive refurbishment measures.

The current situation in the TA is that financial means with acceptable conditions are mainly not available. That means that most investors can not afford the repayment of the offered loans. As a consequence these investors either do not invest at all or only realise measures that they can afford but do not reach a desirable standard and extent.

Even though in order to generate investments in most TA support programs are available which are paid out as a simple grant. These subsidies can only support a certain number of projects until the volume is spent. After the disbursal the funding is not available any longer and projects to come must be refused or put off until later.

Financing Programs that are available in the TA

In the TA there are programs available that support desirable measures for EER or IUD. In the following those programs are described:

Latvia

Since 2001 there is still a program that issues state guarantees as a bank security for loans. Latvia is using 29,9M € from the EU funds (ERDF) in the time from 2007 to 2013, which is 1.3 %. The possible maximum percentage would be 3.0 %.

Additionally in the budget of Riga city there is a yearly budget of 4M € provided for the renovation of educational institutions (schools, kindergartens).

Since 2009 the Climate Changes Financial Instrument which follows from the law On participation of the Republic of Latvia in the Flexible Mechanisms of the Kyoto Protocol (from greenhouse gas emission quotas trading, which are at state disposal) is available. The total financial volume for 2009 was 25.1M €. The grant rate was 85 %.

Since 2009 the EU Structural Funds support is available for renovation of residential buildings. The total amount for 2009 was 22.9M €. Riga has submitted 6 multi-apartment buildings for the renovation. The grant rate was 50 %.

Since 2009 the EU Structural Funds support is available for CHP (combined heat and power unit) efficiency increase. The total amount of the support is about57.2M €. The grant rate is from 40 to 50 % of the investment.

Since 2009 the EU Structural Funds support is available for the development of cogeneration systems. The total sum of this program is about 24.3M €. The grant rate amounts up to 50 % of the investment.

Concerning the support of urban development or house building the municipality of Riga manages constructions of new residential rental houses among others by using bank loans (Municipal Ltd. "Rigas pilsētbuvnieks" takes loans).

In the field of social housing the municipality of Riga regularly finances the development of residential constructions for citizens with low income.

The EU Structural Funds support is available for the renovation of social houses since 2009. The amount for the first call was approximately 10M €. The grant rate is up to 75 %. Riga participates in this subsidy program.

Lithuania

Lithuania developed different support programs which are subsidy programs from the European Regional Development Fund (ERDF) and the Cohesion Fund in combination with national funding. The existing funds have different priorities and applicants.

The Local and urban development is generally supported by:

- Program for refurbishment of multi-apartment buildings, which primarily increase their energy efficiency
- Program for social housing development and improvement of it's quality

Municipalities and their own institutions can apply for these programs.

The environment and sustainable development is supported by:

- Program for water supply and wastewater renovation and development
- Program for the refurbishment of public buildings at national level
- Program for the refurbishment of public buildings at regional level

Applicants for these programs can be municipalities and their own institutions as well as water companies.

The basic economic infrastructure

- Program for heat supply system modernization and development

Applicants can again be municipalities and their own institutions.

The Energy Efficiency Pilot Project (started in 1996) already ended in 2004. Therefore the Modernization of Multifamily Houses Program was implemented in 2004. It will expire in 2020.

Low income single persons and families are supported by the law on social support. According to this law heating and hot water expenses are covered for those households.

This program likewise offers funding for residents of multi-family buildings which participate in the Modernization Program of Multi-family buildings. The initial financial contribution covers loan, interest rates and insurance fees of the loan.

Poland

In Poland the Thermo Refurbishment Program is available which supports energy efficiency measures. There are two different models that are supported:

- Realization of energy-saving measures providing at least 25 % energy savings based on energy-audit or
- Implementation of pure refurbishment measures in multifamily buildings that are used before July 14th, 1961 with at least 10 % energy savings calculated in refurbishment audit.

The Thermo Refurbishment Program was implemented in 1998. The conditions for that program are: 25 % reduction of the capital of the loan for at least 20 % of the equity capital and a minimum of 25 % in energy savings.

On March 19th, 2009 the program was extended to buildings used before July 14th, 1961. In the case of thermal refurbishment it is possible to get 20 % reduction of the loan capital limited to 16 % of the investment costs and not more than 2-years heat cost savings. In case of pure refurbishment measures with at least 10 % energy savings one gets 20 % reduction of the loan capital but not more than 15 % of the actual investment costs.

In the period from 2007 to 2010 Poland has used approximately 243.1M € from EU Structural Funds (ERDF), which means 1.47 % of a possible maximum percentage of 3.0 %.

There is a subsidy program for low income households that supports up to 50 % of the housing costs depending on the income of the offeree.

Beside the abovementioned support options there are loans with subsidized interest rates available (at least 3.5 %), which are provided by the Voievodeship Funds of Environment Protection. These loans can be used for financing EER measures including implementation of RES. There are also subsidies available from ERDF via Regional Operational Programs for the period 2007 to 2013, where EER measures in residential buildings are eligible, but under implementation of the "local development plans" elaborated by municipalities only.

In addition to this, there are loans available that contain subsidized interest rates (at least 3.5 %), which are provided by the Masovian Voievodeship Fund of Environment Protection. These loans can be used for financing EER measures including implementation of RES and the modernization of heating devices as well as district heating systems. The loan can be extended for up to 90 % of the investment costs for 15 years with 18 month grace period. The ERDF funds in the Masovian Voievodeship are available for RES and measures concerning the revitalization of city areas.

Considering the regulations for the CHP market one can say that there exists a certificate system in Poland. The CHP producers sell their electricity to the grid based on market prices and have the right to issue the certificates for power produced by CHP (red certificate) or by RES (green certificate). These certificates are subject to the trade

among different utilities (power distribution companies), which are obliged by the law to purchase annual quantities of power from RES and from cogeneration.

Poland did not set up financing instruments to support urban developments (besides of ERDF funds available via Regional Operational Programs mentioned above). There are only financing instruments for the support of house building as a grant to the interest of the loan (interest rates less than 5 %). This can be extended to up to 70 % of the investment costs concerning long credit terms. The beneficiaries can be municipalities, housing co-operatives and TBS (social housing societies).

Estonia

Since 2009 a Renovation Program financed by a revolving funds scheme is available. Energy efficient refurbishment measures are supported with very low interest loans. The function and the advantages of a revolving fund are specified in the chapter Revolving Funds. Till 2009 the total number of loan agreements concluded is 221. The whole funds capital is about 49 M € and supports approximately 68,000 residential flats. The aim of the renovation loan is to support the renovation of apartment buildings and to raise their energy efficiency at least by 20%, by improving the accessibility of loan capital through KredEx

The product is targeted to the apartment associations, building associations (incl. previous housing associations) and communities of apartment owners.

Furthermore different grant schemes are available.

- Loan for reconstruction of apartment buildings (the measure will be implemented centrally as a program) – the purpose of the loan is to finance the comprehensive renovation works in apartment buildings and improve the energy savings (at least 20%) of apartment buildings. The loan and grant target groups are: apartment associations, housing associations
- Grant for apartment buildings for energy audit, expert evaluation of a building and a building design following the recommendations of energy audit
  The purpose of the grant for apartment buildings for energy audit, expert evaluation of a building and a building design following the recommendations of energy audit is to motivate the representatives of representatives of apartment buildings to negotiate with experts before the planning and performance of reconstruction work, and carry out the work according to the suggestions and following the construction law. From June 25th, 2008, the grant has been financed from the European structural funds. The grant is up to 50% of the cost of services, but not more than 700€ per an apartment building for energy audit and expert evaluation of a building, and up to 50%, but not more than 4.000€ per apartment building for a construction design following the recommendations of energy audit.
- Grant for supporting the awareness rising of energy saving measures among residents of apartment buildings - the grant is directed to the awareness rising of people on the energy efficiency and possibilities and importance of energy conservation.

In 2010 KredEx was included in the sales process of the Assigned Amount Units (AAUs) and the income from the contract with the Grand Duchy of Luxembourg (30 million €) was

directed to support reconstruction work performed with the purpose to achieve energy efficiency in apartment buildings. The grant amount is up to 35% of the work capacity. With the apartment building renovation loan with favourable interest rates introduced to the market in 2009 financing terms offered today for reconstruction of apartment buildings are better than ever before.

There are instruments in support of urban development or house building available in Estonia. Those financial sources are managed by the Ministry of Environment.

In addition to that there is a smaller support offer from the municipalities if the funds do not cover the housing costs.

European Regional Development Fund (ERDF) and Cohesion Fund

The European Regional Development Fund is a €308 billion programme of European Union member states for the period 2007-13.
Under this objective, the ERDF programme aims to strengthen the competitiveness and attractiveness of all regions, promote employment and economic growth through promotion of the knowledge economy and investment in human resources.

The ERDF Programme is unable to offer direct financial support to single SME beneficiaries to further their business goals and aspirations. The expectation under the Programme is that all projects must be able to demonstrate multiple SME beneficiaries, and as such, the usual model is for an intermediary organisation to apply for ERDF funds to provide assistance and support to a number of SME beneficiaries.

Europäische Investitionsbank

All actions in energy efficiency in the building sector can be supported by the ERDF.
Conditions for appliance are:

- Energy related expenditure for existing housings can only be used by the EU-12
- The allocation should not exceed 3% of the ERDF allocation to the operational programs concerned or 2% of the total ERDF allocation
- Eligible interventions are limited to multifamily housing and buildings owned by public authorities or non profit operators

All specific conditions are summarised in the paper from the European Commission (COCOF 08/0034/02/EN "Guidance note on eligibility of energy efficiency and renewable energies interventions under the ERDF and the Cohesion Fund (2007-2013) in the building sector."

Jessica

The main objectives of JESSICA (Joint European Support for Sustainable Investment in City Areas) are to help the authorities in the Member States of the European Union to develop financial engineering mechanisms to support investment in sustainable urban development in the

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context of cohesion policy and to provide new opportunities to Managing Authorities responsible for the next generation of cohesion policy. JESSICA is a policy initiative of the European Commission supported by the European Investment Bank (EIB).

JESSICA will offer the possibility to take advantage of outside expertise and to have greater access to loan capital for the purpose of promoting urban development, which should be designed as a Revolving Fund. When a managing authority wishes to participate under the JESSICA framework, it would contribute resources from the programme, while other international financial institutions, private banks and investors would contribute additional loan or equity capital as appropriate.
The programme contributions will be used to finance loans provided by the urban development funds to the final beneficiaries, backed by guarantee schemes established by the funds and the participating banks themselves.

JESSICA gives a permanent availability of funds for revenue generating components of urban renewal and development programs like a revolving fund.

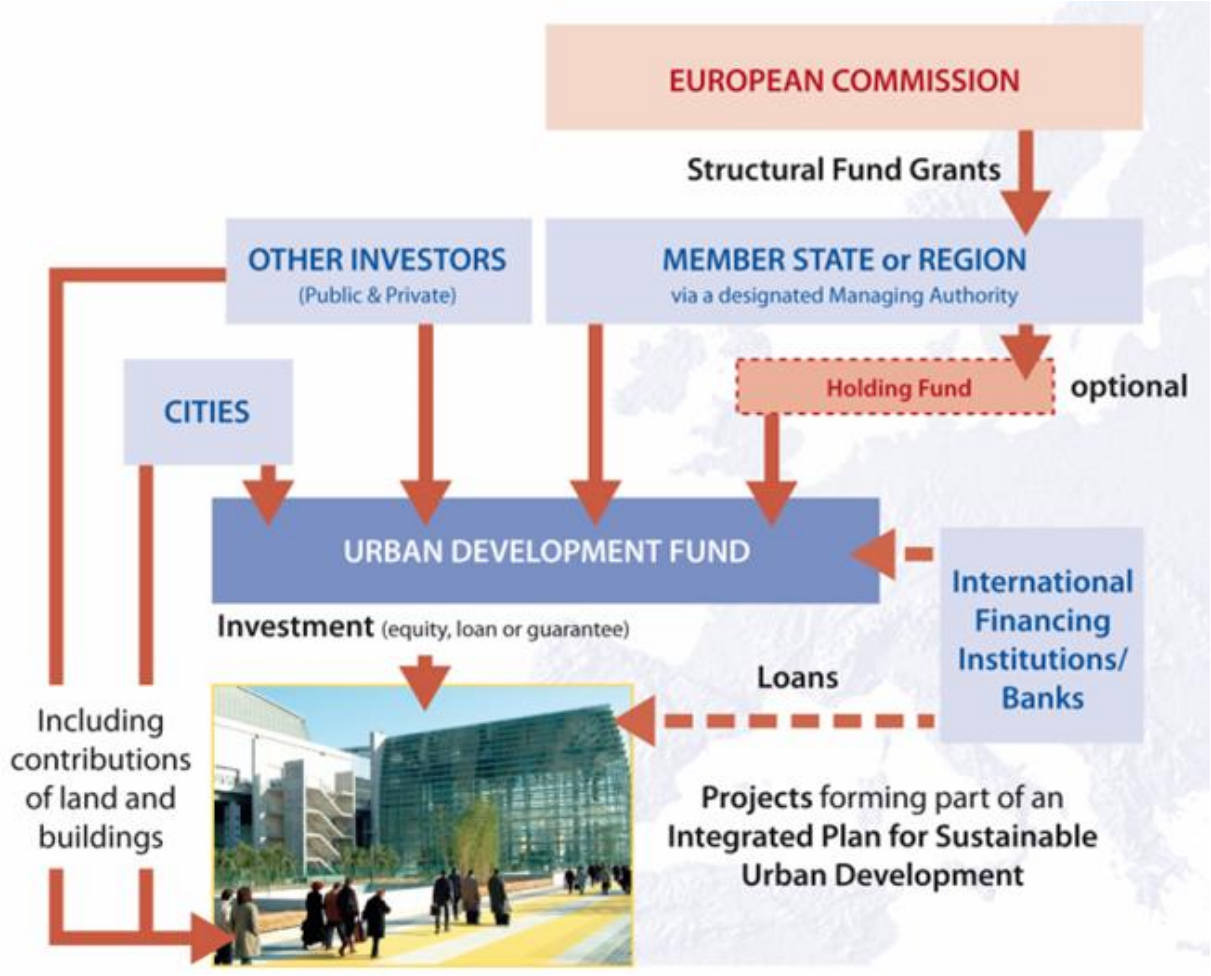


Figure 1 - Function Scheme of UDF with support of Jessica Source EIB

The main benefits of Jessica

The recycling of funds are possible – as long as JESSICA funds have been invested, by a Urban Development Fund (UDF), in eligible project expenditure before the expiry date of the Structural Fund programming period (n+2, i.e. by the end of 2015) then any returns/receipts generated from that investment can be either retained by the UDFs or returned to Managing Authorities for reinvestment in new urban regeneration projects.

When the volume of the fund is "transformed" into repayable investment, this money is not repayable to the European Commission. No State guarantee is involved for these loans hence they would not aggravate public finance and debt.

JESSICA could also act as a catalyst in urban areas to enhance the investment market and therefore complement other initiatives or sources of funding that may already exist in the Member State.

For further and detailed information see "Jessica - Holding Fund Handbook" on the web pages of the European Investment Bank. You can also find several evaluation studies under http://www.eib.org/products/technical_assistance/jessica/studies/index.htm?lang=en

European Local ENergy Assistance (ELENA)

The ELENA fund supports regional and local authorities in accelerating their Investment programmes in the fields of energy efficiency and renewable energy sources. The fund covers a share of the cost for technical support that is necessary to prepare, implement and finance new investment programs. For example ELNA could support structuring of programmes, business plans, energy audits, feasibility and market studies and contractual arrangements.

To get support for technical assistance, the applicant must have identified an investment programme aiming at contributing to achieving the European energy and climate objectives (20-20-20 initiative). Funding can be given for technical assistance e.g. for energy efficient refurbishment (EER) measures, for exchange of street lighting, for promotion of renewable energy sources and renovating, extending and building of district heating/cooling infrastructures. Proposals and funding applications can be submitted until the end of 2013.

For further detailed information check the Report on financing sources for EER and integrated urban development measures part 2 or the web pages of the European Investment Bank and the Kfw bank.

European Energy Efficiency Fund EEEF

The EEEF will support EU member states' climate and energy goals. The European Commission, the European Investment Bank (EIB), the Cassa Depositi e Prestiti (CDP) and Deutsche Bank are responsible for the European Energy Efficiency Fund (EEEF). The EEEF aims to provide market-based financing for commercially viable public energy efficiency and renewable energy projects within the European Union.

The fund is the centrepiece of a new sustainable energy facility that the European Parliament and Council of Ministers agreed to launch using unspent funds from the

European Energy Programme for Recovery for a new sustainable energy facility. It supports EU member states in meeting their objective by 2020, to reduce greenhouse gas emissions by 20 percent, to increase renewable energy usage by 20 percent, and lower energy consumption through a 20 percent improvement in energy efficiency. It will target the substantial potential for energy efficiency and small scale renewable energy in the European public sector.

The Fund will pursue a two track investment approach, either investing directly in projects or via financial institutions. The fund has an initial volume of EUR 265 million, consisting of: EUR 125 million from the EEPR, EUR 75 million from the European Investment Bank, EUR 60 million from Cassa Depositi e Prestiti SpA and EUR 5 million from the investment manager, Deutsche Bank. The Fund aims to attract other public and private investors. Its final size will depend on additional investors (public and/or private) and the eventual investment portfolio. The Deutsche Bank will act as Investment Manager of the fund.

The EEE-F will invest in energy saving, energy efficiency and renewable energy projects, particularly in urban settings, achieving at least 20% energy saving or [GHG/CO2] emission reduction. Sustainable energy investments promoted by local, regional and (where justified) national public authorities, could include: energy saving measures in public and private buildings; investments in high efficient combined heat and power (CHP), including micro-cogeneration and district heating/cooling networks; investment in decentralised renewable energy sources, including micro-generation; clean urban transport; the modernisation of infrastructure, such as street lighting and smart grids, as well as investment in sustainable energies with a potential for innovation and growth.

Potential beneficiaries are public authorities (e.g. municipalities), preferably at local and regional level, and public or private companies, which are acting on behalf of those public authorities, such as local energy utilities, Energy Service Companies (ESCOs), district heating combined heat and power (CHP) companies or public transport providers. Projects and technical assistance (TA) requests are eligible as from 1st January 2011 and may thus be financed on a retroactive basis from that date.

The EEE-F, which will be managed by Deutsche Bank, will offer a wide range of financial products such as senior and junior loans, guarantees or equity participation. In addition, about EUR 20 million of the EEPR funding will be made available as grants for project development services (technical assistance) related to the preparation of projects. Finally, awareness-raising activities for national/regional authorities managing cohesion/structural funds in the field of sustainable energy are also envisaged (for about EUR 1 million).

Those interested in applying for funding should contact Silvia Kreibiehl at the fund managers, Deutsche Bank (silvia.kreibiehl@db.com). Applicants will have to provide a project proposal complying with the scope and the objective of the Fund, the eligibility and selection criteria and the EU legislation applicable to the specific area of the project (e.g. Buildings directive or Renewable Energy directive). Technical assistance grants may be offered for project development services, including financial advice. Applications for grants will be aligned with the rules under the ELENA facility.

Source: European Investment Bank

Smart Cities and Communities Initiative

The Smart Cities and Communities initiative has officially been launched at a conference held on 21 June 2011 in Brussels. Financed by the 7th EU Research Framework Programme, it will call for proposals addressing the deployment of integrated sustainable energy technologies in urban areas.

The 2011 call for proposals, to be open from 19 July to 1 December 2011, will allocate €75 million to "support innovative model projects in selected European cities". Teams of cities and industry partners can apply for EU-funding in the fields of integrative management of urban energy flows that also include transport, water and waste solutions. Further calls under the initiative address buildings, heating & cooling systems, networks and energy supply technologies are possible.

A maximum of 10 to 12 pilot projects will be supported in an initial phase until the end of 2013. The projects ought to be replicable and involve teams of cities and industry players from at least three Member States.

Next steps of the initiative

- Call for proposals open from 19 July until 1 December 2011.
- SET Plan conference in Warsaw on 28-29 November 2011.
- Launch of Smart Cities and Communities Stakeholder Platform end of 2011
- Evaluation of call proposals: January/February 2012.
- Start of Projects: probably Summer 2012

The following table gives a brief overview over the funding mechanisms which are available in the TA:

	Availability of financing possibilities for IUDCs and EER concepts and measures in the partner countries in general				
	Grant or loan schemes			**Facilities to set up special funds**	**Others**
	Structural funds	Special EU programmes with a specific funding objective	National funding facilities	European financing facilities to set up national/local funds)	
Improvement of energy efficiency of residential buildings	European Regional Develop-ment Fund (ERDF)	European Energy Efficiency Fund (EEEF)	**Lithuania:** Support Program (15-50% of the costs as a grant) Modernization of Multifamily Houses Program **Poland:** Thermo Refurbishment Program (Grant-Program) **Estonia:** Renovation Program as a revolving fund KredEx(loan) Grant schemes for energy auditing and EE refurbishment Operational Program "Development of Living Environment "		
Improvement of energy efficiency of public buildings (e.g. schools, kindergarten, community centers etc.)	Cohesion Fund, ERDF	European Energy Efficiency Fund (EEEF)	**Latvia:** Operational Program "Infrastructure and Services" **Riga:** Budget for the support of kindergartens and schools		
Introduction / retrofitting of Renewable Energy Resources for energy supply (e.g. heating,	Cohesion Fund	European Energy Efficiency Fund (EEEF)	**Poland:** EU Operational Program for each District Operational Program "Infrastructure and Environment" **Lithuania:**	**JESSICA** **Poland** Masovian Voievode-ship Fund	

warm water, electricity)			Operational Program "Economic Growth" **Latvia:** Operational Program "Infrastructure and Services" **Estonia:** Operational Program "Development of Living Environment "		
Urban development / upgrading measures (e.g. enhancement of residential environment, infrastructure etc.)				**JESSICA**	
Development of integrated urban development concepts on neighbourhood level	**ELENA**				Smart Cities & Communities Initiative (under Consultation)
Others (e.g. information / awareness raising campaigns on neighbourhood level)	**ELENA**	European Energy Efficiency Fund (EEEF)			Smart Cities & Communities Initiative (under Consultation)

The list above shows that there are already support programs available in the TA. Whereas especially the table shows that there are still fields of EER and IUD that are not considered yet. It also shows that the offers in the TA are very different. Most partners have funding options on national level. Some partner countries like e.g. Poland have the necessary structures for funding opportunities on a regional level. Others do not have these structures, but have programs on local level like Riga/Latvia.

Mainly the available support programs in the TA are about promotion of EER in the residential sector. There are some programs that support the development of the use of renewable energy sources for heat supply. The financial support of IUD measures is underdeveloped in most of the TA. In the development of this founds the integrated perspective is sometimes missed out. In most of the cases the focus is just set on the building, but the surrounding urban area is not considered.

Another result of the Urb.Energy project is that most of the support programs are set up as a grant. That means that the money spent for the relevant measures can not be reused. For some purposes this is an adequate procedure, but in mainly this is not sustainable.

The analyses of the funding options in the TA also show that there is only a little use of EU funding options. The potential of getting financial support for measures in the TA is much higher. A set up of new financing schemes for the unregarded flields will help to use up the available EU support budget. And even most of the existing programs should be reappraised and probably reworked to make them more sustainable for the next funding period.

Review of relevant financing programs

The EU, the European Development Bank, the European Commission and the European Investment Bank in cooperation with other institutes within the EU MS offer a wide range of support options for financing schemes and mechanisms. To enhance different measures for IUD and EER and even for the support of local and regional Authorities in contributing to the "20-20-20" initiative the EU offers extensive programs.

One must admit that the range of these programs appears to be complex or even confusing. The targets of the different support schemes sometimes have similar contents. The volume and the subsidy share of these programs differ from each other. Not every program is suitable and available for every applicant. It appears hard to keep the overview and to find sufficient offers. Here is a short review of the programs that are worth considering. The chapter above gives a survey of the offers that can be sufficient for EER and IUD within the TA. This chapter is to assess these EU programs and propose the use of the most sufficient ones.

If using the support of EU funding offers one must accept that this involves some effort. In general these programs require an extensive administration which first of all means that one needs an OP that corresponds with the targets of the EU. This means that the use of e.g. ERDF funding starts on a political level. Very often this is a challenge, because the targets set by the EU are quite high.

In addition to that the administrative requirements for the application, for running a program with EU support and at the end the financial statement can be burdensome.

In the following there is a review of the abovementioned EU funding options:

ELENA
This program offers support for structuring of programmes, business plans, energy audits, feasibility and market studies and contractual arrangements. This means that investments with these resources are excluded. The subsidy is offered as a grant. Its emphasis places exclusively on the energetic sector and disregards IUD measures. ELENA is not the right instrument for the implementation of EER and IUD measures. It
It is to keep in mind that the expected leverage lactor (the ratio between the total investment costs of the Investment Programme supported and the total cost of Technical Assistance coming from the ELENA Facility) will be 20. That means that the use of ELENA resources involve investments that have to be financed by other means.

ERDF
This instrument offers subsidies for Energy related expenditure for existing housings (can only be used by the EU-12), whereas eligible interventions are limited to multifamily housing and buildings owned by public authorities or non profit operators. As a best practice the Estonian KredEx implemented a revolving fund which includes ERDF means. The fund supports EER in the residential sector.

This example shows that the use of ERDF funding for this purpose is adequate. It is possible to use these means for setting up a revolving funding instrument instead of issuing the money as direct grants.

EEEF
A relatively new instrument is the EEEF (as it is described above). Its focus lies on the support of energetic measures again which means that urban development measures are excluded and can not be financed by its means. It aims to attract mainly public authorities (e.g. municipalities), preferably at local and regional level, and public or private companies, which are acting on behalf of those public authorities, such as local energy utilities, Energy Service Companies (ESCOs), district heating combined heat and power (CHP) companies or public transport providers. This makes it interesting for investments e.g. heating grids in the TA.

The fund can be used both for direct investments in projects and via financial institutions. That makes it interesting for innovative financing schemes like e.g. a revolving fund.

Smart Cities and Communities Initiative
This initiative aims for the support of integrated sustainable energy technologies in urban areas. This program furthers “innovative model projects in selected European cities”. It covers the themes integrative management of urban energy flows that also include transport, water and waste solutions. Further calls under the initiative address buildings, heating & cooling systems, networks and energy supply technologies are possible which actually is a wide range.

Unfortunately the term of operation is limited to the end of 2011 which makes it difficult to apply since a refined concept is required. Furthermore the number of projects supported is limited to 10 to 12.

For participants who already developed a detailed and competitive concept this initiative can be a suitable opportunity for financial support.

JESSICA
The fund aims to help the authorities in the Member States to develop financial engineering mechanisms to support investment in sustainable urban development in the context of cohesion policy and to provide new opportunities to managing authorities responsible for the next generation of cohesion policy. That means that this fund is available for the support of urban development. Beside the other presented this instrument is not exclusively aiming at energetic measures.

The JESSICA initiative specially strives for being used as a contribution to revolving funding schemes. That means that it seeks to be used rather sustainable than just being paid out as a grant.

As one can see the EU already set up financial instruments for the support of EER and RES. JESSICA now is an opportunity for the successful implementation of integrated urban development concepts.

This funding source offers suitable conditions for the TA to implement revolving funding instruments. Combined with money from the financial market and/or from public sources it is a useful basis for setting up such a fund. The parties concerned mainly are to public bodies on regional and/or national level.

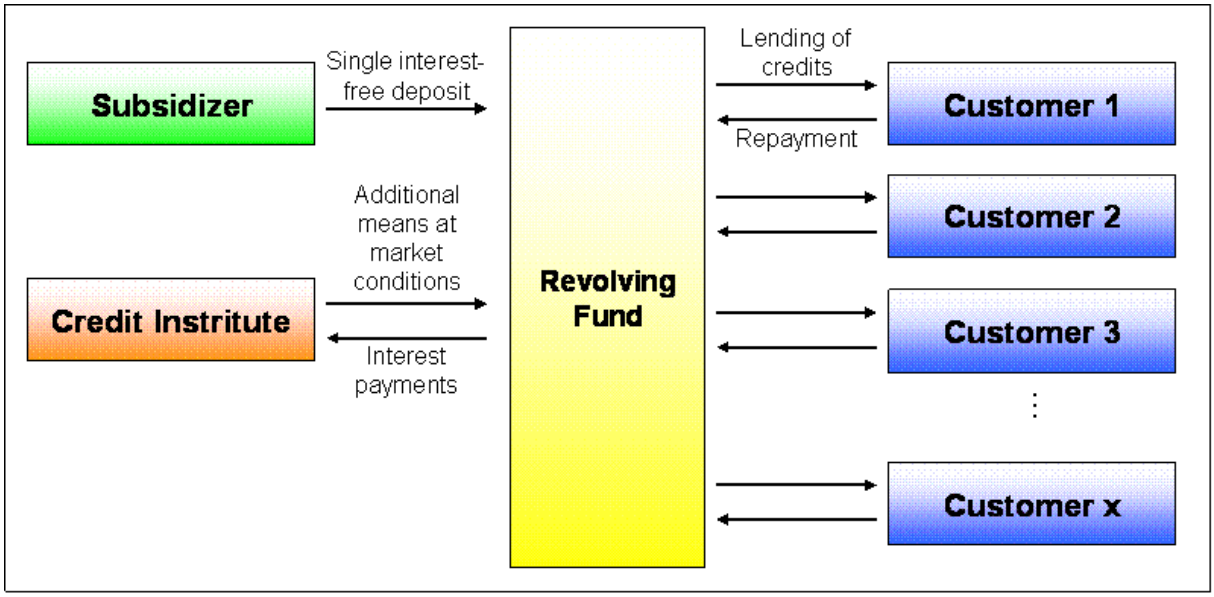
The implementation and the operation of a revolving fund with EU shares are quite extensive as mentioned above. It is doubtful whether a single municipality can afford the administrational effort and the effort for e.g. marketing.

Concepts for financing instruments for the TA

Revolving Funds

A revolving fund is a self-sustaining financing scheme that mainly requires a one-time initial investment. Revolving funds only support specific activities that are clearly defined by the investors and owners of the fund. Consequently it is possible to design a revolving fund that exclusively finances urban development and energy efficiency. If it is managed properly, the operation of the funds accumulates adequate savings over time, sustaining future financing.

Figure 2: operation of a revolving fund



The principle of a revolving fund is not very complicated. A credit source filled up with interest free subsidies (European Union Structural Funds) makes the fund capital. This capital now is available for credits dedicated to urban development and energy efficiency measures. The conditions of these credits can be favourable compared to the market conditions because of the share of interest free deposit of the subsidizer. That means longer interest terms and low interest rates.

This process allows a high amount of credits, because not only fund capital is available for credits but also first repayments from already lent credits.

Revolving funds can be applied on different political levels, i.e. national, regional or local. At the local level, a municipality can establish its own revolving fund, or apply to participate in an existing one being owned by a variety of entities such as private companies, non-profit organizations or governmental bodies.

How to set up a Revolving Fund

A successful financing support tool which is at the same time sustainable needs to be designed and implemented properly. Whereas the implementation of a simple grant scheme is comparatively undemanding the realisation of a revolving fund requires some effort. To be able to set up a successful revolving fund for the support of EER and IUD the following details should be considered. One should keep in mind that this process takes time and needs special advice.

1. Before the process of the implementation of a revolving fund can start, the politicians in the government must support the creation of the fund. The self imposed targets of the EU should be achievable objectives. On a certain level in the TA these targets need to be transferred into OP.
2. In the next step the government determines or founds an independent institution which is responsible for the administrative work of the fund. This institution is to report and justify its work to the government. For a better control it is helpful if this institution is 100% owned by the government.
3. The next step is to formulate precise requirements and conditions to get support from the fund. E.g. only buildings which were built before 1990 and save up to 30% of energy after renovation are supported.
4. The respective institution should look for partners to gain access to specific knowledge and experience.
5. In the next step the institution need to allocate sources for the revolving fund from different sources.
    a. Use of structural funds from the EU (e.g. EFRE, Cohesion Fund, JESSICA)
    b. Allocate financial sources from the government
    c. Engage other International Credit Intuitions for further funding
6. When the allocation was successful the precise conditions for the different loans should be fixed.
7. For a high reputation and a simple approval process for the applicants it is favourable that the issuing of the loans is done by national banks, which are represented in the country. These Banks lend the money from the fund to the beneficiaries.
8. After all the administrative work is done, the responsible institution must launch a marketing campaign to convince the local population and to invest in the respective measures and spread the information about these form of financing.
9. The responsible institution is to regularly report to the EU, government and funding partners about the ongoing progress. To stay up to date, the loan programs and conditions should be regularly adjusted and revised.

For the successful set up of an innovative financing instrument, the people in charge need to consider many external factors. Beside the knowledge about financing matters one needs specialist for technical questions as well.

- Different analyzes should be done before the operation of a fund:
  - Structure of the housing topology
  - Owner Structure of the buildings; e.g. cooperatives, owners associations,
  - Financial needs of the different target groups
  - General affordability of measures and economical aspects
- Always clarify the conformity of the development of the fund with the EU-regulations

Funding models in cooperation with the local economy - ESCO Models

Next to the financing solutions with EU programs and funds for energy performance investments, other innovative financing solutions are possible. In general these forms are more complex and involve different parties. An ESCO Model is not a classic financing instrument like loans or grants for the applicant. It is impossible to use ESCO Models for Urban Development measures; however it is an option to finance energy measures.

Key members are an Energy Service Company (ESCO), who finances the measures by using energy savings to pay for the investment and the customer that own or operate facilities such as apartments or dwelling buildings. However in most cases an ESCO will obtain funding from a bank or a leasing company. The main benefits of ESCO models are:

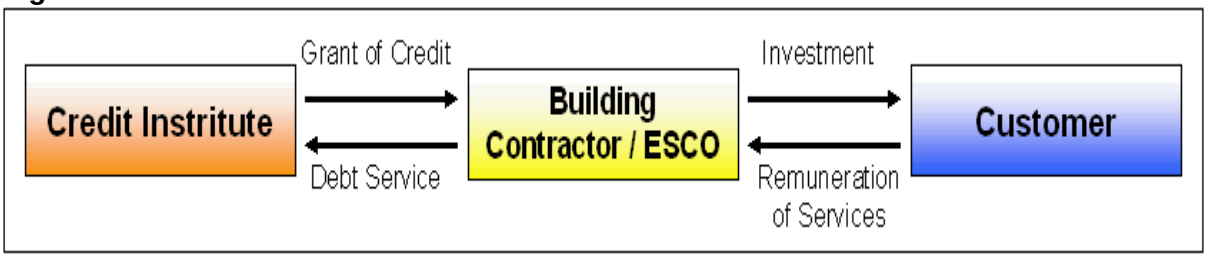
- Customer does not have to spend any cash to finance measures
- Technical assistances will be provided by the ESCO company
- Immediate reduction of energy costs and an upgrade of the living comfort

Two different models are available:

Energy Supply Contracting is the efficient supply of energy like heat or steam which is measured in Megawatt hours (MWh). The model is comparable to district heating or cogeneration supply contracts. The scope of energy end-use efficiency measures is usually limited to the energy supply side of the building. Nowadays energy supply contracting can be applied to energy supply from renewable sources, for example solar energy for hot water.

Energy Performance Contracting has the target to reduce final energy consumption on the demand side by different energy efficiency measures. In general the scope is extended to the entire building which includes measures like technical equipment, insulation, heating or user behavior. The business model is financed on the delivering saving compared to a predefined baseline.

Figure 3 - Possible scheme of a ESCo Model



Evaluation of current support offers for the promotion of IUD measures

As a result of the Urb.Energy project one can say that there is a significant lack of sustainable financing options for EER and especially for IUD in the TA. The EU gives some opportunities to close these gaps and set up support schemes on different fields. The list of available funding instruments within this report shows that there are a lot of programs that can be used for enhancing energy efficiency and the use of renewables in the building sector. The number of programs in the field of urban development is significantly lower. To meet the targets of Urb.Energy (set up revolving fund schemes for the support of EER and IUD) JESSICA appears to best the best choice.

The EU MS formulated targets like e.g. the "20-20-20" initiative to avoid the climate change. To reach these goals directives like the Energy Performance of Buildings Directive (EPBD) have been worked out and have to be implemented by the MS. As a support for the implementation of adequate measures the EU set up different subsidy programs. A selection of suitable programs for the TA is mentioned above.

The selection also shows that the support offers on EU level for the implementation of IUD measures is almost limited to one suitable program, namely JESSICA. To forward this topic on EU scale an extension of the support activities is desirable.

It should be pointed out that from the side of the EU no other programs than the structural funds are available. With ELENA the EU offers an initiative for the support of preparatory actions like e.g. working out urban planning concepts. Depending on the kind and the extent of projects their implementation can be supported by different EU programs.

When these measures are finalized the funding ends and the surrounding area is not further under consideration. Many desirable actions which are important for functioning neighbourhoods on e.g. social level are not included. A community centre for example where the inhabitants of quarters can meet and spend some spare time with each other can help to release social tensions. Playgrounds and sports facilities will help to enhance the public health. Social projects for kids in the quarter can avoid criminality. These "soft" measures enhance the identification of the inhabitants with their living place.

Projects like that need not only a one time investment but a long term support. They should be considered as well when it comes to the support of the implementation of IUDC.

Another point is that a linkage between the EER and RES support offers and the IUD programs is missing. One result of Urb.Energy is that if it is useful to connect energetic

actions with urban development. In many cases one could use synergy effects. Once one digs in the ground and upgrades a heat grid one could use the opportunity to redesign the area afterwards. But this means not only different parties involved but one needs to apply for different funding sources. It could be useful to approach to have financing programs that offer technical assistance, support of energetic measures and a proper redesign of the area in once.

When it comes to the set up of sustainable financing tools like a revolving fund the access to EU funds can be considered burdensome and time consuming for the responsible authorities. In the case of e.g. KredEX it took 2 years to establish up an operating fund. There are quite some reasons for that, but one main explanation is that the EU bureaucracy is very extensive. It is questionable whether any local or even regional authority can afford such an effort to fulfil al requirements. Therefore on the one hand the bureaucratic steps should be reduced and the process of applying for financial help should be simplified.

On the other hand in many cases the lack of advance financial resources for e.g. qualified staff hinders the development of revolving funds. Issuing an innovative program does contain a lot of steps as mentioned above. Therefore the EU should offer a program which helps to develop a revolving fund. The assistance should go beyond the technical assistance of ELENA. The money could for example be used to employ financial experts for a certain time.

Imprint

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