JESSICA EVALUATION STUDY - IMPLEMENTING JESSICA INSTRUMENTS IN SLOVAKIA

FINAL REPORT

June 2010



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LIST OF ABBREVIATIONS

ABBREVIATION	Meaning
DG	Directorate General
ECB	Energy Centre Bratislava
EE	Energy efficiency
EIB	European Investment Bank
ERDF	European Regional Development Fund
EU	European Union
HF	Holding Fund
JEREMIE	Joint European Resources for Micro to Medium Enterprises Initiative JESSICA
Ltd.	Joint European Support for Sustainable Investment in City Areas Limited Company
MCRD	Ministry of Construction and Regional Development of the Slovak Republic
RES	Renewable energy sources
SHDF	State Housing Development Fund
URBION	Organization managed by the Ministry of Construction and Regional Development responsible for territorial planning
ROP	Regional Operational Programme
OPBR	Operational Programme Bratislava Region
OPE	Operational Programme Environment
SLOVSEFF	Slovak Energy Efficiency and Renewable Energy Finance Facility - a New Instrument to Finance Sustainable Energy granted by The European Bank for Reconstruction and Development (EBRD) in cooperation with the Ministry of Economy
REA	Regional Energy Agency
UDF	Urban Development Fund
SGDB	Slovak Guarantee and Development Bank
UNDP	United Nations Development Programme

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EXECUTIVE SUMMARY

This Final Report describes the significant potential for the implementation of the financial engineering instrument JESSICA in Slovakia and analyzes possible implementation solutions. In particular, the analysis centers on:

- **Availability of funds** for investment through JESSICA, based on analysis of relevant operational programs of EU structural funds in Slovakia and of other potential sources of funding;
- **Financial instruments currently available** to support urban development in Slovakia;
- **Needs for urban development investments**, especially renovation of residential buildings, energy efficiency of public buildings and integrated urban energy strategies (demand-side analysis).

The analysis of the rationale for JESSICA concludes with a SWOT analysis. Four possible implementation structures are analyzed in relation to various scenarios of availability of financial resources; implementation Options 1 and 2 concern a direct contractual relationship between managing authorities and an Urban Development Fund (focused on refurbishment of housing), while Options 3 and 4 include the creation of a Holding Fund which would subsequently invest into one or more Urban Development Funds focusing on various areas of investment in urban development (housing refurbishment, energy efficiency in public buildings, brownfield revitalization, integrated energy strategies, etc.). The study also outlines possible investment strategies of JESSICA funds in Slovakia, provides case studies of possible typical projects and of a real-life pilot project. Finally, the study suggests an action plan describing the proposed implementation actions step-by-step.

Our analysis of the demand and supply sides described and quantified the market gap in financing of urban development, including in the housing sector, showing a considerable potential for a JESSICA-type financial engineering mechanism.[1] Concerning the availability of financial resources, at this stage, the most likely sources of a contribution to JESSICA funds in Slovakia seem to be the Regional Operational Program (ROP) and the Operational Program Bratislava

1 As regards financing of housing refurbishment, a market gap in the amount of 9.3 billion euro is estimated. In addition, a gap of 2.3 billion EUR was identified in terms of financing projects of refurbishment of public buildings. The potential need for investments in complex revitalization of urban areas and integrated energy projects is theoretically without limitations. The utilization of innovative financial instruments could to a large extent contribute to the improvement of the availability of financing of the target projects.

Region (OPBR). Discussions with the representatives of the managing authorities of these OPs indicated the availability of 18 mil euro for investment through the JESSICA mechanism; these allocations are pre-assigned for investment in support of refurbishment of the housing stock. Additional financial resources for JESSICA funds could come about through a transfer of resources obtained by the state through carbon emission trade, although at present it is difficult to assess to what extent such a transfer might be realistic. Besides European or Government sources, a top-up of the financial allocation into the JESSICA mechanism could be achieved through participation of private capital and/or international financial institutions. Our dialogue with private banks showed, however, that the possibility and magnitude of such co-investments into a JESSICA structure is difficult to forecast, mainly because most private banks already offer specialized financial products for the support of housing refurbishment. Commercial banks seem most interested in entering other areas of urban development, such as rehabilitation of public buildings, regeneration of brownfields and realization of integrated urban energy strategies. In this context, it rests with the competent authorities of the Slovak Republic to decide whether and to what extent additional resources would be allocated to JESSICA in order to trigger the interest of the banking and private sector in further supporting projects in the above areas.

Recommendations

As the potential allocation of EUR 18 million from ROP and OPBR is rather low for the starting up of a sustainable investment instrument, which should have a strategic role in the long term, we recommend to further examine the following possibilities:

- Reallocation into a JESSICA fund of resources from other Operational Programs - OP Environment and the OP Competitiveness and Economic Growth in the period of 2010 – 2013.
- Transfer of financial resources from the emissions sold by the Slovak Republic and/or from the expected revenues from emission permits which the Slovak Republic has for sale at the moment or are to be traded in 2012. Investment in energy efficiency is one of the main areas of application of the JESSICA instrument.
- Utilize the possibility within OPs of investing up to 4% of the national ERDF allocation in energy efficiency improvements in the housing stock (as recently allowed by Article 7 of Regulation 1080/2006). Undertake these investments in the housing stock in a repayable way through the financial instrument JESSICA instead of providing non-repayable financial contributions. We recom-

mend grant financing only for buildings where the need for supporting social inclusion is large and where commercial financing is not viable.

- Closer cooperation with the commercial banks on the activation of the financial instrument JESSICA and on a long-term adjustment of the financial instrument in such a way that an optimal leverage effect would be achieved. The JESSICA instrument could be used to attract private financing into segments of urban development which will remain underfinanced without public sector support (e.g. integrated energy strategies, brownfield revitalization etc.).

For the implementation of the financial instrument JESSICA we recommend to utilize one of the options involving a Holding Fund (Options 3 or 4) as this creates greater potential for attraction of private investors (leverage effect), leads to a transfer of know-how and enables to support a broader range of urban development investments. Establishment of a HF is also strategic from the point of view of long-term utilization of the JESSICA instrument in Slovakia.

As concerns the thematic areas of investment, we recommend to examine the possibilities of realizing investments through the JESSICA mechanism also in other areas than refurbishment of the housing stock. The latter represents an important contribution to urban development; however it is not the sole area of urban development, which needs attention and a higher level of investments. We recommend swift and close cooperation with commercial banks on the formulation of a final investment strategy for JESSICA in Slovakia and the definition of areas of future investments. The characteristics of the investment strategy should be such that JESSICA investments would be "opening the doors" of new prospective investment areas rather than adding a "drop to an ocean" of similar financial products.

We would like to conclude with a point which became more and more obvious during the whole process of working on the Evaluation Study: the Study itself was an accelerator of changes and discussions with the managing authorities, other public institutions and the private sector, all of which are starting to be aware of both the potential and the complexity of implementing the financial instrument JESSICA in the Slovak Republic.

In addition, the study opened public discussions on JESSICA instrument and its use in Slovakia. Moreover, it also assisted in introducing the JESSICA mechanism into national strategic policy documents.

1. INTRODUCTION

1.1. Study targets

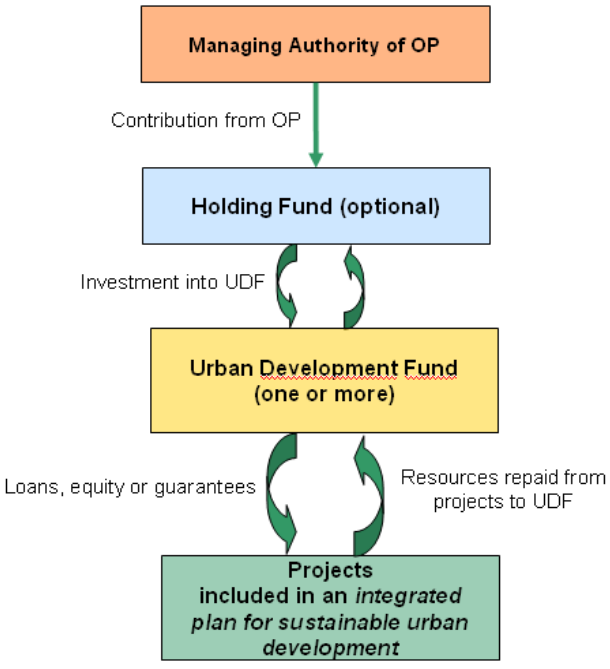
As stated in the terms of reference, the Evaluation Study "Implementing JESSICA instruments in Slovakia" could be seen as a useful tool for all stakeholders within the context of regional development in Slovakia. The main objective of the study has been to analyze the current situation in financing of integrated urban renewal and regeneration projects and to define the potential and the constraints for implementing JESSICA as a mechanism for using allocations of Operational Programs for repayable investments in urban development. This involved, first of all, the identification of key players/stakeholders in the field of urban development and a review of development needs, available resources and existing priorities. The expectation from the study was that it would thoroughly assess all possibilities and alternatives of the possible implementation of JESSICA in the Slovak conditions and propose the optimal implementation solution. Through discussions within the Steering Committee, it was decided that the main thematic focus of the study should be on energy efficiency in housing and in the public sector. The terms of reference of the Evaluation Study establish five objectives, which form a logical sequence: 1. Facilitation of a consultative process on JESSICA implementation, 2. Analysis of the rationale and value added of JESSICA implementation 3. Proposal of an organizational architecture for JESSICA implementation, 4. Proposal of an investment strategy for an Urban Development Fund (UDF), 5. Identification of the implementation requirements (action plan). To solve these tasks, it was necessary to identify major challenges in urban development in the Slovak Republic, approach they key actors on the supply side as well as consider the perspective of potential beneficiaries.

JESSICA stands for Joint European Support for Sustainable Investment in City Areas. This initiative is being developed by the European Commission and the European Investment Bank (EIB), in collaboration with the Council of Europe Development Bank (CEB). Under new rules of EU structural funds in the programming period 2007-2013, Member States are being given the option of using some of their EU grant funding to make repayable investments in projects forming part of integrated plans for sustainable urban development. These investments may take the form of equity, loans and/or guarantees. JESSICA is not a new source of funding for Member States, but rather a new

way of using existing allocations of funding from the Structural Funds to support urban development projects.

JESSICA is designed for using part of EU structural funds resources to support projects which generate financial returns and are part of an integrated plan for sustainable urban development. The aim is to support the realization of urban development projects which are eligible under a given operational program, bring socio-economic benefits and, owing to their revenue-generating character, cannot or are not desirable to be funded through grants. Such projects can be funded through "revolving funds" (Holding Funds and/or Urban Development Funds) which, thanks to the repayable character of the funding provided, may become long-term strategic investment instruments for city development. This means that a sustainability element will be present both in the quality of development projects and in their funding method (resources provided for investment into a project are subsequently repaid back into the fund).

Individual projects receive financial support from an Urban Development Fund. The UDF can be set up either directly by the Managing Authority of the respective structural funds operational program or this Managing Authority can use the services of a JESSICA holding fund for the purposes of setting up one or more UDFs. UDFs invest into projects by way of loans, guarantees or equity. The basic implementation structure is captured in the scheme below:



1.2. Methodology with respect to the terms of reference

As outlined in the Inception Report, the following were the main activities through which relevant data was obtained:

- Own analyses elaborated by Obviam Regio and the Energy Centre Bratislava;
- Analysis of sustainable refurbishment of High-Rise Residential Buildings and Restructuring of Surrounding Areas in Europe; (PRC Bouwcentrum International, The Netherlands 2005)
- Analysis of available studies on the JESSICA instrument that have already been completed;
- Discussions with representatives of cities, commercial banks and managing authorities;
- Consultations with representatives of the EIB and the members of the Steering Committee.

The first milestone was the analysis of the National Strategic Reference Framework for the period 2007 -2013, an analysis of the legal status for implementation of innovative financial instruments and the analysis of relevant documents in the field of urban development. The purpose of the analysis was to identify legal challenges, opportunities, restrictions and concerns related to the implementation of the JESSICA initiative in the Slovak Republic.

During this phase the Regional Operational Program (ROP) and the Operational Program Bratislava Region (OPBR) were analyzed. Both programs represent the strongest involvement of ERDF resources for intervention in urban regeneration in general and, more particularly, in energy efficiency and renewable energy investments in housing infrastructure. The main focus should be put on Priority Axis 4 Regeneration of Settlements of the ROP, and in the OPBR on the Measure 1.1., "Integrated Projects for Renovation of Towns and Rural Areas". We have also analyzed other operational programs within the National Strategic Reference Framework, namely Operational Program Environment and Operational Program Competitiveness and Economic Growth. Both are interconnected with the subject of energy efficiency and may be of relevance in the future.

In Slovakia, a discussion about the 4% eligibility window within the ERDF for energy efficiency investments in the housing stock has not started yet. This study could be seen as a perspective tool for opening this discussion. JESSICA could later serve as a vehicle for practical utilization of these funds for investments in energy efficiency and renewable energy for existing housing.

The analysis covered also the existing public investment programs; mainly the State Housing Development Fund (National Revolving Fund), Program of Housing Development (National Grant Program), Governmental Insulation Program of Residential Buildings (0% interest Revolving Fund – newly established), and other programs provided mainly by the commercial banks, e.g. the Slovak Guarantee and Development Bank, Building Saving Companies, SLOVSEFF (EBRD program). The above mentioned programs can be considered to be the "supply side" of financing. On the demand side, in addition to the analysis of the "conservative" target areas and target stakeholders (housing associations, municipalities etc.), potential clients could be found also among Regional Energy Agencies, which are newly established organizations under the Intelligent Energy Europe initiative.

The demand and supply side analysis allowed us to identify and quantify the existence of a market gap in providing financing for urban development projects, especially in the field of energy efficiency and the need for JESSICA type financial engineering mechanisms. Strengths, weaknesses, opportunities and threats of the JESSICA mechanism were identified based on the results of this investigation.

1.3. Summary of the country overview

Spatial development and the settlement system development in Slovakia is described in the Slovak Spatial Development Perspective 2001 which is a spatial planning document of nation-wide applicability, adopted by the Slovak Government in 2001. The Concept characterizes different settlement structures and the basic principles of their development. The binding part of the Concept was issued as a decree of the Slovak Republic in 2002 outlining, inter alia, the hierarchy of cores of settlement and development axes as the basic elements of the settlement structure.

The relationship between economic development and position factors of municipalities and whole regions or their parts is indisputable. Spatial conditions and position factors are becoming the decisive criteria for locating economic activities and often belong to the most important criteria for the development dynamism of the respective territory. They are in particular metropolitan regions, cities and urban areas/centers which represent the key potential for state and regional competitiveness. The most significant urbanized areas are of decisive importance in competitiveness and development, mainly regarding creation of innovations.

Small and medium-sized towns play an important role as regional

and national nodes. By means of purpose-oriented regional policy supporting the development of those towns, the decrease of regional disparities and the stabilization of population can be developed in less developed regions. In certain specific functions, small and medium towns may become important actors in the international and cross-border context. The advantage of small and medium-sized towns as centers of smaller regions may might the ability to recover, and frequently, high efficiency with the use of synergy effects when creating "settlement clusters" allowing them to compete in even more significant areas.

Recent situation in the system of settlement structure of Slovakia is characterized by the following key facts:

- The network of settlements is highly fragmented – there are 2,891 municipalities (in 2004) with small municipalities (less than 1,000 inhabitants) representing 67% of that number and giving home to 16% of the population;
- Although urban population dominates in the total population (55.5%), the share of the rural population is still very important (44.5%);
- As to the number of settlements, most towns (more than 90% of all urban settlements) are of medium or small size with less than 50 thousand inhabitants. In terms of the number of population, larger medium and big cities (above 50 thousand inhabitants) are more important; giving home to almost 25% of the Slovak population.

1.4. Outline of the structural funds in Slovakia

National Strategic Reference Framework for the period 2007 - 2013

The current Programming period 2007 – 2013 is the first programming period during which the Slovak Republic will be able to draw from the EU funds in its entire duration. The document known as the National Strategic Reference Framework for the period 2007 – 2013 (NSRF) provides the baseline for this drawing. This strategic document has been drawn up pursuant to the new regulations of the European Union (EU) for the Structural Funds and the Cohesion Fund. Within the Convergence target, the financial contributions from the ERDF and ESF funds are primarily focused on the regions, whose gross domestic product per capita during the last three years before the adoption of the new regulations was less than 75% of the average of the enlarged EU countries. In the case of Slovakia it is the entire territory with the exception of the Bratislava region. Areas not falling within the target of Convergence (Bra-

tislava region, in the case of Slovakia) are eligible to draw financial support within the target of Regional Competitiveness and Employment. The main objective is to strengthen the competitiveness and make Bratislava region more attractive through anticipation of economic and social changes and supporting innovations, knowledge-based society, business-spirit, environmental protection and risk prevention, support for employees and companies adaptability and development of the labor markets oriented to social inclusion. The NSRF strategy has been defined in terms of three strategic priorities and their three targets which should be achieved through the projects financed within the programming period 2007 – 2013:

Table 1 Strategic Priorities of the NSRF 2007 – 2013

Strategic priority	Target of the strategic priority
1. Infrastructure and regional availability	Increasing the regional density of infrastructure and enhancing the related public services effectiveness
2. Knowledge-based economy	Development of the sustainable economic growth resources and increase of competitiveness in industry and services
3. Human resources	Enhancing employment, increasing the labor force quality for the needs of the knowledge-based economy and enhancing the social inclusion of risk groups

The Chapter 5.3.7. of NSRF SR 2007 – 2013 is focused on the problem of the coordination within the operational programs and the contributions from the EIB and other financial tools. The primary information is that the SR on the basis of the analysis and the assessment of all possibilities and impacts, which could be connected with the commitment of a framework loan, had a negative standpoint to a possibility of a commitment from a framework loan from the European Investment Bank in the Programming period 2007 – 2013. Although this situation will probably change, based on discussions between the EIB and the Ministry of Finance SR, there is a framework loan expected to substitute the national co financing of SF/CF in the amount of approx. 1,3 bill euro since 2010. The inclusion of the EIB in the future programming period may also exist within the initiative JEREMIE (for a detailed information ref. Annex No. 8 of the NSRF SR 2007 - 2013). The above indicates an intention to utilize the innovative financial tools and repayable forms of financing already in this programming period 2007 – 2013. However, JESSICA is so far mentioned in the strategic materials only in the long-term context. In contrast, the JEREMIE instrument is given more concrete focus in the strategic documents and is at present already getting into the practical phase of implementation.

1.5. Outputs for set up of the financial instrument - JESSICA in the Slovak Republic (Intervention Areas)

An introductory meeting between the Slovak authorities and the JESSICA Task Force took place in June 2007. During this meeting the interest of the Slovak authorities in implementing the JESSICA initiative was confirmed. This was particularly the case for Ministry of Construction and Regional Development, which saw JESSICA as an interesting opportunity for support of integrated projects, involving the renewal and regeneration of housing estates (explicitly foreseen in the Regional Operational Program and the Operational Program Bratislava Region - for both of which the Ministry is the Managing Authority.) The possibility to use the existing State Housing Development Fund ("SHDF") to perform JESSICA Urban Development Fund functions was mentioned as well.

A meeting between the EIB and the Ministry of Construction and Regional Development took place on 15 December 2008. The purpose was to identify significant potential for JESSICA in conjunction with the existing energy efficiency schemes in the Slovak housing sector. Following this meeting, the EIB received a request from the Minister of Construction and Regional Development on 20 April 2009, to conduct a JESSICA study with a view to identify opportunities for JESSICA in Slovakia and with the particular emphasis on housing energy efficiency. In 2009 issues accelerated in this case and the EIB decided to start preparations on an Evaluation study for JESSICA in the Slovak Republic.

As it was presented in the Terms of Reference and in discussions between the members of the Steering Committee, the main focus of the study should be placed on energy efficiency in the housing sector.

Financial need (demand analyses)

Based on the executed demand analyses (ref. Chapter 3), we could conclude that in the SR there is sufficient demand after financial sources for refurbishment of residential buildings and the revitalization of city premises as well as municipal areas. The market potential consists of:

Table 2 Comparison of intervention areas

Comparison of intervention areas:	
Intervention area	Market gap in euro
Refurbishment of flats	9 317 (in 2010)
Urban regeneration (public buildings!	2 399 (in 2010)
Integrated projects (minimal expectations)	1 500 (in 2010)
TOTAL	13 216 (in 2010)

Source: Evaluation study JESSICA, part demand side, 2010

Acceptability of loan financial tools – implanted financial market

In the case of refurbishment of residential buildings, all relevant subjects - apartment owners, Associations of owners of residential and non residential premises (thereinafter Association of owners) as well as Management companies have sufficient knowledge of the loan products offered on the one hand by the State Housing Development Fund (SHDF), and on the other hand also by commercial banks and building savings institutions. In principle we could conclude that the majority of the offered products differ only in details and the set up of products is in majority identical, mainly as concerns the authorized construction interventions in residential buildings. These facts are a positive sign for the utilization of the JESSICA financial instrument, because the majority of prospective beneficiaries do accept repayable financing for the intended refurbishment of residential buildings.

From the point of view of financing projects of urban regeneration beyond housing refurbishment, we could conclude that the majority of cities are at the present counting on utilization of non-repayable financial resources from EU structural funds. The inclination towards non-repayable financial instruments is at the present underlined by the ongoing economic crisis although through proper promotional events it is expected that the different market players will understand the added-value created by revolving instruments, thus approaching their utilization in a more constructive manner. Moreover, what speaks in favor of introducing financial engineering instruments and products is the fact that the resources from Operational

Programs of Structural Funds are limited in time and their utilization is subject to conditions concerning the commitment and de-commitment of resources and the programming/allocation of amounts into individual priorities and measures. Although contributions made from operational programs into JESSICA funds would also have to respect the relevant priorities of these operational programs, the fact that operational program resources have to be invested from Urban Development Funds to projects only by the end of 2015 presents an advantage as compared to the grant system.

Long-term solution

The process of implementation of the JESSICA financial instrument overtook the Slovak Republic in the mid of the programming period 2007 – 2013, which represents a certain disadvantage for setting up of the criteria for the financial instrument. It also represents a limitation with regard to availability of allocations in the operational programs. Even from this point of view, it seems important to look at the preparation of a start up of the financial tool as a long-term project, which would bring fruit especially in the new EU programming period from 2014 up to 2020, and an interesting instrument for possible utilization of additional financial resources, e.g. proceeds of sales of the emission permits, etc.

Acceptability of project intentions

The refurbishment of residential buildings represents an important question of public life, taking into consideration the fact that around 50 % of the citizens of the SR live in residential buildings. Focusing the financial instrument JESSICA initially on refurbishment of residential buildings could be considered appropriate, inter alia because the definition of repayable JESSICA financial products for revitalization of urban areas and energy projects in cities could be more complicated. This is evidenced by the fact that although the ROP and OPBR envisaged support to integrated urban development projects, since 2007 there has been no call for integrated projects within the ROP and the OPBR. Other barriers to integrated urban investments consist in complicated ownership structures. From a long-term point of view, however, the focus of JESSICA on realization of more complex integrated urban development projects would have a greater positive impact on several areas of public life than when focusing monothematically on refurbishment of residential buildings.

Potential sources of funds

Three possibilities exist under the structural funds regulations for fi-

nancing of interventions in the housing stock with operational program resources:

1. Housing expenditure programmed within the framework of an integrated urban development approach for areas experiencing or threatened by physical deterioration and social exclusion (on the basis of Article 7(2), point (a) of Regulation 1080/2006). In determining these areas MS shall take into consideration at least one of criteria defined by Article 47 of the Implementing Regulation 1828/2006. Furthermore, the following conditions also apply for this type of intervention:

- This type of investment in housing, counted together with the type 2 referred to below (marginalized communities) can be undertaken only up to the volume of 3% of the ERDF allocation to the given OP or 2% of the total ERDF allocation to the Slovak Republic.
- This type of investment in housing can be implemented only in urban areas.
- Expenditure is eligible only if incurred for:
  - Renovation of common parts (as defined by national rules) in existing multifamily housing; OR
  - Renovation and change of use of existing buildings owned by public authorities or NGOs which are being used as housing designated for low-income households or people with special needs.

2. Housing expenditure programmed within the framework of an integrated approach for marginalised communities (on the basis of Article 7(2), point (b) of Regulation 1080/2006). The following conditions apply for this type of intervention:

- This type of investment in housing, counted together with the type 1 referred to above (integrated urban development approach) can be undertaken only up to the volume of 3% of the ERDF allocation to the given OP or 2% of the total ERDF allocation to the Slovak Republic.
- This type of investment in housing can be implemented in both urban and rural areas.
- Interventions are possible in all parts of the house (common, private) and may include the renovation or replacement of existing housing.

3. Expenditure on energy efficiency improvements and on the use of renewable energy in existing housing, in support of social cohesion on the basis of Article 7(1a) of Regulation 1080/2006. The following conditions apply for this type of intervention:

- Member States shall define categories of eligible housing in national rules, in conformity with Article 56(4) of Regulation (EC) No 1083/2006, in order to support social cohesion.

- This type of investment in housing can be undertaken only up to the volume of 4% of total ERDF allocation to the Slovak Republic.
- This type of investment in housing can be implemented in both urban and rural areas.

The abovementioned three possibilities are summarized below:

Possibility for expenditure on housing being eligible under Structural Funds Regulations	Maximum amount
Housing expenditure programmed within the framework of an integrated urban development approach for areas experiencing or threatened by physical deterioration and social exclusion (Article 7(2), point (a) of Regulation 1080/2006)	Expenditure on housing under both possibilities taken together may not exceed 3% of the ERDF allocation to the given OP or 2% of the total ERDF allocation to the country.
Housing expenditure programmed within the framework of an integrated approach for marginalised communities (on the basis of Article 7(2), point (b) of Regulation 1080/2006)	
Expenditure on energy efficiency improvements and on the use of renewable energy in existing housing, in support of social cohesion (Article 7(1a) of Regulation 1080/2006)	Max. 4% of the total ERDF allocation for the country.

The Regional Operational Program (ROP) and the Operational Program Bratislava Region (OPBR) in the versions valid as of June 2010 envisage the utilization of only the first possibility (expenditure on housing within an integrated urban development approach) and foresee an ERDF allocation of EUR 76 million i.e. 1,2% of total ERDF allocation for Slovakia. Therefore, from the point of view of the Regulations, there would be space for the utilization of an additional 0.8% of the ERDF allocation for Slovakia for possibilities 1 or 2 above AND for the utilization of additional 4% of the total ERDF allocation for expenditure on energy efficiency improvements and on the use of renewable energy in existing housing.

The Managing Authorities of ROP and OPBR have been thinking to decrease the planned allocation of EUR 76 million for investment in housing within an integrated urban development approach down to 18 million and to utilize these 18 million through the JESSICA mechanism. However, this and other envisaged revisions of the OPs have not yet been approved by the Monitoring Committees and are still subject to discussions.

From our discussions with the Managing Authorities, it seems that the most likely potential sources of financial allocations into JESSICA funds are two Operational Programs: the Regional Operational Program (ROP) and the Operational Program Bratislava Region (OPBR).

The total potential allocation, which has been confirmed through discussions with the representatives of the managing authorities, is currently 18 million euros. The entire allocation could be utilized in support of housing refurbishment, as it derives from the relevant measures supporting the refurbishment of the housing stock. However, on the basis of the above analysis of the possibilities offered by the Regulation 1080/2006, we would recommend the Central coordination authority to develop an initiative for submitting a proposal to the Government of the SR for greater utilization of the possibilities to invest ERDF resources for housing. This could also pave the way to an efficient and effective utilization of ERDF resources for support of housing refurbishment through the JESSICA instrument.

Besides resources available in the existing operational programs, an important source of funds to be potentially allocated for utilization through the financial instrument JESSICA could be also the additional funds allocated to Slovakia on the basis of the technical adjustment of the financial framework 2007-2013. This adjustment has been made (on the basis of the Inter-Institutional agreement of 17 May 2006) in light of the divergence between the estimated and actual GDP for the period 2007-2009 and it means that **additional 137,7 million EUR** will be available for Slovakia for the years 2011, 2012, and 2013 (see the Commission's communication COM (2010) 160 final of 16 April 2010). An allocation of some of these additional resources for utilization in a repayable manner through the JESSICA could help develop this innovative financial instrument at a greater scale.

Another additional financial impulse to the implementation of the JESSICA mechanism could be an allocation of revenues obtained by the SR from emission trading. However, at present we cannot assess the likelihood of a transfer of financial resources from emission sales.

The above European or national budgetary resources contributed to JESSICA funds could also leverage private co-investment at the fund level or at the project level. In case of private banks, their interest in potential financial participation in the JESSICA scheme can be expected mainly outside the area of housing refurbishment, because virtually every bank already offers to clients its own specialized products for investment in housing refurbishment. It is also for this reason that a broadening of the focus of investment strategies of JESSICA funds can be recommended (complex urban regeneration, brownfield revitalization, integrated energy strategies etc.).

2. REVIEW OF ERDF AND MARKET FOR URBAN REGENERATION PROCESS (SUPPLY SIDE ANALYSIS)

2.1. Added value of the implementation of the JESSICA financial instrument in the SR

For a proper set up of the added value of the JESSICA financial instrument in the SR, it is necessary to analyze the Structural Funds, which are expected to represent the main source of financial contributions to JESSICA funds. Key areas within the analyses have been operational programs which support projects with the following focus:

1. **Refurbishment of residential buildings**
2. **Revitalization of urban areas**
3. **Energy effectiveness**
4. **Integrated urban development projects**

The most important part of operating programmes analysis is the choice of suitable programmes which could potentially serve as JESSICA's financial source tool in the Slovak Republic. For this reason it is necessary to determine conditions for specific criteria enabling the comparison of the individual measures and those which seem the most suitable from the given study conditions point of view.

1. Financing through ERDF - the most suitable financial source for JESSICA is presented by the investments in the tangible and intangible infrastructure which is the basic condition for the future sources development out of the invested means.
2. Contribution towards urban development – the operating program should aim at the growth innovation poles representing mainly district cities, cities with district dwelling and the cities with a former district dwelling. Particularly these subjects represent the most distinguishing contribution towards the city areas development. There are 82 growth innovation poles in the SR at present.
3. Supported project type, cumulating income potential – primary anticipation for JESSICA's financial tool utilisation is the project existence which achieves that income accumulation is used for the granted financial means repayment. From the return on investment point of view these projects can be divided into three types:

- **Projects not generating any income**
- **Projects generating income**
- **Projects generating profit (contrary to the previous type, the project income is sufficient to secure the return on investment).**

The projects with the insufficient return on investment (type 1 and 2) will require irretrievable form of financing (if the applicant is not willing to bear the loss at his own cost). Projects generating profit can be implemented even without grant provision, however, only under the assumption, that the applicant would have disposal of sufficient means for the project realisation. From the JESSICA initiative point of view it is possible to consider the projects falling within the categories 2 and 3 as applicable, while the type 3 can be considered as the most suitable. Projects of type 2 can be implemented through recoverable form only if the applicant is willing to secure the loan with his own resources.

4. Contribution towards the refurbishment of Housing Stock – Refurbishment of Housing Stock has been defined as the priority during the mutual discussions between the EIB and the SR, for this reason it has been included as a priority in the TOR.
5. Contribution towards energy efficiency – energy efficiency has been defined as a priority during the mutual discussions between the EIB and the SR, for this reason it has been included as a priority in the TOR.
6. Knock on effect - the ability to attract a sufficient number of investors, based on the continuity principle even after the completion of financing by the structural funds.

For a better comparison, all the individual answers are graphically presented:

X – without relevant impact
✓ – unequivocal contribution towards the given criteria
? contribution towards the criteria is questionable, it is unequivocal to be identified

The following operational programmes were excluded from more detailed analysis on the basis of these criterion:

Table 3 Comparison of Operational Programms
Source: Evaluation study JESSICA, 2010

Operational Program	Financing from ERDF	Contribution to urban development	Type of the supported project	Contribution to the Refurbishment of the Housing Fund	Contribution to energy effectiveness	Knock on effect
Education	X	X	X	X	X	X
Employment and Social Inclusion	X	X	X	X	X	X
Health	✓	✓	✓	X	✓	✓
Research and Development	✓	?	✓	X	✓	✓
Informatization of Society	✓	✓	?	X	X	?
Transport	✓	✓	✓	X	X	✓
Technical Assistance	X	X	X	X	X	X

2.2. Most relevant Operational Programs to the financial instrument JESSICA in SR

On the basis of their relevance to the assignment, the following 4 Operational Programs have been selected for a more detailed analysis.

Operational Program Environment (OPE)

The Operational Program is focused on the improvement of the environmental status and the rational utilization of sources through improvement of the environmental infrastructure and on the strengthening of the environmental part of the long-term sustainability of the SR. The OP has a broad range of applications. The authorized projects are e.g. reclamation of dumps, introduction of separable waste, waste assessment and others. A possible overlap of the OP with JESSICA is in the case of the Priority Axes 3 „Air Protection and Minimiza-

tion of Adverse Effects of Climate Change", which is financed through the ERDF. Here the main focus is the reduction of the volume of air pollution. For example following projects types are eligible:

- Change of fuel base to an environmentally more acceptable fuel
- Adaptation of buses to gas fuel; replacement of bus transport by tram transport,
- Purchase of cleaning technologies (spray tanks, cleaning cars) surface communications (highways, speed roads, roads of 1st and 2nd class and local communications);
- Greening of cities (planting schemes and regeneration of green separating the residential area from industrial estates, commercial areas or frequent transport corridors, revitalisation of badly maintained surfaces and their change into parks and green spaces) and tree planting and maintenance schemes.
- Building of intercepting parking, where walking zones will be introduced;

Authorized applicants are higher administration units, municipalities, legal bodies, entrepreneurial subjects and others. The priority Axes has a certain contribution towards urban development, but does not follow energy effectiveness as a primary result of the realization of the projects. The allocation of 180 mil euro for this Priority Axes 3 is mainly committed. On the base of the negotiation process between the OP and the MF SR at present, it is inevitable, with respect to JEREMIE, to take into consideration two facts. The OP Environment shall adopt the changes in connection with the realization of the financial scheme and at the present a „reserved" allocation of 27 mill euro plus a national co-financing in favor of the JEREMIE initiative. The Axis No. 3 was selected to be the most perspective for the recipients from small and medium size entrepreneurs.

Operational Program Competitiveness and Economic Growth

The global objective of the Operational Program is to secure a permanent sustainable economic growth and employment. As a priority, the OP is oriented to support of the entrepreneurial environment, mainly through projects which are introducing innovative tech nologies, raising energy effectiveness, improvement of the quality of tourist traffic and the improvement of marketing of domestic producers abroad. Two measures within the OP contribute to urban development. These are focused on the reconstruction of public lighting and on regeneration of brown industrial zones. The innovative potential of JESSICA could be applied, but taking into consideration the actual status of committing of financial sources and the implementation of the JEREMIE instrument, the possibility of their use in JESSICA implementation is not considered to be very realistic.

Regional Operational Program (ROP)

The most important Operational Program from the point of view of potential allocation of funds for utilization through JESSICA is the Regional Operational Program. The OP is fulfilling all analyzed attributes: focus on urban and regional development, enabling intervention into refurbishment of residential buildings. The OP is financed by the ERDF; applicants are inter alia municipalities and subjects ensuring the execution of administration in residential buildings. The authorized projects within the OP are e.g. reconstruction of school infrastructure, building and reconstruction of social infrastructure, reconstructions of cultural heritage, road infrastructure, integrated projects of complex approach etc. Thematically, these are absolutely in line with the focus of JESSICA. A common denominator in all projects is energy effectiveness and regional development. However, many of the types of projects supported within the ROP do not enable generation of income, which is an obstacle to the utilization of repayable financing in their implementation and to greater involvement of the private sector as the return on investment in such projects is not sufficient.

The most important constraint within the utilization of the ROP will be the amount of the allocation, which could be transferred to JESSICA funds. On the basis of the present contracting level and the indications from the representatives of the Managing Authority, a maximum of 15 million euro could be allocated from the ROP. The most important priority axis of the ROP for the purpose of this study is the priority Axis 4 – Regeneration of settlements, part of which is dealing with **Integrated Strategies of Development of Urban Areas**. This Measure will represent the most probable source of funds for the investment through the financial instrument JESSICA. In the version valid as at June 2010, the priority axis 4 of the ROP has an ERDF allocation of 437 million, of which 70 million is planned for refurbishment of the housing stock.

The present rules of the ROP pose conditions for the realization of projects in this measure, namely that these have to contribute to territorial cohesion and are subject to a previous approval of an Integrated Strategy.

Operational Program Bratislava Region (OPBR)

The priority of the Operational Program is a universal development of the area with the goal of improvement of quality of life of the citizens of the Bratislava region in accordance with the principles of sustainable development. The OP in a considerable manner replaces the

possibilities of the other OP, which are excluding the area of Bratislava region as eligible for realization of projects. Eligible subjects are municipalities and entrepreneurial entities. Relevant projects are investments into settlement regeneration, introduction of innovative technologies, interventions in regional and city transport, as well as informatization of the society. Within the program there is an overlap with JESSICA mainly in the area of support of refurbishment of residential buildings; limitations related to Integrated Strategies are similar as in the case of the ROP. Within this context as well as in the context of the contracting level and based on the indications from the representatives of the Managing Authority there would be a possibility to utilize maximum 3 million euro for investment through JESSICA funds. This amount is to be strictly utilized for realization of projects in the area of the Bratislava region.

2.3. Further public sources taking into consideration the area of refurbishment of the housing stock.

In the Slovak Republic there are at the moment a variety of tools focused on the support of energy effectiveness in the housing policy. An overview of the existing instruments is presented in the following table:

Table 4 Existing instruments in the area of housing refurbishment

Instrument	Provider	Type of Resources	Origin of sources	Sources for 2010
Loans from the State Housing Development Fund	State Housing Development Fund	Loan resources – advantageous interest rate 1% p. a.	State budget	27 000 000 euro
Subsidies (removal of systemic failures)	Ministry of Construction and Regional Development SR	Subsidies	State budget	9 960 000 euro
Governmental Insulation Program	Ministry of Construction and Regional Development SR through the State Housing Development Fund	Loan resources with interest rate 0% p. a.	State budget	At the moment there are no free allocated resources for 2010
Program of State Bank Guarantees	Slovak Guarantee and Development Bank	Issued guarantee	State budget	-
Program of higher utilization of biomass and solar energy in housing	Ministry of Economy SR (Slovak Innovation and Energy Agency)	Subsidy	State budget	8 000 000 euro – overall allocation of the program
SLOVSEFF	EBRD + International Fund from the Decommissioning of Bohunice (BIDSF)	Subsidy in connection to the offered loan	Sources from the International Fund from the Decommissioning of Bohunice (BIDSF)	Financial resources for housing are drained
Regional Operational Program	Ministry of Construction and Regional Development SR	Grant	Structural funds (ERDF)	70 000 000 euro*
Operational Program Bratislava Region	Ministry of Construction and Regional Development SR	Grant	Structural funds (ERDF)	6 000 000 euro**

** the sum mentioned in the financial plans 2007 - 2013 in the ROP Program Manual version 2.2. valid as of 22.01.2010, the sum allocated for the support of the priority theme 78 – Infrastructure of housing –*

*** sum mentioned in the financial plans 2007 - 2013 in the v Program Manual OPBD version 6 valid as of 20.10.2010, the sum allocated for the support of the priority theme 78 – Infrastructure of housing*

National Programs

A) National tools for the support of energy efficiency in the housing policy

- State Housing Development Fund – a loan based tool

- Governmental Insulation Program – a loan based tool (0% interest rate)
- Program of higher utilization of biomass and solar energy in households – grant tool
- Program of State Bank Guarantees from SGDB
- Subsidies for the elimination of systemic failures – subsidy

B) European sources for the support of housing policy
- Regional Operational Program – structural funds - ERDF
- Operational Program Bratislava Region – structural funds - ERDF
- SLOVSEFF (majority of EBRD sources) – loan based tool

State Housing Development Fund

The State Housing Development Fund was founded by the National Council Act No. 124/1996 on State Fund for Housing Development. The demand for funds from the State fund for Housing Development is higher than the available funds. The approved 2010 budget of the SHDF envisaged expenditure for the reconstruction of apartment houses in the amount of 27 000 000 euro. According to information published as of 26 January 2010, the Fund received for the action of reconstruction of apartment houses applications in a cumulative sum of **29 111 897,97** euro, which is exceeding the approved budget about approx. 2,1 million euro.

Table 5 State Housing Development Fund supported flats in the last 5 years

		Budget	Number of appl.	Requested support	Number of appl.	Offered support	Reconstructed h. u.
2005	U5	8 298 479,72 €	102	26 669 454,95 €	48	8 298 479,72 €	1724
2006	U5	23 235 743,21 €	152	28 297 151,96 €	112	23 018 555,40 €	4644
2007	U5	33 758 215,49 €	228	36 423 255,66 €	193	31 759 901,75 €	8231
2008	U5	24 895 439,16 €	291	57 820 321,32€	126	24 932 881,90 €	6475
2009	U5	26 360 226,39 €	507	115 242 682,22 €	127	26 299 497,05 €	7210
	GIP	71 000 000,00 €	505	97 897 558,02 €	346	70 870 807,43 €	14775
Total		187 548 103,97 €	1785	362 350 424,13 €	952	185 180 123,25 €	43059

Source: State Fund for Housing Development, 2010
Explanations: U5 – Reconstruction of a residential building, GIP – Governmental Insulation Program

Governmental Insulation Program

Provider: Ministry of Construction and Regional Development SR through the State Housing Development Fund
Budget: the program started on 1 July 2009 with a budget of 71 mill euro (source: state budget)
Format of aid: non-interest rate loan for up to 15 years

Subject of support: family and residential houses
Slovak Guarantee and Development Bank (SGDB)

The Slovak Guarantee and Development Bank is a state bank offering direct (loans) and indirect (guarantees) financial instruments mainly in the segments of the market which are outside primary interest of the commercial sector. Group of prospective customers of the bank consists mainly from small and medium enterprises. The bank support is aimed at refurbishment of housing stock too. While comparing bank guarantees on the actual market, the bank provides guarantee for common commercial bank credits/loans with markedly preferable conditions. Next table shows the development in segment of provided guarantees in the refurbishment of housing stock.

Table 6 Support through SGDB - guarantees

	Afforded	
Year	Value in €	Number in pcs.
2005	4 582 656	64
2006	10 960 206	89
2007	20 935 201	138
2008	18 209 653	72
2009	20 874 646	91
Assumption- 2010	16 000 000	80
TOTAL	91 562 361	534

SLOVSEFF

The European Bank for Reconstruction and Development (EBRD) in cooperation with the Ministry of Economy SR has launched the Slovak Energy Efficiency and Renewable Energy Finance Facility (SLOVSEFF).

In order to establish SLOVSEFF, the EBRD has chosen the following four participating banks (PBs): Dexia banka Slovensko, a.s., Slovenská sporiteľňa, a.s., Tatra banka, a.s., Všeobecná úverová banka, a.s.

Loans between euro 20,000 and euro 2,000,000, as well as grants between 7.5% and 20% of the loan amounts and free technical assistance are available through local banks for private companies and housing associations implementing energy efficiency and renewable energy projects. A grant support is provided by the Bohunice International Decommissioning and Support Fund (BIDSF) to which the European Community is the largest contributor, together with Austria, Denmark, France, Ireland, the Netherlands, Spain, Switzerland and the United Kingdom.

2.4. Financing through commercial instruments

There are more than 20 commercial banks and three building saving banks in Slovakia at present. The majority of the banking houses offer financial resources for the reconstruction of the housing stock through specialized loan products. First financial institutions which started with the financing of the reconstruction of apartment houses were construction banks (in 2000). The commercial banks did not give enough attention to this type of the segment in the beginning; the reason was mainly the problematic securing of the offered loans. Changes started mainly in 2003, when first products of commercial banks in the area of reconstruction of apartment houses started. One of the solutions how to minimize the problematic guarantee was the issue of state obligations through the State Guarantee and Development Bank (the program started in 1999). Whereas the issue of guarantees was a long-term process, the financial institutions have been forced to search also new paths of loan securing,e.g. through solidarity guarantee of loans, which have been utilized mainly by construction banks. The problem within such type of guarantee is the fact that the whole risk of non-repayment of the loan is laying on several owners of the apartments. During couple of years there were certain changes in the area of this segment and the present situation could be characterized as follows:

A loan could be offered to a community of owners of apartments and non-residential spaces, to an apartment cooperative, to a legal or physical person executing maintenance of the apartments as well as to a city apartment enterprise. The term of the loans is between 10 to 20 years and the interest rate within commercial loans is in the interval from 4% p.a. up to 7% p.a. depending on the actual situation of the borrower, whereby the payment of the loan is possible through an annuity form or regressive. The minimum loan amount was approximately at the amount of 6650 euro for one submitted loan. The biggest problem within financing communities of apartment owners and non-residential spaces and the administrators of the apartments was the securing of the submitted loan. As an appropriate solution was therefore the issuing of the Program of the State Support of the Reconstruction of the Housing Stock through offering of bank guarantees to loans through SGDB. Acceptable forms of guarantees at the present represent mainly bank acceptance, blank bill, notary memorandum, and affiliate with an obligation (solidary guarantee), bank guarantees, and assets in the date of maturity – alternate right for the reconstruction fund, demonetization of the insurance, mortgage of a property. On the base of the own experiences of the banking sector with the housing segment, as well as the competitiveness

environment, gradually profiled specialized banking products, 2010 would probably also be the year of testing of first banking products for the reconstruction of residential buildings with a minimum form of guarantee. An overview of conditions within the most frequent offered banking loans in the area of reconstruction of residential buildings is illustrated by the following table:

Table 7 Overview of existing products of commercial banks (April 2010)

Bank	Product	Value of the loan (min. amount –max. amount)	Maturity in years	Security(variable possibilities)	Interest rate
ČSOB	Program RENOVO	-	Up to 25	Up to 100 000 euro/ apartment unit – without a guarantee, guarantee of the SGDB	Individual possibilities of fixation
VÚB, a.s.	Investment loan	Max. 266 000 euro for one residential building, within administrators without limitations	-	Stand-by law to assets from reconstruction account and the insurance contract, possibility of a bank guarantee SGDB	-
SLSP, a.s	Investment loan	from 7 000 €, max. without limit	4 - 20	Advancing of assets from the reconstruction account, insurance deposit	1/3/6 or 12 M EUROIBOR + margin from 1,2% - 3,1% p.a. , Fix for 5 years From 5,80 % p.a. to
Tatra banka, a.s.	Financing of the reconstruction of a residential building	-	do 20	Stand-by law to assets, guarantee of the SGDB, own blank bill bank acceptance of the community of the apartment owners	From 4,20% p.a. – fix, variable
Dexia banka, a.s.	Deadline loan	Without limitation	Up to 20	Advancing of assets from the reconstruction account	As of 5,63% p.a.
OTP Banka	Investment loan	Without limitation	Up to 20	Stand-by law to assets of physical persons, insurance deposit of physical persons, bank guarantee of the Slovak Guarantee and Development Bank up to 100 % of the stock of the loan	-
Volksbank, a.s.	Loans for the reconstruction of the housing stock	-	Up to 20	Insurance deposit of the residential building, deposit of financial means at the account of the client	BASE RATE 2,95% p.a. + margin = from 4% p.a.
UniCredit Bank	Investment loan	minimum 8300 euro maximum 13 300 euro/ 1 apartment	Up to 20	Insurance deposit of the residential building, deposit of financial means at the account of the client	12M or 6M IBOR** + 1,50 + margin of the bank

** EUROIBOR - Euro Interbank Offered Rate, ** IBOR is the Interbank Offered rate*

Building savings companies

The basic condition for utilization of finances from building savings companies is a conclusion of a contract between an individual and the building savings company regarding the individual's saving for an agreed target sum (the government subsidizes these savings). The advantage of building savings schemes is that after a few years of saving, the individual can obtain from the building savings company a loan (for the purpose of construction/renovation of housing) with an advantageous interest rate, which is fixed during the whole period of the re-payment of the loan. There is also a limit on the difference between the interest charged by the building savings company on the loan and offered on the savings. The building saving schemes are by their essence focused on reconstruction of housing, whether by individual owners or by associations of apartment owners. One advantage of building saving schemes consists in the possibility receiving a state bonus (typically in the range of 10-15%) on the amount saved each year (the bonus is typically extended only for a limited number of years), which represents a certain incentive for the savers; the amount of the state premium is calculated according to the formula stipulated by the Act on Building Saving. A disadvantage of building savings schemes consists in the time aspect as the client qualifies for a construction loan only after the having fulfilled certain conditions (typically having saved a certain percentage of the target amount before applying for the construction loan). This requirement can be solved with an interim loan, which is usually available on the market with a higher interest rate than that charged on the actual construction loan. The period of re-payment of construction loans typically ranges from 10 to 20 years. Below is an overview of construction loans and interim loans provided by building savings banks:

Table 8 Overview of products granted by construction savings (April 2010)

Building saving bank	Program	Value of the loan (min. amount – max. amount)	Maturity in years	Guarantee (depending on the amount of the loan)	Interest rate
Prvá stavebná sporiteľňa, a.s.	-	Min. 15 000 euro	Up to 20 years	Solidary guarantee of the owners of the apartments, terminated by a depot, creation of stand-by law for the property or to assets from the reconstruction fund, or bank guarantee of the SGDB	From 2,9 % p.a. – construction loan
Wüstenrot stavebná sporiteľňa, a.s.	REKOFOND	Up to 3 000000 €	Up to 20 years	Ditto	Up to 4,99 % p.a. – construction loan
ČSOB Stavebná sporiteľňa, a.s.	Reconstruction	No reference	Up to 25 years	Ditto	From 2,9 % p.a. – construction loan

It is the connection of a building loan to interim loan as well as the saving tool and securing within a relatively higher need of investment

in apartment house reconstruction which is a disadvantage to the utilisation tools of building society banks when granting credit in comparison with the tools of the commercial banks. Therefore it is necessary to indicate, that building society banks recorded decrease in the granted loans ranging between 23% and 37%, as well as a higher number of applicants for a change in the payment schedule. According to this, it can be assumed that the interest of population in loans has decreased and unwillingness to accept decision and obligate to the future has increased. Even if the majority of these statistics applies to the individual owners of the apartments and their current financial situation, we can state, even on the basis of these figures, that the willingness of the owners of the flats to approve, for example, the increase in the renewal fund to cover the loan installments, would be lower than in the past. For this kind of approval, suitable arguments will be necessary, e.g. in the form of suitable loan parameters and evident savings on the heating costs.

Obstacles to the commercial loan from the loan applicants' point of view were the length of administrative process and securing of the loan means. Both factors are slowly being mineralised. The first factor is connected with the approach of the flat owners towards the maintenance of residential building. Before the loan application it is necessary to accept the decision about the investment in the reconstruction of residential building and the decision of the loan application. 2/3 majority of apartment owners are needed for approval in both cases, where in some apartment houses this could represent a communication barrier followed by various interests of the individual owners. Consequently, after the approval of bank guarantee, the assessment process about the suitability to issue a guarantee by the SZRB or the Commercial Bank, was postponed. These factors excessively prolong the administration process within preparation of the necessary technical documentation and the bank activities. Regarding the loan provision, there has been a reduction in the amount and type of collateral. At present, restriction of the right of renewal fund debt disposal and immobilization of residential building insurance in favour of the credit bank is a standard procedure. Flats as collaterals for the loan, solidary guarantee are slowly becoming one of many options of securing the loan means. On one side this could be caused by the competitive environment and on the other side by the financial stability of this segment. Banks do not grant loan to a residential building with a high rate of bad payers as well as insufficient amount of reconstruction funds that serve as loan repayment. If a commercial bank grants a loan to a residential building based on the assumption that the given residential building would not represent a risk of insufficient funds in order to pay the installments. This could occur only in the case of a massive demographic deterioration in the residential

building. Acceleration of banking administrative processes is related to the introduction of the screening assessment models. Several subjects on the markets provide benefits for the loan applicants for the residential building reconstruction. These benefits include:

- Complimentary assessment of energy efficiency state/ energy consulting
- More favourable conditions for saving programmes
- Cooperation with the providers of construction works – more favourable costs for construction works, professional consulting.
- State bonus in case of building society saving account.

From the banks' point of view, insufficient funds for the loan repayment represent an obstacle to granting a loan for residential building reconstruction. Loan formation is influenced by two factors: - by residential building investment needs and by an agreement of the owners to solve the residential building restoration comprehensively. Many residential buildings with different demographic structure encounter resistance of mainly elder residents especially during financially demanding maintenance or thermal insulation works. In case of insufficient funds to cover loan installments, the increase in the renewal fund must be agreed by a 2/3 majority of the owners. This could represent a problem and for the whole residential building this could exhaust all possibilities for loan withdrawal. Following the discussions with commercial banks we understand that for the competitive reasons the banks are not willing to provide specific data about the number of granted loans. On the basis of competent estimates of bank representatives we can observe that within the next three years we could count on the increase of loan grants within the residential buildings reconstruction segment. The aggregate estimate within the whole banking sector represents financial means worth around 0.5 billion euro's.

Specifics within crediting of the sector

To have the reimbursement of financial sources approved, the cities and municipalities are obliged to follow several regulations and legal norms, mainly the Act No. 523/2004 Coll. a. about Budgetary Regulations within the public administration regarding the amended law later read as Act No. 583/2004 Coll. about budget regulations of municipalities and about the future amendments to the law.

(6) In order to complete their tasks, the municipality and the higher administration unit could for the fulfilment of their tasks accept returnable financial sources on condition that:

a) The total amount of debt of the municipality or the higher territorial unit does not exceed 60% of the actual income of the previous budgetary year and

b) The total of annual instalments of returnable financial sources including the reimbursement proceeds does not exceed 25% of the actual income of the previous budgetary year.

(7) The total amount of debt of a municipality or the higher territorial unit for the purpose of this law is understood as a total of obligations resulting from the principal repayments of the refundable financial sources towards the end of the budgetary year and the sum of total liability of the municipality or the higher territorial unit.

(8) According to the paragraph 7, the total municipality's amount owed does not include liabilities from loans granted by the previous national funds 22) and from the loans granted by the National Housing Stock for the development of municipal renting apartments: 23) equal to the loan instalments where their amount due is included in the annual rent of the council flats. According to the paragraph 6, letter b), the amount of annual instalments of returnable financial sources does not include the lump sum payment.

Mainly the last specifics misrepresent the loan carrying-capacity of cities and municipalities, within the assessment and acceptation of clients from the administration, it is therefore necessary to cooperate with the commercial banks which have elaborated a complex assessment of models for the credibility of the administration.

Association of owners, Management companies

They belong to the stable and sought-after clientele in commercial banks. Their management is not considered to be a business risk as it is in the case of corporate base. Their source of income is generated by compulsory payments made by the owners of the individual flats. In case of a commercial loan for residential building reconstruction it is necessary to cover the loan costs through sufficient amount of funds. The problem occurring during commercial loan repayment can be a failure to create funds for the reason of a high amount of bad payers ownership structure of residential building.

3. IDENTIFICATION OF POSSIBLE MARKET GAPS (DEMAND SIDE ANALYSIS)

The main concept of the conducted analyses was based on primary targets of JESSICA implementation, with a special focus on requirements defined in the Terms of Reference. Two potential areas of JESSICA implementation – Housing Stock and Urban Regeneration – were selected.

The current economic situation of potential target groups (Households and Public Sector) and its expected development have significantly influenced the scope of the analysis in terms of economically appropriate types of project selection.

Due to global economic and financial crisis, the Slovak economy has experienced a decrease of GDP in 2009. Regarding available predictions of relevant institutions (Ministry of Finance, National Bank of Slovakia, World Bank, International Monetary Fund, etc.), GDP of Slovakia should not decrease in next years, but its growth will be only slow. As the GDP is the most important factor influencing the incomes of JESSICA key target groups, their economic situation has also become worse and there is not real chance for its significant improvement in near future. This situation was highlighted in Moody's sector outlook for Slovak local and regional governments in December 2009 and followed by downgrade of rating of several Slovak cities in the same month.

In this situation, it is not possible to expect significant demand for financial (loan based) resources for a project without direct positive (or at least neutral) impact on the financial and economic situation of the beneficiaries. In these terms, the highest emphasis has been put in our analysis on energy efficiency projects (in both areas) and on revenue-generating projects (in the Urban Regeneration area).

3.1. Housing Stock

Latest available data on number of flats in residential buildings in full detail date back to 2001 (census of population, houses and flats executed by Statistical Office of Slovak Republic). As the data for 2002 – 2008 are not available in the same format, the overall number of flats

in residential buildings was calculated in respect to several data resources. The increase of number of flats in 2002 – 2006 was determined from the information in the Information System of Construction and Regional Development (http://www.ueos.sk/mvrr.sr/isvov/). Data for the period 2007-2008 were identified from the Information on Housing Construction in the Slovak Republic in 2008, published by Ministry of Construction and Regional Development.

Through combining different data resources, it is possible to derive the following numbers of flats in residential buildings in eight Slovak regions:

Table 9 Flats in residential buildings

Region	2008
Slovakia – Total	888 859
Bratislava	180 082
Trnava	75 779
Trenčín	103 025
Nitra	96 542
Žilina	95 492
Banská Bystrica	110 658
Prešov	100 126
Košice	127 155

Source: Expert estimation based on data from Information System of Construction and Regional Development (http://www.ueos.sk/mvrr.sr/isvov/) and from Information on Housing Construction in Slovak Republic in 2008, MCRD, 2009, (http://www.build.gov.sk/mvrrsr/source/news/files/003760.zip)

Structure of the housing stock

The objective of the analyses of the composition of the housing stock was to define the target groups for support through the JESSICA mechanism. Key elements from this point of view are criterion of age and construction type.

The first result of the analyses is a set up of the number and percentage share of apartments according to individual construction periods. The data in the following table illustrate that the most widespread market segment would be houses build since 1961 up to 1990.

Table 10 Age structure of flats in residential buildings

Measure	Construction Period							
	Not Identified	do r. 1919	1919-1945	1946-1960	1961-1970	1971-1980	1981-1990	1991-1999
Number of flats	6 580	6 327	17 610	78 831	159 648	278 701	238 006	42 806
Share on overall volume	0,74%	0,71%	1,98%	8,87%	17,96%	31,35%	26,78%	4,82%

Measure	Construction Period								
	2000-2001	2002	2003	2004	2005	2006	2007	2008	Total
Number of flats	16 985	4 711	5 897	3 622	5 766	6 111	8 581	8 677	888 859
Share on overall volume	1,91%	0,53%	0,66%	0,41%	0,65%	0,69%	0,97%	0,98%	100,00%

Source: Period till 2006: Information System of Construction and Regional Development (http://www.ueos.sk/mvrr.sr/isvov/); Period 2007-2008: expert estimation based on data from Information on Housing Construction in Slovak Republic in 2008, MCRD, 2009, (http://www.build.gov.sk/mvrrsr/source/news/files/003760.zip)

Mainly panel buildings have been built within the mentioned period – specifically constructions of single-layer and sandwich panels. These two types of buildings represent 81% of the overall housing stock.

The results of the analysis of the housing stock structure and related findings have been subsequently utilized to identify measures contributing to reconstruction of residential buildings, and their costs.

Scope of residential buildings reconstruction

Residential building reconstruction in general includes the following measures, which to a greater or smaller extent contribute to a decrease in energy consumption:
RM_1 / Thermal insulation of outdoor walls;
RM_2 / Roof insulation (damp proof insulation and thermal insulation);
RM_3 / Exchange of windows in common areas and entrance doors exchange

RM_4 / Exchange of all windows (usually provided individually by flat owners);
RM_5 / Thermal insulation of cellar ceilings;
RM_6 / Thermostatization and adjustment of heating system;
RM_7 / Reconstruction of vertical pipes and horizontal distribution pipes;
RM_8 / Reconstruction of electric installations (inside of flats provided by flat owners);
RM_9 / Reconstruction of conductors;
RM_10 / Reconstruction of balconies and loggias;
RM_11 /Reconstruction of elevators and elevator shafts;

Subject to certain conditions this set of measures could be expanded by measures for the utilization of renewable energy sources in residential buildings (these measures do not decrease energy consumption, however they contribute to a decrease of energy costs):
RM_12 /Installation of solar thermal collectors for hot water preparation;
RM_13 /Installation of heat pumps for heating and hot water preparation;

With regard to the preference and the financial-economic situation of the target groups we consider the utilization of the measures RM_1 up to RM_12 as a priority, which have been utilized also within defining of the final products parameters.

Average costs connected with the complex reconstruction, including just these measures, have been based on an analyses estimated in the amount of 17 754 euro/apartment. This amount was consequently utilized to calculate the financial volume of the uncovered part of the market (market gap).

Market gap

A basic estimate of an the overall market gap may be made through a multiplication of the number of not yet refurbished flats and the average costs of a specific refurbishment approach.

Summary of available information on housing stock refurbishment in the past:

1/ Number of flats for renovation at the end of 2004: 808 848 flats

2/ Number of flats refurbished, which have been using loans from the SHDF and subsidies from the MCRD SR

Table 11 Housing supported from SHDF and subsidies from MCRD SR

YEAR	Number of flats
2005	11 174
2006	14 936
2007	27 951
2008	22 501
2009	41 978
TOTAL	118 540

Source: MCRD SR, 2009

3/ Number of flats reconstructed from commercial financing and from private resources of flat owners (contributed into funds of repairs and maintenance created by every apartment building)
Financial resources of commercial financial institutions invested in refurbishment of the housing stock in the period 2005 – 2009 are estimated at the level of 4 billion SKK (132,8 mill euro) per annum. Own resources of flat owners used for housing refurbishment are estimated at the level of 6,3 bill SKK (211,9 mill euro) annually[2]. This gives a total amount of 344,7 mill euro invested per annum. With the average price for a complete refurbishment estimated at 17 754 euro, this suggests that approximately 19 000 flats were refurbished annually in the 2005-2009 period. It could be expected that a maximum of 95 000 flats were reconstructed within 2005 – 2009.

2 "Status and need of financial resources for housing stock renovation in 2007-2013" approved by the Decree of Slovak Government from 12th of October 2005 (prepared by MCRD)

Table 12 Calculation of market potential

Input	Number of flats
Balance in 2005	808 848
SHDF (2005 - 2009)	118 540
Commercial and private financing (2005 - 2009)	95 000
Remaining number in 2010 (from 2005)	595 308
Flats build within 2005 – 2008	29 137
Actual Balance (without construction in 2009)	624 445
Flats not older than 20 years	103 155
Market potential	521 290

The previous table represents an actual balance of non refurbished flats in Slovakia. This number has to be reduced by the number of flats in buildings which are not older than 20 years (as this is a commonly accepted period after which buildings needs a complete renovation). In these terms, the number of flats in need of renovation is 521 290. This represents in financial terms a market volume of almost 9,3 billion euro (in case of complete refurbishment).

Expected Development of the Market and of the identified Market Gap

First it is necessary to estimate the share of the housing refurbishment market expected to be served by investments of the SHDF, commercial financial institutions and private persons (hereinafter "competitive products"). This estimation is based on extrapolation of past trends.

Table 13 Annual Number of Flats Refurbishments through competitive products

Annual Number of Flats Refurbishments financed from:		
Financial source	Allocation (euro/year)	Flats*
SHDF + MCRD subsidies	25 000 000	1 408**
Commercial financing	132 775 675	7 479
Private financing	211 860 187	11 933
TOTAL	369 635 862	20 820

** Calculation based on average investment for a complete refurbishment*

*** Calculation covers complete refurbishment with investment costs 17 754 euro/apartment, instead of average support from this resource in amount of 4297 euro/apartment (average for period 2005-2009)t*

The previous table illustrates that it is possible to finance refurbishment of 20 280 flats through existing products (SHDF, banks, private resources). The following table presents the expected development of the remaining market gap in the next 20 years:

Table 14 Annual Number of Flats Refurbishments

Input	unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Balance of not reconstructed flats	flat	521 290	524 811	509 287	493 763	478 239	462 715	447 192	431 668	416 144	400 620
Flats reconstructed from competitive produts	flat	20 280	20 280	20 280	20 280	20 280	20 280	20 280	20 280	20 280	20 280
Addition of flats after reaching 20 years of life time	flat	23 801	4 756	4 756	4 756	4 756	4 756	4 756	4 756	4 756	4 756
Remaining market share for JESSICA products	flat	524 811	509 287	493 763	478 239	462 715	447 192	431 668	416 144	400 620	385 097
Financial expresion of remaining share (price level 2009)	mil. EUR	9 317	9 042	8 766	8 491	8 215	7 939	7 664	7 388	7 113	6 837

Input	unit	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Balance of not reconstructed flats	flat	385 097	373 309	361 522	345 952	331 567	314 909	300 395	286 226	274 528	262 926
Flats reconstructed from competitive produts	flat	20 280	20 280	20 280	20 280	20 280	20 280	20 280	20 280	20 280	20 280
Addition of flats after reaching 20 years of life time	flat	8 493	8 493	4 710	5 895	3 622	5 766	6 111	8 582	8 678	
Remaining market share for JESSICA products	flat	373 309	361 522	345 952	331 567	314 909	300 395	286 226	274 528	262 926	242 646
Financial expresion of remaining share (price level 2009)	mil. EUR	6 628	6 418	6 142	5 887	5 591	5 333	5 082	4 874	4 668	4 308

The figures presented in previous table provide clear evidence of a large potential for utilization of JESSICA financial products in the area of Housing Stock Refurbishment.

3.2. Urban regeneration sector

This part of the analysis is in line with the above presented initial ideas, which are focused mostly on the identification and evaluation of the market potential in projects with a positive effect on the economic situation of a potential beneficiary. This focus is based on the assumption that the main target group in this sector would consist of public sector institutions (mostly municipalities).

The study identifies potentially suitable projects in two areas: 1/ Public buildings, 2/ Integrated Energy Strategies.

Public Buildings

The process of financing of energy efficient reconstructions of public buildings is only a basic part of a wide spectrum of possibilities in the area of urban regeneration.

Prospective projects in the area of public building reconstruction may be designed in a similar way as in the case of housing stock refurbishment.

The main requirement of the public sector is the elimination of the most important technical failures and the reduction of operational costs. This can be done through:

- Reconstruction of the roof
- Thermal insulation
- Exchange of doors and windows
- Thermostatization and adjustment of the heating system
- Reconstruction of electrical installations
- Reconstruction of heat resource (RES based if appropriate)

If the owner/manager of a specific building considers that the realization of additional measures can bring secondary benefits (not only financial but also in the sense of quality of life or comfort), also the following types of intervention may be undertaken:

- Installation of ventilation and air-conditioning system (not suitable for schools)
- Disabled facilities
- Renovation of indoor surfaces

Where possible, also measures for RES utilization can be provided. In public buildings these should usually be as follows:

- Fuel switch of heat resource (usually to biomass)
- Installation of solar collectors for hot water preparations (not suitable for schools)

- Installation of heat pumps for heating / hot water preparation
- Exploitation of flat roofs through installation of photovoltaic panels

Market potential

The overall cubature of buildings was set as the starting point for specification of market potential in area of public buildings. Taking into consideration the available case studies and pilot projects the average costs of basic reconstruction are estimated at the level of 36 euro/m3 (price level of 2009). With the total cubature of public buildings (113 501 274 m3) the basic market volume (need of resources for basic reconstruction) is 4 086 mill euro.

Within the existing two programming periods for structural funds, certain amount of resources was allocated for reconstruction of public buildings. In the first period (2004 - 2006) the total costs of projects within the measure OP ZI 14.3.1 Construction and Development of Civil Infrastructure in Regions (only public buildings were eligible) reached a value of 746,9 thousands euro. This amount is adequate for financing of a basic reconstruction of 22 031 m3 of public buildings cubature.

Table 15 Reconstructions of public buildings

Input	year	Cubature of Buildings (reconstructions)	Cubature of Buildings (outstanding balance)	Financial expression
		m^3	m^3	mil. EUR
initial balance			113 501 274	
Reconstructed within SF 2004-2006	til 2009	22 031	113 479 243	
Reconstructed within SF 2007-2013	2010	6 690 952	106 788 291	3 844
	2011	6 690 952	100 097 338	3 604
	2012	6 690 952	93 406 386	3 363
	2013	6 690 952	86 715 433	3 122
	2014	6 690 952	80 024 481	2 881
	2015	6 690 952	73 333 529	2 640
	2016	6 690 952	66 642 576	2 399

In the second period (2007-2013) resources were to this date allocated for relevant measures in the amount of 25,8 mill euro. This is adequate for reconstruction of 17 475 268 m3 of public buildings cubature. Outstanding resources in the amount of 1 057 mill euro will be utilized for reconstruction of 29 361 399 m3 of public buildings cubature. We assume that both resources (allocated to projects and also not yet allocated) will be distributed evenly within 2010 – 2015.

The development of the adjusted market potential in the area of

public buildings was presented in the previous table. The pure **market share remaining for JESSICA** operations (or other competitors) is almost **2,4 bill euro**.

Energy consumption and savings potential of public buildings

Data regarding energy consumption of public buildings are presented in the next table. Only data on heat consumption for heating are presented, as these provide almost 80% of the overall energy consumption. As mentioned above, higher volume of investments in public buildings reconstructions was realized since 2004 with support of structural funds. As these reconstructions were focused on complete renovation of buildings in poor technical conditions in the first place, the criteria of energy efficiency were only partially considered. Due to still ongoing realization of great part of these projects (especially from programming period 2007 – 2013), no reliable data on results (in terms of energy savings) are available.

The figures illustrate that the heat consumption within the monitored period is stable. This may lead to a conclusion that almost no energy efficiency investment were made in this sector within the period of 1994 – 2002.

Other important conclusion is based on a comparison of average consumptions for buildings with different utilization. Highest consumption is in hospitals and health care centers. Lowest consumption is in elementary schools (not considering cultural facilities, as these are not heated permanently). These findings are important for a potential future design of products for specific categories of public buildings.

Table 16 Average heat consumption for heating according to the purpose of use

Purpose of Use	Anual heat consumption for heating v kWh/(m3.year)									Average consumption within 1994 - 2002
	1994	1995	1996	1997	1998	1999	2000	2001	2002	
Schools	51,3	51,9	53,9	52,8	51,5	51	46,8	51,5	49,7	51,2
Trade and Services	54,5	54,1	65,9	63,7	60,5	53,7	50,3	54,2	50	56,3
Health Care	60,1	59,7	79,8	76,2	71,3	72,1	68,5	71,5	65,3	69,4
Culture	47,3	45,5	46,4	46,7	45,4	45,1	37,6	40,9	33,3	43,1
Administration	56,9	59,8	62	60,4	58,3	58,1	53,1	57,2	54,6	57,8
accomodation	56,5	59,4	62,7	60,3	59,4	61,1	58,2	64,1	55,6	59,7
Sport	47,4	45,8	47,9	46,7	43	44,7	41,9	43,6	34,2	43,9
Other	55,4	54,9	61,4	59,3	58,1	58,6	56,4	61,2	60	58,4
TOTAL	53	54,2	58,7	57,1	55,4	55,3	51,2	56,1	54,8	55,1
from which Elementary Schools	49,5	49,7	51,2	50,2	48,4	47,6	42,5	47,3	47,6	48,2

Source: VTP 0402840512 – VVÚPS – NOVA, s.r.o. (Technical and economical aspects of energy consumption decreasing in state-owned buildings); in: Speech on fulfillment of Concept of renovation of buildings with emphasis on housing stock renovation – Informational document from session of government (31.03.2004)

Even though elementary schools represent a category with the lowest average consumption (per m^3), in comparison with the overall annual consumption (following table) they are placed on the opposite side of the scale. They are a very important energy consumer from the public sector. This is very important, due to the fact that all of these schools are under the responsibility of municipalities, while other groups of buildings are more or less equally distributed among all levels of public administration (central, regional, municipal level). This means that operation of schools is a great burden for municipal budgets.

Table 17 Annual heat consumption for heating according to the purpose of use

Purpose of Use	Average consumption within 1994 - 2002	Cubature of Buildings	Anual Energy Consumption
		m^3	MWh/year
Schools	51,2	57 795 527	2 959 131
Trade and Services	56,3	771 383	43 429
Health Care	69,4	15 173 721	1 053 056
Culture	43,1	3 027 318	130 477
Administration	57,8	14 032 953	811 105
Accomodation	59,7	10 072 778	601 345
Sport	43,9	734 839	32 259
Other	58,4	11 892 755	694 537
TOTAL	55,1	113 501 274	6 253 920
from which Elementary Schools	48,2	27 000 632	1 301 430

Source: VTP 0402840512 – VVÚPS – NOVA, s.r.o. (Technical and economical aspects of energy consumption decreasing in state-owned buildings); in: Speech on fulfillment of Concept of renovation of buildings with emphasis on housing stock renovation – Informational document from session of government (31.03.2004)

With regards to the overall savings potential of the heat economy of public buildings, no reliable data are available. The reasons include the virtual non-existence of broader experiences with measures of thermal protection in this field. Through focus on values of the average energy consumption, it is possible to conclude that the value of the overall average for all buildings and for the monitored period (55,1 kWh/m3/year) – it is almost double of the standard calculation value defined in relevant technical standards for this types of buildings. This means that potential savings from appropriate measures in the heat economy of buildings will be at least 40% from the current consumption.

Another very important energy efficiency measure is the renovation of lighting in public buildings (especially schools and administrative buildings). The estimated saving of electricity is 97MWh annually for a standard school and 86MWh annually for an average public administration building.

3.3. Integrated Energy Strategies

Cities are living systems. There is only a very limited number of actions which can be taken without significant influence on other city subsystems. Reconstructions of buildings are (in common) one of them, maybe as the only energy related measure.

Energy is part of every city subsystem (such as housing, district heating, water management, waste management, transport, water treatment, …), and thus all energy related measures have to be considered in respect to all relevant subsystems, with the aim to ensure a maximum efficiency of investment costs and also maximum utilization of available energy.

Such approach requires cooperation of various subjects, which are active in the city or the respective region. Municipal governments are responsible for quality of living of the inhabitants, and thus it must be their interest to provide adequate conditions for stable energy delivery for an affordable price. The best way to ensure this is coordination and tampering of activities of energy stakeholders on their territory with a clear target. Influence in the energy sector could help to solve also problems of other cities in different areas (especially water and waste management). Attracting other subjects on their territory (as biomass suppliers, industries,…) may help municipalities to ensure better energy prices or other benefits for the inhabitants (i.e. preservation or creation of jobs).

The problem with the introduction of a similar system in Slovakia is lack of experiences on the municipal level. This may be probably an opportunity for the development of activities of an investment fund established under JESSICA. In such a case, the fund will ensure not only the financing of existing projects, but also the technical support to cities or their partners. The benefit of such establishment could be creation of a new market segment, instead of competition on the existing market.

Outline of Market Potential

As the integrated energy strategies utilize the most advanced technologies (in many cases not present yet in Slovakia), with the aim to maximize synergies between several subsystems, it is almost impossible to precisely define the need for financial resources for such a product.

The market potential for the above introduced concept of integrated energy strategies can be tentatively derived from partial poten-

tial of selected segments, with utilization of the actual market prices for known technologies.

Housing Sector

It is possible to expect that one half of flats in the residential buildings can be reconstructed within such integrated strategies:

Market potential: 5 000 mill euro (in 2010)

Public Buildings

It is possible to expect that one third of public buildings can be reconstructed within such integrated strategies:

Market potential: 800 mill euro (in 2010)

Biogas Stations – new construction

Investment costs per 1 MWe of installed power: 4 mill euro
Potential of Slovakia: 1000 MWe of installed power
Total potential: 4 000 mill euro

Market potential: 1 800 mill euro (in 2010)

Public Lighting Reconstructions

Total potential: 70 mill euro per year

Market potential: 30 mill euro per year

With regards to this selection, without considering additional segments (as construction of water treatment plants), it is possible to conclude that the utilizable market potential for integrated energy strategies will reach at least 9 000 mill euro in 2010, with the tendency of a slow decrease in the future. Due to persisting lack of experiences of municipalities within the area of project coordination (required for integrated energy strategies implementation), the minimal market potential may be estimated at volume of 1 500 mill euro in 2010.

4. SWOT ANALYSIS

Strengths

- Complementarities to existing financial products;
- Multiplication of available financial resources through attracting additional investors (leverage effect);
- More efficient and effective administration of financial resources from structural funds (speeding up the process of allocation and decrease of administrative burden);
- Immediate access to capital with no time constraints
- Sustainability of financing even after the programming period 2007 – 2013 due to revolving nature of sources;
- Good experience of commercial financial institutions with similar products;
- Professional project selection process through SHDF or commercial institutions as financial intermediaries – among other advantages also possible corruption behavior elimination.

Weaknesses

- Innovative approach is a new element in the already operating system – everything "new" brings obvious resistance to the system;
- Dependency on political decision; allocation changes in the approved operational programs is an administratively complicated process, which requires political will and appropriate timeframe;
- Start of process design is too late – in the middle of the programming period a substantial part of the potentially available resources is already allocated in other ways;
- The loan principle – possible competitive disadvantage in comparison to grants, if the product is inappropriately designed

Opportunities

- Creation of financially sustainable and market driven instrument on a revolving base;
- Transfer of know-how from already implemented JESSICA schemes in other countries;
- Possibility to bring added value in comparison to competitive products;
- Existence of sufficient number of development ideas;
- Spread of investments risk for potential target groups in "bad economic times" – needs for more savings;
- Interest of the representatives of regions/cities in development projects, which lead to improvement of living standards of people;

- Bring more flexibility of the OP to react on immediate market needs;
- Broad the product portfolio of commercial institutions;
- Broad the possibilities for municipalities to raise funds for development projects.

Threats

- Missing experiences with a tool of a similar type in the SR, within financing of projects of cities development (existing experiences – preparatory phase for the JEREMIE project);
- Majority of the projects is in a preparatory phase (idea design);
- Insufficient allocations from structural funds, reluctance against a transfer of sufficient allocations from structural funds;
- Prolongation of the process of implementation of the initiative (set up of implementation structures) – high commitment of sources in favor of contracted projects;
- Deterioration of economic situation of potential target groups – lack of own financial resources
- Reluctance to utilize recoverable forms of financing from the side of the public sector;
- Non-existing methodology for the transfer of financial sources from the related operational program;
- Reorganization of important ministries – the merge of the Ministry of Construction and Regional Development SR and the Ministry of Economy SR after the elections in June 2010 may cause a prolongation in JESSICA implementation.

5. IMPLEMENTATION STRUCTURE

As soon as we start to consider the possibilities of the implementation of the initiative JESSICA in the SR, it is necessary to be aware that the core resources, which should be utilized for this implementation, are resources of the operational programs of the structural funds. They are therefore governed by EU regulations and corresponding national legislation. The following analysis describes in detail the possibilities of implementation of the JESSICA instrument on the basis of Article 44 of the Regulation 1083/2006 and the variants that were presented the Interim Report.[3]

Legal framework of the implementation of instruments of financial engineering

The implementation in the programming period 2007 – 2013 of the operational programs of structural funds that are relevant for the purpose of implementing JESSICA is governed by the Regulation of the European Parliament and the Council (EC) No.1080/2006 of 5 July 2006 on the ERDF, and through the Regulation of the Council (EC) No. 1083/2006 of 11 July 2006, in which the general provisions on the ERDF, European Social Fund (ESF) and Cohesion Fund (CF) are established. Implementing provisions are contained in the Regulation of the Commission (EC) No.1828/2006 of 8 December 2006. These regulations establish, inter alia, also the conditions for the application of innovative financial instruments in the programming period 2007 – 2013.

3 This study analyzes implementation options within the context of JESSICA as an initiative for sustainable urban development, implemented through urban development funds (UDFs) as the key delivery vehicles. We are aware that on 25 June 2010, the amending regulation 539/2010 entered into force, changing the wording of Article 44 of Regulation 1083/2006 to the effect that operational programme resources can be used not only through urban development funds but also through "funds or other incentive schemes providing loans, guarantees for repayable investments, or equivalent instruments, for energy efficiency and use of renewable energy in buildings, including in existing housing". This new financial engineering mechanism, designed specifically to support energy efficiency and renewable energy investments in existing housing, was based on the Commission's legislative proposal COM (2009) 384 final and was approved by the European Parliament on 5 May 2010 and the Council on 3 June 2010. Although this study does not explicitly discuss implementation options based on this amendment (which had not been adopted at the time the study was being elaborated), we consider that the substance of the analysis and the conclusions remain unaffected: If JESSICA is implemented in Slovakia with housing refurbishment and energy efficiency being the main initial focus, then the State Fund for Housing Development is an obvious candidate for the role of a UDF or of a "fund … providing loans … for energy efficiency and use of renewable energy in buildings, including in existing housing". Likewise, the merits of the options where a Holding Fund is included in the implementation structure remain the same: a Holding Fund enables early absorption, increases the leverage possibilities, facilitates a transfer of know-how and can play a strategic role in the future as a structure through which new urban development funds can be readily established subject to availability of funding.

In general, two types of funds can be established as part of the process of implementing the JESSICA mechanism:

- holding fund (HF), which is defined as a fund set up to invest in several urban development funds; and
- urban development fund (UDF), which is defined as a fund investing in public-private partnerships and other projects included in an integrated plan for sustainable urban development.

Managing Authorities of operational programmes can either enter into contract with a UDF directly (following an appropriate procedure for selecting the UDF) or they can first enter into contract with a HF and entrust to this HF the task of selecting and setting up one or more UDFs. The experience across the EU so far is that managing authorities are mostly implementing JESSICA with the utilization of holding funds managed by the EIB.

Our analysis of possible implementation structures is based on analyzing and comparing the following four implementation options:

1) Urban Development Fund created by one or more managing authorities on the basis of a public procurement procedure (the SHDF could be one possible candidate);
2) Urban Development Fund created by way of a direct assignment to a national institution (e.g. the SHDF);
3) Holding Fund managed by EIB, established as a separate block of finance within EIB without own legal personality and aiming to invest operational program resources into one or more UDFs;
4) Holding Fund managed by EIB, established as a separate legal entity under Slovak law and aiming to invest operational program resources into one or more UDFs.

Options 1 and 2 correspond to Variant 1 presented in the Interim Report, i.e. the variant assuming that the resources available for JESSICA are limited to 18 mill euro from the ROP and OPBR, pre-assigned for interventions in housing, and that the State Housing Development Fund could be used as the financial intermediary channelling these resources to individual beneficiaries.

Options 3 and 4 correspond to Variants 2 and 3 presented in the Interim Report, namely variants assuming that the application of JESSICA in Slovakia need not be limited to interventions in housing but can be used also e.g. for refurbishment of public buildings, waste management, brownfield regeneration and urban energy savings. In these occasions, assuming that the amount of available resources may in the future exceed the abovementioned 18 mill euro, a holding

fund would seem to be an appropriate and useful structure towards setting-up and enabling the management of various future UDFs.

Before proceeding with a detailed analysis of the four options outlined above, it is useful to highlight once more the difference between a holding fund and an urban development fund. Urban development funds deal directly with individual project applicants, for which they need strong presence in the regions. The operational programme resources entrusted to an UDF are invested by the UDF directly into projects. By contrast, a HF is a transitory entity which invests operational programme resources not into individual projects but into one or more UDFs. All currently existing JESSICA holding funds are managed by the EIB. The reasons for managing authorities to utilize holding funds typically include:

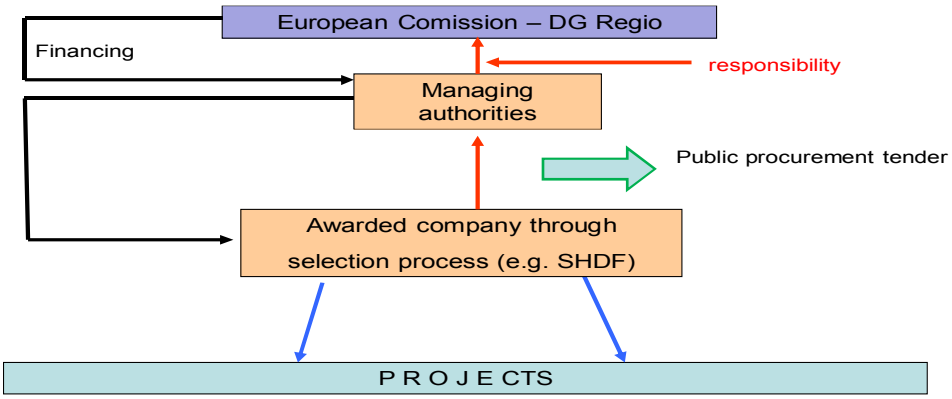
- the need to manage relationships with multiple UDFs;
- the need for assistance with selecting the right manager of a UDF;
- the need for assistance with entering into a contract with the UDF, providing all necessary conditions for repayable investment of operational programme resources;
- utilization of EU-wide know-how with respect to selecting and establishing UDFs;
- the fact that while selecting UDFs directly may be a long process for the managing authority, establishing a holding fund within EIB may be much less time-consuming. Whenever a managing authority transfers operational programme resources into a JESSICA fund (HF or UDF), the OP allocation is considered absorbed and the managing authority can apply for a reimbursement (interim payment) from the ERDF. Where the managing authority utilizes the holding fund option, the possibility to transfer resources presents itself earlier than under the scenario where the managing authority has to select and establish the UDF directly.

5.1. Option 1: Urban Development Fund created on the basis of a public procurement procedure

Under this option, the managing authorities could select the State Housing Development Fund (SHDF) or another suitable institution to perform the role of a UDF; the selection would be done on the basis of public procurement. The SHDF is considered in this study as a potentially suitable candidate for the role of an Urban Development Fund for the reason of its established experience with providing repayable financing for housing refurbishment as well as for its network of regional offices, enabling it to be close to potential

clients. Besides the SHDF, private banks with strong local representation may also consider applying for the role of the UDF. The study does not propose the SHDF as a possible Holding Fund because it has no experience with investing into other financial intermediaries and is much better equipped for dealing with clients wishing to undertake housing refurbishment projects.

An assignment of a contract on the basis of public procurement is possible only in conformity with the Act No. 25/2006 Coll. about Public Procurement and about the amendment and completion of some of the acts in the wording of later regulations (hereinafter only "Act on Public Procurement"). This alternative clearly implies that the Urban Development Fund, i.e. the provider of the services of an Urban Development Fund, would have to be selected according to a procedure established in the Act of Public Procurement. Selection of the UDF in accordance with the Act on Public Procurement would also mean that a contribution of operational program resources to the Urban Development Fund would not raise issues of state aid in the sense of aid to the UDF itself. Within a tender, it is possible to expect offers from the SHDF and, depending on the amount intended to be invested by the managing authorities, also from private financial intermediaries or from consortia, of actors capable of financing the target projects. It is important to mention that in the case of a selection of a subject as a UDF, this subject takes on important responsibilities for the implementation of the structural funds resources in accordance with the rules of the relevant operational program. A description of possible financial instruments to be offered by the candidate-UDFs in the tender is provided below in a separate part of the document (investment strategy).



Scheme of UDF investing in projects

Advantages

- transparent method of selection through a tender; when defining the selection criteria it is possible for the managing authorities to establish conditions regarding professional experience of the applicant and knowledge of the market conditions in Slovakia;
- possible top-up of the available sources of the operational programs in case of candidates other than SHDF; however, in interviews with banks, we did not detect any large interest of banks in assuming the role of a UDF in case the OP contribution amounts only to 18 million euro and is limited to interventions in housing;
- professional management of the fund would mean a reduced requirement on administrative capacities on the side of managing authorities.

Disadvantages

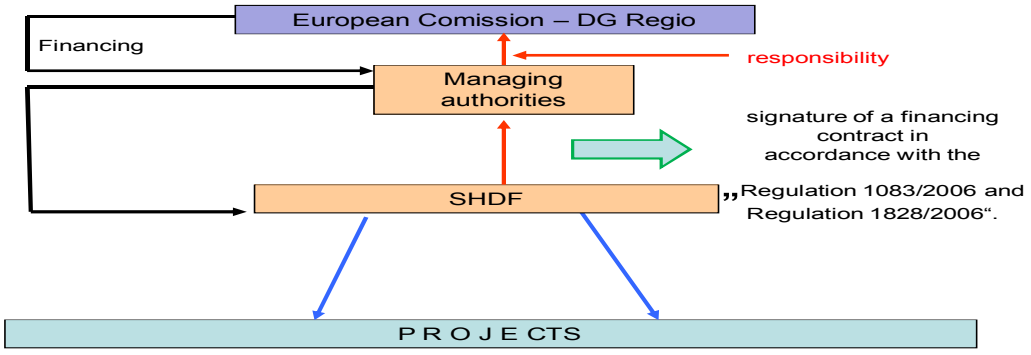
- the process of public procurement requires long-term professional preparation, probably with the use of experienced international consultants;
- additional difficulties with the procurement procedure may arise if two or more managing authorities want to invest OP resources. into a UDF common with other managing authorities;
- the process of public procurement itself is time demanding and at the end of the day this could reduce or completely outweigh the advantages of prolonging the deadline for utilization of resources from the ERDF. Taking into consideration the fact that the resources of operational programs have to be invested into urban projects at the latest by the end of 2015, there could be a threat of de-commitment of these sources. Besides the process of preparing the public procurement it is necessary to count also with the time for the conduct of the tender, subsequent negotiations about the detailed conditions of cooperation between the managing authorities and the UDF and of course also with a period for preparation and execution of the investments as such. If leverage is one of the conditions, it is inevitable to take into consideration also the time needed for the search for co-investors.

5.2. Option 2: Urban Development Fund created on the basis of a direct assignment to a national institution

In the Slovak Republic there are institutions which have in their portfolio activities similar to those envisaged in the implementation of JESSICA. This concerns in particular the State Housing Development Fund, which is

established by the Act No. 607/2003 Coll. on the State Housing Development Fund in the wording of later regulations (further only "Act on SHDF"). In a nutshell, as pointed out already under option 1, the advantage of the SHDF is that it is an existing institution with established experience as regards provision of repayable financing for housing refurbishment. The SHDF also has several regional offices, which means that it is well-accessible to clients like individual apartment owners or housing associations.

However, although Slovakia does have public institutions which have experience with serving as financial engineering instruments, such as SHDF and SGDB, the country does not currently have a national institution capable of implementing instruments of financial engineering in a full implementation cycle in the context of structural funds, i.e. up to the submission of final reports and accounts to the managing authority (showing the utilization of operational program funds, monitoring reports etc.) and a final audit. The SHDF, in particular, has experience in dealing with resources transferred to it from the state budget, but not from operational programs of structural funds. Therefore it cannot be said at present in Slovakia that an institution exists to which the implementation of JESSICA and fulfilling all conditions could be readily entrusted. Besides of this, no matter of a successful implementation of JESSICA in the SR could the EC attack the legislative itself, which couldn't be taking into consideration the actual situation in the SR, directly assign the implementation to a concrete institution and to put into question the legitimacy of the commitment of sources through such an institution. Such an EC control would be an ongoing or only ex post. If, such an action would be applicable, it could happen that during the implementation or only after 2015 the relevant EC authorities could express their doubts with the competence of such an action in the wording of the adopted national legislative, whereby the risk of non-authorized commitment of sources and a subsequent return of sources to the European Commission could not be at present excluded. We may put in risk the whole implementation if at national level the decision is taken to award the grant to national institution assumed to



have adequate experience and this will not turn to be true during the ex

post or on-going compliance audit from EU auditors. It is too risky to lose whole allocation for JESSICA due to incompliance with EC regulations.

Advantages

- this solution does not require any legal steps for the creation of a new subject through which the resources of structural funds would be invested; This means no legal steps needed to be perfomed in creation of legal entity as UDF, e.g. entity set-up, raising basic capital, legal structures like general assembly, supervisory board – whole corporate structure, company registration etc.;
- the SHDF has sufficient experience in the area of the target projects (insofar as only housing renovation projects are considered) and the demand for their products is exceeding the financial possibilities of the fund. The SHDF is providing sources for financing under better conditions as commercial subjects, even if only to a narrow group of target applicants, due to allocation limits.
- in a case of utilization of the experiences of the SHDF the implementation of such a model would not involve creating a new product on the market that would be in competition to commercial subjects.

Disadvantages

- if the implementation of JESSICA would be reduced only to feeding of operational program resources into existing instruments of the SHDF, such a solution would not bring innovative elements into the financing of the target projects;
- the financing of projects through SHDF would not enable the achievement of a leverage effect through inclusion of existing commercial financial institutions or other private investors. Depending on the formulation of the loan product, leverage effect could still be achieved at the level of the final beneficiary (e.g. through a requirement that the beneficiary secures a certain percentage of the intended investment from other resources than the UDF, such as own resources or commercial bank financing).
- the process of project selection is not based on any strategic concept of urban development; SHDF financing is provided to individual applicants on the basis of „first come, first served" and does not enable the support of complex solutions (e.g. support of larger urban areas, which could bring more synergies). Taking into consideration the limited volume of funds envisaged under this option (18 mill euro), the funds would be disbursed within a couple of days/weeks. As the SHDF due to allocation limits can serve only to a limited group of applicants, implementation of JESSICA through SHDF would not solve the problem of the market gap in financing of urban development projects. This disadvantage

could be eliminated if an integrated approach was introduced, as also envisaged, for example, by priority axis 4 of the ROP. For instance, only groups of buildings from the same area could be eligible and the housing interventions could be complemented by additional urban development measures.

- in a case of an allocation of sources from the ERDF operational programs to the SHDF, the implementation would probably require strengthening of the administrative capacities of the SHDF and introduction of new procedures;
- necessity of separating the financing of projects supported from the ERDF from other activities of the fund for the purposes of monitoring, evaluation and control of authorized utilization etc.
- a separate category of disadvantages concerns the inevitable legislative changes – an amendment of the Act on Budgetary Regulations and the approval of a new legislative norm (amendment of the so called "Act on Eurofunds", eventually a "new Act on JESSICA"). Deeper and thorough analysis of necessary legal amendments is efficient to provide only if the political decision leads to Option 2 selection. Also in the case of introducing such legislative changes, there is still a threat of non-authorization of commitment of sources from the structural funds if the EC does not find the national legislative provisions to be in line with European law. There is also a threat of financial corrections if the SHDF does not prove to be ready for investing operational program funds in accordance with the regulations. In a case of non-authorized expenditures, e.g. after the end of 2015 or not in line with the operational programs, the SR might have return the whole volume of sources allocated for the initiative JESICCA.

5.3. Options 3 and 4: UDF(s) created through a Holding Fund under EIB management

According to Regulation 1083/2006, Article 44, if a Holding Fund is established (to invest in several urban development funds), the Member State or the managing authority shall implement the holding fund "through one or more of the following forms:

(a) the award of a public contract in accordance with applicable public procurement law;

(b) when the agreement is not a public service contract within the meaning of applicable public procurement law, the award of a grant, defined for this purpose as a direct financial contribution by way of donation to a financial institution without a call for proposals, if this is in accordance with a national law compatible with the Treaty;

(c) the award of a contract directly to the EIB or the EIF."

Within the possibility of a direct award of the management of the holding fund to the EIB (letter (c) of Article 44 of Regulation 1083/2006), two models of a Holding Fund could be considered from the point of view of the legal personality of the HF:

1. Holding Fund with no legal personality (established as a separate block of finance within EIB) – corresponds to Option 3 analyzed by this study;
2. Holding Fund as a separate legal entity – corresponds to Option 4 analyzed by this study.

The legal framework of the Slovak Republic does not include a legal norm of public law, which would directly govern the set-up and functioning of financial engineering instruments. However, EU regulations are by definition directly applicable in Slovakia. If EIB is to be selected as the Holding Fund manager, the managing authorities can enter into agreement with EIB directly on the basis of Article 44 of Regulation 1083/2006. The possibility of direct assignment to EIB of the management of a holding fund in the sense of Article 44 of Regulation 1083/2006 allows for creation of a Holding Fund without running a procurement process.

General advantages of implementing JESSICA through a Holding Fund managed by EIB

- cooperation with a prestigious international financial institution, which is a credible partner not only for the member state, but also for the EC. Implementation of this model is increasing the credibility and neutrality against the EC, which is decreasing the risk of a non-authorized utilization of operational program resources;
- cooperation with a financial institution, which is rated with the highest rating score AAA/Aaa/AAA from three most important rating agencies (Standard & Poor´s, Fitch Ratings and Moody´s);
- decrease of an investment risk for potential co-investors into JESSICA funds in Slovakia and consequently their increased interest in investing;
- EIB as a manager can offer professional management of the Holding Fund and draw on know-how from implementing JESSICA across the EU;
- possibility of achieving a leverage effect and thus more available sources for the objectives of the operation programs financing the whole scheme
- monitoring of implementation of operational program resources is undertaken at the level of the Holding Fund, which reports to the Managing Authorities;

- introduction of best practice through cooperation with EIB, possibility of transfer of know-how to national institutions;
- fast implementation and immediate and effective absorption of structural fund resources;
- lower risk of a non-authorized utilization of structural funds
- reduced requirements for administrative capacities of the managing authority.

General disadvantages of utilizing EIB as a Holding Fund manager

- A Holding Fund might pose competition to national institutions (e.g. SHDF, SGDB) which may be interested in assuming the role of a Holding Fund (However, this may even prove to be an advantage in the sense that it may be used as a benchmarking mechanism to assess the effectiveness of the national institutions). The inclusion of national structures would be possible only on the level of financial intermediaries (urban development funds), which would be selected in a tender conducted according to EIB procurement rules.
- It would be necessary to agree in the agreement between the managing authorities and EIB ("funding agreement") the ways for gradual transfer of know-how to national institutions.

Option 3: Holding Fund without a legal subjectivity (separate block of finance within EIB)

Article 43 (2) of the Implementing Regulation (EC) No. 1828/2006 states that:

"Financial engineering instruments, including holding funds, shall be independent legal entities governed by agreements between the co-financing partners or shareholders or as a separate block of finance within a financial institution.

Where the financial engineering instrument is within a financial institution, it shall be set up as a separate block of finance, subject to specific implementation rules within the financial institution, stipulating, in particular, that separate accounts are kept which distinguish the new resources invested in the financial engineering instrument, including those contributed by the operational programme, from those initially available in the institution."

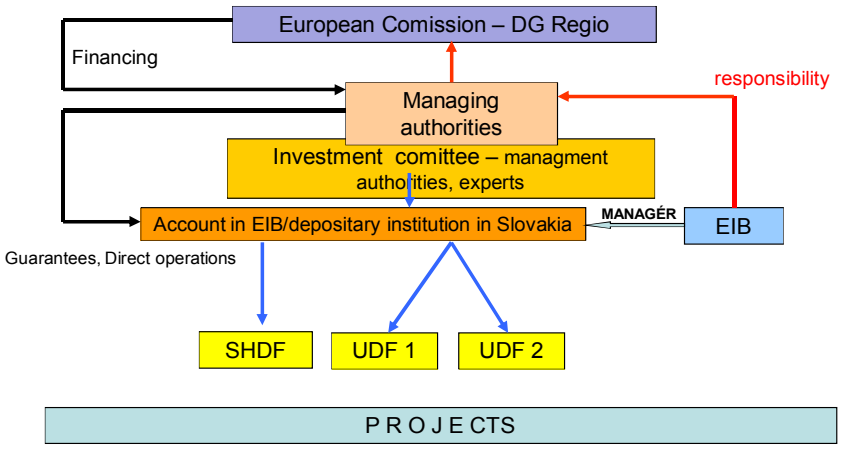
When a JESSICA Holding Fund is established as a separate block of finance within EIB (through the signature of a Funding Agreement between the managing authorities and EIB), the managing authorities transfer the relevant contribution from the operational program-

mes to EIB. These financial resources are then either kept in a treasury instrument within EIB or they are deposited with a bank in Slovakia (if the managing authorities instruct EIB to use this option). In any case, EIB holds the resources concerned *for and on behalf of* the managing authorities, i.e. the managing authorities remain the beneficial owners of the resources.

The relationship between EIB and the managing authorities is as follows: EIB is the manager/executive of the HF, submitting proposals for decisions to an Investment Committee of the HF, where the voting power lies entirely with members nominated by the managing authorities. An Investment Committee (or Investment Board) of a holding fund typically consists of 5 or 7 voting Members appointed by the managing authorities and of 2-3 EIB representatives as non-voting observers. The principal tasks of EIB in managing the contribution of the managing authorities is to:

- Conduct a procedure for selecting the manager(s) of UDF(s); the selection procedure follows the internal rules of EIB as an international organization;
- Enter into contract(s) with the UDF(s);
- Assist the managing authorities in meeting their obligations under Structural Funds rules, such as monitoring of operations, reporting, etc.; and
- Promote and explain the JESSICA instrument vis-à-vis potential beneficiaries and other stakeholders.

Where a JESSICA Holding Fund is created as a separate block of finance within EIB, the Funding Agreement establishing the HF is typically concluded for an initial period of 3 years.



Specific advantages of the separate block of finance option

- simple arrangement through establishment of an account within EIB, to which the financial resources from the OPs would be allocated. This implementation option would be the least time-intensive as the contract between the managing authorities and EIB could be based on the funding agreements already in place between EIB and other managing authorities across the EU. Subsequent implementation of investment products of the HF (i.e., investments into UDFs) is identical as under Option 4 (HF with legal subjectivity);
- suitable as a transitory structure facilitating the implementation of JESSICA**. After the end of the initial period, the HF can be wound up, its mandate can be extended or the role of the HF manager can be transferred to another institution.**

Specific disadvantages of the separate block of finance option

- reduced possibilities of transfer of know-how and creation of expert capacities on the national level
- the fund cannot borrow financial sources on the market and EIB does not invest into HFs which it is itself managing – which reduces the HF's potential for achieving a leverage effect.

Option 4: Holding Fund with a legal subjectivity (independent legal entity managed by EIB)

In a case the HF should be established with a legal subjectivity, we recommend - based on a legal analysis and a comparison with commercial companies - that limited liability company (s.r.o.) be chosen as its legal form.

The implementation structure proposed under this Option could potentially mirror the structure already established in Slovakia for the implementation of the JEREMIE initiative. In the context of JEREMIE, the Slovak Guarantee and Development Fund, Ltd. (SGDF), was established as a JEREMIE Holding Fund in the form of an SPV. The SGDF is a subsidiary company of the Slovak Guarantee and Development Bank (SGDB) and is managed by the Euroopean Investment Fund. The managing authorities of several operational programmes provided resources in the form of grants to EIF and EIF is expected in turn to invest these resources into the SGDF. The majority of voting rights in SGDF is held by SGDB (99%) and remaining is EIF (1%). There are several decisions requiring unanimous voting. The managing authorities form, together with EIF representatives, the Investment Committee of the HF which legaly acts as a Supervisory Board of Ltd. SGDB holds an observer position within the Investment Committee. The

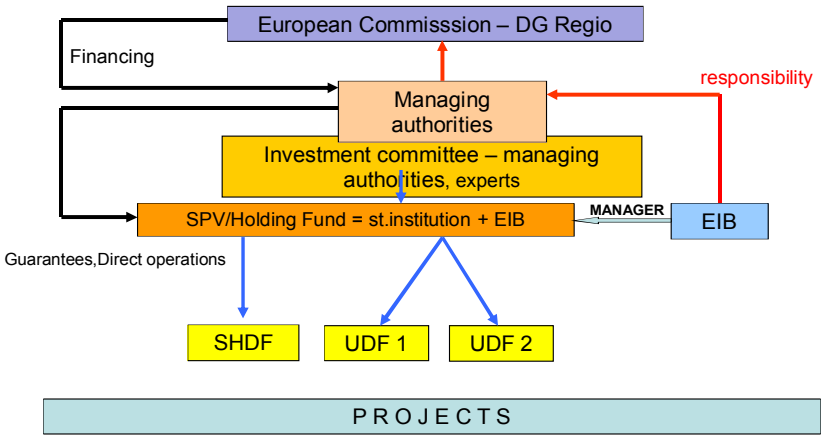
Executive Director of SGDF is a representative of the EIF. As a HF manager, EIF acts on behalf of SGDF within the limits of authorizations given to EIF by the Investment Committee.

In a case of a direct assignment to EIB as per Article 44 of Regulation 1083/2006, the Holding Fund would be formed as an SPV with own legal subjectivity and the form of a limited liability company. The partners of this SPV would be the EIB and some of the national institutions (e.g. SGDB, a.s.). Based on a **funding agreement** between the managing authorities and EIB (see Regulation 1828/2006 for the obligatory elements of such a funding agreement), the managing authorities would transfer OP resources to EIB with the purpose that EIB subsequently enters with these resources as a partner into the SPV. The OP resources form a large part of the basic capital of the SPV. The remaining part of the SPV's basic capital would be provided by the relevant national institution. The funding agreement between the managing authorities and EIB would also stipulate that the Investment Committee (or Investment Board) of the Holding Fund consists of representatives of the managing authorities, the relevant national institution and EIB but that the majority of voting rights is in the hands of the managing authorities and/or the national institution (e.g. SGDB, a.s.). The **partnership agreement** (or articles of association) which would be concluded between EIB and the national institution and which would form the foundational document of the SPV, s.r.o., would specify that the main activities of the HF include one of the activities mentioned in the § 2 paragraph. 1 letter b) or paragraph. 2 Act No. 483/2001 Coll. on Banks in the valid wording (further only „Act on Banks"), or the acquiring of shares on the capital market pursuant to a special regulation. Through this, the conditions for defining a company as a financial institution would be fulfilled.

The EIB, as the manager and executive of the Holding Fund would have the right to dispose with the resources of the Holding Fund on the basis of the funding agreement between EIB and the Slovak managing authorities and of the partnership agreement (articles of association) of the SPV. As the manager of the SPV, EIB would be implementing the financial instruments approved by the investment committee (in which the majority of voting rights would be held by members nominated by the managing authorities), which would be equivalent to a board of trustees of an SPV in the sense of the Commercial Code. Among the basic tasks of the manager of the fund belongs also the preparation of an investment strategy, which would be considered by the investment committee. The first version of the investment strategy of the HF would be already part of the funding agreement.

The assessment of the investment strategy by the investment committee is important for the manager of the fund, not least from the point of view of the authorization of the utilization of the structural fund sources. Likewise, also the documentation related to the UDFs selection process and the proposed operational agreements with the UDFs would be prepared by EIB as the HF manager but the actual decision would be always taken by the investment committee. The main reason for this is that despite of the role of EIB as the HF manager, the ultimate responsibility vis-à-vis the European Commission as regards the utilization of the ERDF resources rests with the managing authorities.

In a case of proceeding through a Holding Fund with a legal subjectivity a possible disadvantage is only the complicated structure involving the Special Purpose Vehicle (SPV). The main reasons for utilization of an SPV are to prevent the creation of competition at the HF level for national institutions, to facilitate transfer of know-how and to create on the national level a structure which could serve for the implementation of JESSICA also in the future. Although the structure under Option 4 is more complex than under Option 3, it would be possible to utilize the experience with the implementation of JEREMIE where the basic division of responsibilities is already clearly defined.



Basic activities in the structure of the implementation of the Holding Fund

Responsibilities of the manager of the Holding Fund

The main responsibilities of the Holding Fund manager include the following:

a) pursuit and, where required, proposal for revision of the investment strategy of the HF; this includes conducting a process of UDF selection, submission to the investment committee of recommendations for selection of UDFs and preparation and execution of operational agreements with the selected UDFs (subject to investment committee approval);
b) monitoring of operations (investments into UDFs) in order to secure compliance with the applicable regulations; ,
c) reporting to the managing authorities, including on the basis of data provided by projects to UDFs and by UDFs to HF (as provided for in the contractual documents);
d) treasury management of the funds held by the HF and not invested into UDFs.

Other tasks and responsibilities are to be specified in the prospective funding agreement and the corporate documentation between the partners of the SPV (articles of association).

Status of the investment committee of the HF

The investment committee of the HF would represent for the EIB the main partner for strategic and operational questions in connection with the management of the Holding Fund. The investment committee would consist from the representatives of the management authorities contributing to the HF. Besides representatives of the managing authorities it could be strongly recommended to include in the committee also experts on financial market instruments. The activity of the investment committee should be regulated by the funding agreement between the managing authorities and EIB and the articles association of the HF-SPV. The decisions of the investment committee should be focused mainly on:

- assessment of amendments to the investment strategy of the HF,
- assessment of calls of expressions for interest, UDF selection decisions and operational agreements as proposed to the investment committee by EIB,
- regular (e.g. semiannual) assessment of progress of activities of the HF-SPV and approval of reports describing the activities of the Holding Fund (including e.g. assessment of the fulfillment of output indicators at the level of UDFs and/or projects);

- approval of the costs for the management of the fund in connection with the services and activities executed for the present and expected activities. The amount of eligible management costs is capped by the Implementing Regulation 1828/2006 at an annual average of 2% from the amount contributed to the HF.

Funding agreement

The funding agreement serves as a basis of the contractual relationship between the managing authority/authorities and EIB as the manager of the fund. The legal basis for the funding agreement are the General Regulation 1083/2006 and Implementing Regulation). The managing authorities transfer resources to the EIB in accordance with Art. 44 of Regulation 1083/2006, letter c). The funding agreement should include:

- definition of terms,
- exact purpose of the HF,
- specification of the contribution of the managing authorities to the HF, its sources in the OPs and its intended use,
- status of the investment committee,
- description of the initial investment strategy and planning of the HF, including the conditions of elaboration of an entrepreneurial plan of the SPV,
- main elements of operational agreements to be entered into between the HF and UDFs,
- specification of activities and possibilities in relation to the joint-investors.

A part of the financing contract should be
also annexes, which do include:

- investment strategy and a proposal with respect to the elaboration of the entrepreneurial plan of the SPV,
- treasury policy of the HF,
- specification of the management costs and system of their debit from the total amount contributed to the HF,
- specification of the monitoring methods,
- provisions on reporting about activities of the HF and audit of the HF and its operations,
- winding-up provisions and exit strategy in relation to the HF itself.

Conditions and mechanism of financial flows

Operational programme resources would be contributed to the HF on the basis of the funding agreement with the EIB. From the moment of the signature of the financing contract and transfer of sources to the transitory account of the EIB, EIB would hold the OP resources for and on behalf of the managing authorities. This means that EIB would be legal owner of the resources but the managing authorities would retain beneficial ownership of them. As of the moment of the investment of the resources into the basic capital of the SPV, the SPV becomes the legal owner of the funds, EIB becomes the legal owner of the commercial share and the managing authorities remain beneficial owners of this commercial share. Consequently the SPV sources would lie at an account within EIB, an account of a commercial bank (depository bank) or an account within a public institution (for example the State Treasury). The place of the establishment of the account would depend on the managing authorities' assessment of the interest to be received on the resources, of the related risk of keeping the resources in the given institution and of the cost connected with the release of the sources for actual operations of the HF. The treasury options would be included in the funding agreement and it would be up to the managing authorities to decide by way of an instruction to EIB which treasury option should be selected and, if applicable, which depository bank should be used.

- Subject to approval of HF operations by the investment committee, the resources of the HF would be transferred to individual UDFs. The basis for the set up of the financial flows from the HF to the UDFs would be the investment strategy of the HF or the individual operational agreements.

Specific advantages of the HF-SPV option

1. Involvement of national institutions in the HF (e.g. through a minority stake) can help secure transfer of implementation know-how, which would facilitate the sustainability of the management of such a fund also after the expiration of the contract with the EIB;
2. Avoiding possible competition between EIB and national institutions for the management of the HF – here a national institution is involved in the fund;
3. Creation on the national level of a structure (SPV) which could serve as a lynchpin for the implementation of JESSICA also in the future.

Specific disadvantages of the HF-SPV option

1. To establish the HF as an SPV requires the creation of a relatively complicated structure of relationships where various legislative norms (European and national) have to be taken into account.
2. More time-consuming than the separate block of finance option.

5.4. Summary assessment of the advantages/ disadvantages of the individual implementation options

JESSICA presents a potential of utilizing public financial resources in a more effective way, achieving a revolving effect, and supporting a broader scope of projects. On balance, we consider that it is useful for the purpose of JESSICA implementation in Slovakia to establish a Holding Fund, mainly for the following reasons:

1. achieving early absorption of OP funds (and acquiring space for preparation and contracting of individual projects);
2. drawing on EIB's know-how from implementation of JESSICA in other Member States;
3. greater attractiveness for potential co-investors;
4. the strategic significance of the Holding Fund in that it can serve as a coordinating entity for the individual UDFs and can serve also in the future for establishing various UDFs with specific regional or sector focus, subject to availability of funding.

On the basis of the above analysis, we suggest the option of a Holding Fund with legal subjectivity in the form of a limited liability company managed by EIB (Option 4).

The only scenario where the added value of a holding fund might not be, in our view, sufficient to warrant its creation is where the operational program resources available for JESSICA are limited to the 18 million euro pre-assigned for housing refurbishment and where the decision is taken to utilize these resources directly through the SHDF serving as a UDF. However, in such a scenario we would recommend that the Ministry of Finance is involved in facilitating the relationship between the managing authorities and the UDF so that financial engineering know-how is preserved at the level of the Ministry of Finance and can be used in the future in the process of further implementation of financial engineering instruments. Moreover, the involvement of the Ministry of Finance is also important in view of its role as the Certification Authority under the National Strategic Reference Framework.

As regards the possible competition posed by EIB as a HF manager to national institutions, we consider that national institutions are better equipped to perform the role of Urban Development Funds (dealing directly with clients, ensuring representation of JESSICA in individual cities) than the role of a Holding Fund. The only scenario where the establishment of a HF under a national institution could be useful is in our view the solution elaborated under Option 4, i.e. establishment of the HF as an SPV of EIB and of the Slovak Guarantee and Development Bank, similar to the structure chosen for the implementation of the JEREMIE initiative.

Assessment of the elaborated advantages/disadvantages of the individual models of financing

Table 18 Comparative schemes of individual models:

Form of HF Criterion	UDF – public procurement	UDF – direct assignment to national institution	HF without a legal subjectivity (separate block of finance)	HF as an independent legal entity (s.r.o.)
Commercial legal subjectivity	✓	X	X	✓
Possible leverage effect at HF and/or UDF level	limited	limited	✓	✓
Confidence of private co-investors	limited	limited	✓	✓
HF manager rating	n/a	n/a	HIGH	HIGH
Flexibility of Financial Instruments	✓	X	✓	✓
Innovative Approach towards financing urban development	✓	limited	✓	✓
Investment Risk	Depends on the Subject Awarded	HIGH	LOW	LOW
Know-how Transfer	X	X	limited	✓
Long-term Sustainability	Depends on the Subject Awarded	✓	Possible transfer of the HF manager role	✓
HF Credit Capacity	Depends on the Subject Awarded	X	X	✓
Set-up Simplicity	✓	✓	✓	X
Reduced requirements on capacities of managing authorities	✓	X	✓	✓
Crating of Goodwill	X	✓	X	✓
Competing with existing National Institutions	Depends on the Subject Awarded	X	✓	X
Risk of possible SF corrections	MEDIUM	HIGH	LOW	LOW
Duration of the implementation process	LONG	LONG	SHORT	MEDIUM
Capacities for SF implementation in place	Depends on the Subject Awarded	X	✓	✓

*HF – Holding Fund, SF – Structural Funds, **X** - No, ✓ - Yes*

6. PROPOSAL OF INVESTMENT STRATEGIES

6.1. Basic considerations

A proposal of an investment strategy for a JESSICA HF or UDF in Slovakia depends on the volume of resources from operational programs, which could be allocated for the JESSICA scheme, and on the focus and eligibility criteria of the priority axes and measures of the OPs from which the resources are being allocated to JESSICA. The volume of OP resources and the conditions attached by the OP to these resources influences the attractiveness of the Fund itself for possible co-investors and the possibility of utilization of innovative financial mechanisms. Therefore it is necessary to mention that the higher the volume of the sources from the structural funds to JESSICA funds will be, the higher will be also the potential volume of resources obtained on the market thanks to the leverage effect and the interest of possible investors. In addition, a higher volume of resources in a JESSICA fund enables also a better variability and flexibility of financial instruments within the implementation of JESSICA and reduces the investments costs.

In our analysis of the possibilities of financial intermediaries at the Slovak market we tried to identify the assumptions for a successful implementation of innovative financing instruments. The basic identified instruments include:

- loans;
- guarantee schemes; and
- equity investments.

The first two instruments are typical for the sector of commercial banks and enable financing of projects with a lower risk rate. The last of the instruments is suitable for more risky projects All of the three are suitable for utilization by an Urban Development Fund.

The biggest potential for a leverage effect consists in implementation of guarantee schemes with commercial banks. Within the category of guarantees it is possible to use individual guarantees, provided for each project independently, or to provide portfolio guarantees. Within individual guarantees the risk level of the client and the project is assessed on a case-by-case basis and this determines also the level of the leverage effect and the price for the guarantee. Portfolio guarantees guarantee an existing portfolio of tar-

get projects for which a commercial bank is responsible. Based on the risk investment strategy approved by the Investment Committee, the Holding Fund may guarantee a part of the portfolio of the bank with the relevant risk rating. Thanks to this guarantee the commercial bank could offer a further volume of resources for the target groups. The leverage effect in this case depends on the risk level which the Investment Committee (nominated by the managing authorities) agrees to accept. The risk level in turn depends on the requirement for the investment´ repayments; therefore the leverage effect could at the end render available further market liquidity, for example in a doubled, but also a tentimes or multiple volume. There is an experience already with guarantees for housing loans. The portfolio guarantees depends on commercial banks´ portfolios, but the intent of this proposal is to identify an option for instruments which can leverage efficiently funds available. To identify the relevance such an instrument for Slovak market and more detailed analysis of the market possibilities should be undertaken by the manager of the Holding Fund when elaborating of a concrete investment strategy based on the volume of resources available for JESSICA implementation.

Possible co-investors into JESSICA funds can be expected to be focused on more risky investments; therefore the involvement of investors is to be considered more at the level of the UDF, depending on the focus of the UDF. We see two options, better to say levels of possible investors´involvment– level of HF and level of UDF. Some of investors may join the scheme at the level of HF as a legal entity or entity itself may raise additional funds, e.g. through commercial loan (which is not the case if HF is block of funds only). Some of the investors may prefer more concrete and specific investments at the level of UDF. The details of the investment strategy are a topic for discussion between the manager of the fund and the managing authorities; the investment strategy has to be included in the contract through which the JESSICA fund is established.

Based on the analysis of the market needs a market gap of 9.3 bill euro was identified in the area of financing of housing refurbishment and a market gap of 2.3 bill euro in the area of projects of refurbishment of public buildings. The need for financing for complex refurbishment projects, broader urban regeneration projects and urban energy projects is theoretically without limitations. The utilization of innovative financial instruments could contribute on a large scale to the improvement of the availability of financing for the target projects. The investment strategy would at the same time depend from the concrete volume of the sources. As a starting point, we suggest two scenarios of investment into urban development through the JESSICA instrument:

- In the first model we assume the availability of only 18 mill euro from Operational Programs ROP and OPBR;
- In the second case we assume additional resources to be found either on the market (private capital fundraising) or through an increased allocation of structural funds in the current programming period, new allocations in the new programming period, a possible loan from the EIB, etc.).

For both variants of the available resources we propose to utilize the recommended implementation model of a Holding Fund with legal subjectivity. It was recognized that in Slovakia there is no national institution readily fulfilling the definition of a financial engineering instrument capable of utilizing structural funds according to the targets defined in the operational programs; moreover, the possibility of procurement of such an institution through a public order is time-consuming. An optimal solution enabling to accelerate the implementation of JESSICA would be to utilize a HF through direct assignment to the EIB. In light of discussions with representatives of ministries and in light of the actual situation in the SR, the most viable solution appears to be the creation of a Holding Fund with a legal subjectivity under the responsibility of the Ministry of Finance SR (**is a supra-sector guarantee of instruments of financial engineering and has experience with the creation of similar models through the initiative JEREMIE**). The greatest added value in the engagement of EIB as a manager is the transfer of international know-how concerning the implementation of projects and instruments which are in the member states considered as innovative and unknown at the market. In the case of the SR the investment area is given – refurbishment of existing housing, and is the most probably also the product – loan, and also the relatively low available allocation – 18 mill euro. All these assumptions represent limits on the possible sphere of application of JESSICA in the 2007-2013 programming period. The already existing experience with revolving financing of housing refurbishment in Slovakia means that the biggest relative potential for transfer of know-how concerns the know-how of the application of rules related to the functioning of financial engineering instruments in the world of EU structural funds. The potential for transfer of know-how would be larger in case where JESSICA investments could be realized in other prospective areas of urban development, beyond housing. For this reason the optimal approach in the first period would be to test the functioning of the instrument JESSICA in the SR through the creation of a full structure through the MF SR (HF managed externally by EIB), and through execution of a pilot investment strategy in support of refurbishment of existing housing through involvement of a national institution as an urban development fund, namely the SHDF. Also in this case it would be useful to consider the possibilities of EIB provi-

ding technical assistance to the SHDF as the state fund does not have experience with utilization of financial resources from the ERDF. Looking ahead towards the launching of new operational programs, the existence of a JESSICA HF in Slovakia would create potential for using ERDF resources by way of repayable investments in other areas of urban development.

Following consultations with the commercial sector it is possible to conclude that the prospective volume of 18 mill euro (and the maximum prospective fees given by the 3% ceiling) is not interesting for commercial banks to become involved with implementation of innovative financial instruments, even if blending of their own resources with OP resources could lead to an improvement of the loan conditions for the final recipients. The limited volume of available resources also implies that there is only scope for one financial intermediary (UDF). In this case it seems best to consider investing the OP resources through a public sector institution, namely to consider the possibility of involving the SHDF in the capacity of a UDF. All this has to be done in line with the regulations on the utilization of resources of the structural funds. But also in this case we do recommend that a HF is created and that its manager prepares the investment strategy in which the conditions of financing envisaged to be provided by a public-sector UDF are compared with the market conditions; the investment strategy should ensure that the JESSICA funds offer a product which fills the existing market gaps. From the point of view of the project holders (beneficiaries of UDF financing), again taking into consideration the limited volume of the resources available, it would be possible to consider only the housing sector, the main focus being on thermo-insulation of apartment buildings.

In case it is possible to obtain additional financial resources for the implementation of JESSICA beyond the 18 mill euro, the possibilities of utilization of innovative instruments are considerably broader. The individual financial instruments that a UDF can provide are described above and include loans, guarantee schemes and equity investments. Loan instruments are the most straightforward, but beyond these, especially guarantee schemes could be utilized in the area of housing refurbishment and thermo insulation. In the case of the refurbishment of housing, the scope for guarantees is not very large because the clientele is financially disciplined and the loan conditions from the side of commercial banks are accommodating, meaning that practically each loan application complies with what the banks require. Guarantee schemes could be therefore more effectively utilized in the area of municipal financing. The financial crisis had a negative impact on the budgetary possibilities of municipalities and the majority of municipal development projects are currently finan-

ced through loans. This is resulting in increasing indebtedness of the whole sector, which is at the same limited by the ceilings set in national legislation. The frequently applied legal solution is to realize municipal development projects through commercial companies in the ownership of municipalities. However, the guarantee mechanisms for loans to these municipal companies are very limited. It is here that we envisage space for the application of innovative financial instruments in the form of portfolio guarantees or individual guarantees.

In the case sufficient resources are available in the Holding Fund, it is possible to consider also more complex projects of regeneration of urban areas, brownfield revitalization etc. Such types of projects can be financed through UDFs which are able to offer several financial instruments and thus can flexibly adapt to the needs of the final beneficiary. In this scenario UDF financing could be provided also through equity investments where the UDF enters with the necessary investment into the project as a partner of the final beneficiaries. This way, not only the project is financially supported but transfer of know-how on management of commercial companies can be also achieved, improving the effectiveness of the utilization of resources and the long-term sustainability of the project. After a certain time, the UDF tries to exit from his share in the project company by selling this share on the market, which enables the return of resources back into the UDF and their investment into new projects.

A model allowing for UDF equity participation in projects would be ideal for the long-term development of the target projects. In any case, the possibility of combining several financial instruments from the side of the UDF depends on the development of the situation in the financial market. Subject to demand, the UDF could align the investment portfolio in such a way that the momentary market gap would be fulfilled.

Implementation of a HF with a broader investment strategy would create space for the involvement as UDFs of various national institutions specialized on certain types of instruments (SHDF, SGDB etc.)

6.2. Typical projects in the housing sector

The specification of typical projects for the housing sector is a result from the data and conclusions presented in the analyses of the demand side, which was a part of the Interim Report. On the base of these data a typical residential building was defined (a possible loan applicant). The scope of the project is proposed in three variants.

Applicant – typical residential

As a typical applicant, we could consider a residential building in original shape (without a previous reconstruction/renovation of common compartments of the building) with following characteristics:

Number of apartments:	24
Extent of an average apartment:	65,00 m^2
Overall floor surface in the building:	1560,00 m^2
Ownership:	private
Average consumption of heat for heating for one apartment:	27,18 GJ
Average consumption of heat for warm water:	11,92 GJ
Overall consumption heat of residential building for heating:	652,32 GJ
Overall consumption heat of a residential building for warm water:	286,08 GJ
Overall costs of a residential building for the consumed heat:	17 163,34 euro/annually (prices as of 2010)
Annual production of the maintenance fund:	6 213,90 euro/annually

Scope of projects

It is necessary to define some basic types of projects, as of the point of view of their scope. This need results from the diverse economic situations of the possible applicants, meaning that the economic situation does not enable to all applicants realize a project of a complex reconstruction of the residential building. These would need to proceed step by step and primarily focus on measures with the shortest investment period.

In this respect we defined three variants of projects of reconstruction of refurbishment of residential buildings as follows:

Variant A:
- exchange of windows and outside doors of common premises
- thermostatization and regulation of heating,
- reconstruction (and insulation) of the roof.

Variant B:
- exchange of windows and outside doors of common premises
- complex reconstruction of heating distribution and warm water,
- reconstruction (and insulation) of the roof,
- insulation of the edge casing,
- thermal insulation of the cellar ceilings.

Variant C:
- exchange of windows and outside doors of common premises
- complex reconstruction of heating distribution and warm water,
- reconstruction (and insulation) of the roof,

- insulation of the edge casing,
- thermal insulation of the cellar ceilings,
- measures with a low or zero impact on energy savings (reconstruction of elevators, conductors, electricity distribution in common premises, ...).

Realization costs of the individual variants in a typical residential building are estimated as follows:

Table 19 Investment costs of the individual variants in a typical residential building

Measure - Variant A	Costs per App. in euro	Overall costs in euro
exchange of windows and outside doors of common parts	316	7 584
thermostatization and regulation of heating	1 008	24 192
reconstruction (and insulation) of the roof	517	12 408
Variant A – TOTAL	1 841	44 184

Measure - Variant B	Costs per App. in euro	Overall costs in euro
exchange of windows and outside doors of common parts	316	7 584
complex reconstruction of heating distribution and warm water	4 381	105 144
reconstruction (and insulation) of the roof	517	12 408
Insulation of the external walls	3 086	74 064
Thermal insulation of the cellar ceiling	419	10 056
Variant B – TOTAL	8 719	209 256

Measure - Variant C	Costs per App. in euro	Overall costs in euro
exchange of windows and outside doors of common premises	316	7 584
complex reconstruction of heating distribution and hot water	4 381	105 144
reconstruction (and insulation) of the roof	517	12 408
Insulation of the external walls	3 086	74 064
Thermal insulation of cellar ceiling	419	10 056
Measures with a low or zero impact on energy savings (reconstruction of elevators, conductors, electric distribution in common premises	2 384	57 216
Variant C – TOTAL	11 103	266 472

Energy savings and backflow

Besides the need, seeking solutions as regards the critical technical status of the residential buildings, there is motivation to realize reconstruction projects of residential buildings, with the aim to achieve economic-financial benefits (e.g. lowering operation costs or increasing the quality of living).

Crucial from this point of view are savings of operation costs in the format of energy decrease – mainly heat consumption.

The following rates of heat consumption savings result from the above mentioned variants:

Table 20 Energy savings for the individual variants

Variant	Savings rate %	Heat savings GJ / annually	Financial savings euro / annually
A	14,45%	135,64	2480,86
B	45,17%	423,91	7753,32
C	45,17%	423,91	7753,32

From the comparison of the savings and investment costs connected with the individual variants it follows that the period of backflow of the maintenance is around 17,8 year within the variant A, over 27 years within the variant B and over 34,3 years within the variant C. It is clear that for paying for the loans used for the reconstruction, also additional sources of the inhabitants/owners of the apartments should be utilized. The mentioned projects could not be realized only from savings; the payments of the owners of the individual apartments into the maintenance fund should be also made use of. The period of repayment within these types of loans usually does not exceed the period of 20 years (commercial banks and as well as the SHDF Announcement 650/2006 set a maximum repayment period on loans for the refurbishment of residential buildings). Variant A corresponds to the basic necessary interventions with a low administration price, their impact is possible almost immediately, but the disadvantage is the low impact on energy savings. Based on reference discussion with the managing authorities of the ROP and the OPBR, they prefer projects which achieve the highest energy savings. From this point of view, variants B and C seem to be the most suitable.

Parameters of the product and their impact on the applicant

Based on a market research of relevant financial products, we indicatively suggest the following parameters of the proposed product:

Type of the product: Long-tem loan
Interest rate: 4,5% p.a. fixed
Period of repayability: 10/15/20/25 years
Condition of repayment: constant installment of the capital

An assessment of the impact on the financial situation of the applicants was performed for product variants B and C. The results, shown in the following table, indicate that from the point of view of a need of increase of expenditures of the households for living, the most suitable variant seems to be variant B with a repayment period of a minimum of 20 years.

Table 21 Assessment of the impact of product on the financial situation of the applicant

			Variant B				Variant C			
period of repayment (years)			10	15	20	25	10	15	20	25
interest rate (% p.a.)			4,50%	4,50%	4,50%	4,50%	4,50%	4,50%	4,50%	4,50%
Investment costs	House	EUR	209 256	209 256	209 256	209 256	266 472	266 472	266 472	266 472
	Apartment		8 719	8 719	8 719	8 719	11 103	11 103	11 103	11 103
	m^2		134	134	134	134	171	171	171	171
Annual repayment of principal	House	EUR	20 926	13 950	10 463	8 370	26 647	17 765	13 324	10 659
	Apartment		872	581	436	349	1 110	740	555	444
	m^2		13	9	7	5	17	11	9	7
Monthly repayment of principal	House	EUR	1 744	1 163	872	698	2 221	1 480	1 110	888
	Apartment		73	48	36	29	93	62	46	37
	m^2		1,12	0,75	0,56	0,45	1,42	0,95	0,71	0,57
Overal interest	House	EUR	51 791	75 332	98 873	122 415	65 952	95 930	125 908	155 886
	Apartment		2 158	3 139	4 120	5 101	2 748	3 997	5 246	6 495
	m^2		33,20	48,29	63,38	78,47	42,28	61,49	80,71	99,93
Average annual interest	House	EUR	5 179	5 022	4 944	4 897	6 595	6 395	6 295	6 235
	Apartment		216	209	206	204	275	266	262	260
	m^2		3,32	3,22	3,17	3,14	4,23	4,10	4,04	4,00
Average monthly interest	House	EUR	432	419	412	408	550	533	525	520
	Apartment		18	17	17	17	23	22	22	22
	m^2		0,28	0,27	0,26	0,26	0,35	0,34	0,34	0,33
Average annual payment	House	EUR	26 105	18 973	15 406	13 267	33 242	24 160	19 619	16 894
	Apartment		1 088	791	642	553	1 385	1 007	817	704
	m^2		16,73	12,16	9,88	8,50	21,31	15,49	12,58	10,83
Average monthly payment	House	EUR	2 175	1 581	1 284	1 106	2 770	2 013	1 635	1 408
	Apartment		91	66	53	46	115	84	68	59
	m^2		1,39	1,01	0,82	0,71	1,78	1,29	1,05	0,90

Savings of heat after reconstruction	House	GJ/year	424	424	424	424	424	424	424	424
	Apartment		18	18	18	18	18	18	18	18
	m^2		0,27	0,27	0,27	0,27	0,27	0,27	0,27	0,27
Annual savings of costs for heat	House	EUR	7 753	7 753	7 753	7 753	7 753	7 753	7 753	7 753
	Apartment		323	323	323	323	323	323	323	323
	m^2		4,97	4,97	4,97	4,97	4,97	4,97	4,97	4,97
Average monthly savings of costs for heat	House	EUR	646	646	646	646	646	646	646	646
	Apartment		27	27	27	27	27	27	27	27
	m^2		0,41	0,41	0,41	0,41	0,41	0,41	0,41	0,41
Annual production of maintenance fund before reconstruction	House	EUR	6 214	6 214	6 214	6 214	6 214	6 214	6 214	6 214
	Apartment		259	259	259	259	259	259	259	259
	m^2		3,98	3,98	3,98	3,98	3,98	3,98	3,98	3,98
Monthly production of maintenance fund before reconstruction	House	EUR	518	518	518	518	518	518	518	518
	Apartment		22	22	22	22	22	22	22	22
	m^2		0,33	0,33	0,33	0,33	0,33	0,33	0,33	0,33
Resources available for repayment (80% of maintenance fund + savings of heat)	House	EUR/year	12 724	12 724	12 724	12 724	12 724	12 724	12 724	12 724
	Apartment		530	530	530	530	530	530	530	530
	m^2		8,16	8,16	8,16	8,16	8,16	8,16	8,16	8,16
Resources available for repayment (80% of maintenance fund + savings of heat)	House	EUR/month	1 060	1 060	1 060	1 060	1 060	1 060	1 060	1 060
	Apartment		44	44	44	44	44	44	44	44
	m^2		0,68	0,68	0,68	0,68	0,68	0,68	0,68	0,68
Missing resources for repayment (need of increase of maintenance fund production)	House	EUR/year	13 381	6 249	2 683	543	20 519	11 436	6 895	4 171
	Apartment		558	260	112	23	855	477	287	174
	m^2		8,58	4,01	1,72	0,35	13,15	7,33	4,42	2,67
Missing resources for repayment (need of increase of maintenance fund production)	House	EUR/month	1 115	521	224	45	1 710	953	575	348
	Apartment		46	22	9	2	71	40	24	14
	m^2		0,71	0,33	0,14	0,03	1,10	0,61	0,37	0,22

Overall results

For the product variants B and C predictions of overall achievable results were elaborated for various scenarios of financing.

For the financial scenario 18M these predictions have been based on following assumptions:

- 25 years of providing the product
- Reinvesting of the repayable capital
- Reinvesting of 60% of interest earnings (40% interest earnings for the maintenance of the fund)

Results of the projections are illustrated in the following tables:

Table 22 Overall results of implementation of variants B and C within financial scenario 18M

Overall results of the product (Variant B) for the financial scenario (18M)					
Period of repayability	Years	10	15	20	25
Invested sources	euro	139 783 008	126 181 368	113 416 752	102 326 184
Number of supported projects	buildings	668	603	542	489
	apartments	16 032	14 472	13 008	11 736
	m2	1 042 080	940 680	845 520	762 840
Energy savings	GJ/year	283 149	255 597	229 740	207 275

Overall results of the product (Variant C) for the financial scenario (18M)					
Period of repayability	Years	10	15	20	25
Invested sources	euro	139 631 328	126 041 256	113 250 600	102 058 776
Number of supported projects	buildings	524	473	425	383
	apartments	12 576	11 352	10 200	9 192
	m2	817 440	737 880	663 000	597 480
Energy savings	GJ/year	222 111	200 493	180 147	162 344

For the financial scenario 36M (18M ERDF + 18M commercial banks) these predictions have been assumed on the following assumptions:

- 25 years of providing the product
- Reinvesting of the repayable capital
- Reinvesting of 60% of interest earnings from the ERDF sources (40% interest earnings of the ERDF for the maintenance fund)
- Interest earnings from the sources of commercial banks are an income of the commercial banks without a commitment of reinvesting within the product.

Results of the prediction are summarized in the following table:

Table 23 Overall results of implementation of variants B and C within financial scenario 36M

Overall results of the product (Variant B) for the financial scenario (36M)					
Period of repayability	years	10	15	20	25
Invested sources	euro	229 344 576	208 418 976	187 702 632	169 078 848
Number of supported projects	buildings	1 096	996	897	808
	apartments	26 304	23 904	21 528	19 392
	m2	1 709 760	1 553 760	1 399 320	1 260 480
Energy savings	GJ/year	464 567	422 180	380 216	342 491

Overall results of the product (Variant C) for the financial scenario (36M)					
Period of repayability	years	10	15	20	25
Invested sources	euro	229 165 920	208 114 632	187 596 288	168 943 248
Number of supported projects	buildings	860	781	704	634
	apartments	20 640	18 744	16 896	15 216
	m2	1 341 600	1 218 360	1 098 240	989 040
Energy savings	GJ/year	364 533	331 047	298 408	268 737

6.3. Typical projects in the public sector

Projects to be supported in the public sector should be in the first phase of the implementation primarily focused to reconstruction of public buildings (e.g. mainly buildings which are in ownership of public administration and self-administration).

Project identification

A typical applicant could be identified as a city with more than 10 000 inhabitants. For the purpose of identifying a typical project, we have performed a calculation based on average figures for public buildings.

Table 24 Average cubature of public buildings according to the purpose of use

Purpose of Use	Number of Buildings	Cubature of Buildings / m^3	Average Cubature / m^3
Schools	6 824	57 795 527	8 469
Trade and Services	181	771 383	4 262
Health Care	1 268	15 173 721	11 967
Culture	494	3 027 318	6 128
Administration	2 461	14 032 953	5 702
Accommodation	1 041	10 072 778	9 676
Sport	118	734 839	6 227
Other	2 784	11 892 755	4 272
TOTAL	15 171	113 501 274	7481 *
* weighted average			

Resulting from data in the previous table we set up on the cubature of an average building in the volume of 7 481 m3.

For such a volume the costs for a complex reconstruction correspond to the amount of 269 316 euro. (considering average unit costs on volume of 36 euro/m^3).

A typical project will include following measures:

- Reconstruction of roof
- Thermal insulation
- Exchange of doors and windows
- Thermostatization and adjustment of heating system
- Reconstruction of electrical installations
- Reconstruction of heat resource (RES based if appropriate)

An average heat savings rate after realization of the mentioned measures is approximately 40%. This figure for a typical building represents a saving of 593,57 GJ / annually. In financial terms it is representing a saving of 10 856 euro / annually, which implies a payback period of approximately 25 years.

However, these figures do not include electricity consumption savings, which could have a considerable contribution to shortening the payback period. As the electricity consumption depends mainly on the consumption of used appliances (which are not a part of the reconstruction), only informative ratio of the savings from lighting may be estimated. Regarding relevant experiences, it is possible to achieve 30% - 40% savings of electricity consumed for lighting by exchange of luminaries and light sources. Due to not existing separate measurement of electricity consumption for lighting and other devices, the exact values of saved electricity may be only roughly estimated, For the typical building this value may vary from 13 200 kWh/year up to 17 600 kWh/year. This represents a cost saving from 2 200 euro/year up to 2 900 euro/year. As result, the payback period may shorten to approximately 20 years.

6.4. Projects of integrated energy strategies

Integrated energy strategies (IES) represent an interrelated set of projects at the given level of administration (e.g. city, administrative districts) realized by various investors. The coordinator of these projects is a subject of local administration as these projects should have impact on all areas of activities of cities and municipalities.

Project examples

It is obviously difficult to identify "typical projects" for this area, because IES must respect local conditions and specificities.

For better understanding we introduce a couple of possible concepts of IES implementation.

Waste management – ecological transport

The objective of projects in this area could be the solution of problems connected with processing of biological decomposition of communal waste in connection to emission decrease from local / regional transport. The principle of combination of several projects is consisting in the utilization of the outputs of one of the projects, as inputs of another project. In this particular case, there could be a combination of following projects:

<u>Set-up of a centre for management /separation of waste</u>
- input: waste produced on the territory of a city
- output: waste utilized for energy production

<u>Set-up of a bio-gas station</u>
- input: waste energetically utilized
- output: bio-gas

Reconstruction of a carriage stock of an operator for the utilization of bio-gas

- input: bio-gas
- output: cheaper and more environment-friendly transport

The main investors will be in most of the cases private enterprises but the realization of such interlinked projects does require coordination from the side of the municipality.

Waste management – central heat supply

This example is similar to the previous one. The difference is in the utilization of bio-gas. The following combination of projects is suggested:

Set-up of a centre for management /separation of waste

- input: waste produced on the territory of a city
- output: waste energetically utilized

Set-up of bio-gas station and co-generating unit

- input: waste energetically utilized
- output: heat, electricity

Reconstruction of a central heat source, taking into consideration the delivery from the bio-gas station

- input: heat from the bio-gas station
- output: cheaper heat for citizens

The main investors will be in most cases private enterprises but the realization of such interlinked projects does require coordination from the side of the municipality.

Due to novelty and long project preparation of such proposed approach, no case studies from Slovakia can be identified at this stage. For illustration of the concept and its potential results, we present the following examples. These were realized in Sweden within the Initiative of the Swedish Government and Swedish Industry SymbioCity.

Augustenborg, Malmö
Sustainable makeover of an urban district

Augustenborg in Malmö is a prime example of how to give an urban district a successful sustainable makeover. This 1950s housing and industrial estate owes its upgrade to recurrent flood damage that convinced planners to create an eco-suburb based on efficient water systems.

Improved water management
Augustenborg is a water and energy planner's dream. An open surface rainwater runoff system, including canals, ponds and green roofs, has removed the threat of flooding. And housing renovation and improved insulation has cut energy consumption by 35%.

Multi-purpose green roofs
Augustenborg also boasts 9,000 m2 of grass-covered roofs – a figure few other places can match. Green roofs offer multiple advantages. They help to prevent flooding by curbing rainwater run-off and also clean the air, increase biodiversity and provide energy-saving insulation.

Multi-purpose solar energy
Solar power in Augustenborg ranges from flat-plate solar collectors that heat water to photovoltaic cells designed as sunshades for office buildings. Solar panels are expensive and it makes economic sense to use them for multiple purposes.
A new solar power technique is also on show in the shape of a hybrid panel combining power generation and heat supply - a technology developed by the Faculty of Engineering at Lund University.

Waste and recycling
Augustenborg recycles 65% of its household and school waste. The eco-suburb was an early starter in separating food waste and using it for compost. Today, the municipality collects food waste for use by energy utility E.ON to produce biogas.

Source: http://www.symbiocity.org/en/Cases/Test-case-1/

Borlänge municipality
An industrial centre going green

Founded on a long industrial tradition of steel and paper production, the municipality of Borlänge in central Sweden is turning over a green leaf. The city recycles 90% of its waste and boasts an innovative district heating system fuelled by renewable energy and waste heat.

Public-private partnership with a shared vision
Home to major manufacturers like steel producer SSAB and paper company Stora Enso, Borlänge is also the headquarters for the Swedish Road Administration and national railway agency Banverket. Local policymakers are avid sustainability advocates and have linked up with private business to introduce a raft of green initiatives.

How to benefit from a downtown steel mill
Together, the municipality and local business have designed an energy system that makes maximum use of waste heat. The main partners are energy company Borlänge Energi (which operates the municipality's district heating and waste management systems and supplies green electricity), SSAB Tunnplåt and Stora Enso Kvarnsveden. The trio share advanced systems for producing energy from waste heat and steam and for water and air purification.

District heating reduces carbon emissions
Recovering waste heat and using biofuel to power the district heating grid cuts CO_2 emissions by 115,000 tonnes (23,000 according to Swentec) compared to oil-fired alternatives. Municipal energy company Borlänge Energi operates the Bäckelund power station, which generates district heating from a combination of waste incineration and industrial waste heat.

Fågelmyra waste plant produces biogas and compost
The Fågelmyra waste management plant produces biogas and biocompost from waste and also separates incinerable waste for district heating production. The facility sorts all types of household refuse, as well as packaging, electronic and other waste arising under EU producer responsibility legislation. The plant also has a landfill area for residual waste and ash.

Biogas and compost plant
Fågelmyra also has a separate biogas and compost plant that can handle 9,000 tonnes of waste every year. It processes food and other compostable waste from private households, industrial kitchens and restaurants in the Falun and Borlänge municipalities.

The plant minimizes the amount of waste sent to landfill. It sells bio-compost for use in gardens and agriculture and biogas for heating, power generation and vehicle fuel. Borlänge Energi owns the Fågelmyra facility and operates it jointly with Falun municipality's traffic department.

Source: http://www.symbiocity.org/en/Cases/Borlange/

7. PILOT PROJECT / CASE STUDIES

This part of the Final Report is connected to the allocation of typical projects in the areas of the refurbishment of housing and the renovation of public buildings. The goal is to compare the parameters of the typical projects described above with real existing potential projects in the mentioned areas.

7.1. Housing sector

In the area of the refurbishment of housing stock we have identified as a potential pilot project a residential building with the following parameters:

Locality:	Bratislava
Age/Year of flat inspection:	25/1985
Building construction:	panel
Number of apartments:	48
Overall floor surface:	3298,96 m^2
Floor surface of the common utilities:	253 m^2
Annual heat consumption:	1423 GJ
Annual contributions to the of the maintenance fund:	2163 euro
Building management:	Association of apartment Owners

Certain partial measures have been already realized in the house:

- Exchange of windows in the apartments (provided for by the individual owners).
- Regulation of the heating and warm water distribution.
- Reconstruction of the roof.

Content of the project

At the present the owners do have interest in the realization of further measures which would contribute to the improvement of the technical condition of the building, as well as to a decrease of energy consumption. For this reason they have prepared a project which includes the realization of the following measures:

- Insulation of the periphery walls and balconies,
- Removal of systemic defects of balconies,
- Exchange of windows in the common utilities,
- Exchange of glass stuffing on each floor.

The overall costs for the realization of the project in the mentioned scope are within the project documentation estimated in the amount of 177 696 euro, e.g. 3 702 euro/apartment. The assumed length of the realization period is 16 weeks.

The most important economic effect of the proposed project would be the savings in energy consumption. The decrease is projected at about 448 GJ/year, which represents a 31,5% savings constant. In financial terms this saving represents an asset of 8 194 euro/year for the building as a whole (at the prices of 2010).

The comparison of the costs and of the financial amount saved shows that the pure backflow period of the investment is 21,7 years.

Project process – Case Study

For the realization of the proposed project it is of course necessary to secure the financing. According to the legislation in force, a signature of a loan agreement for a multi-apartment house requires the agreement of a two third majority of the owners. Such an agreement is mainly preceded by a market inquiry by the authorized representative of the association of apartment owners or the manager of the building house. The apartment owners in the relevant house then mainly approve the submission of the application for a concrete loan product with clearly defined conditions (amount, repayability, bank rate, form of guarantee).

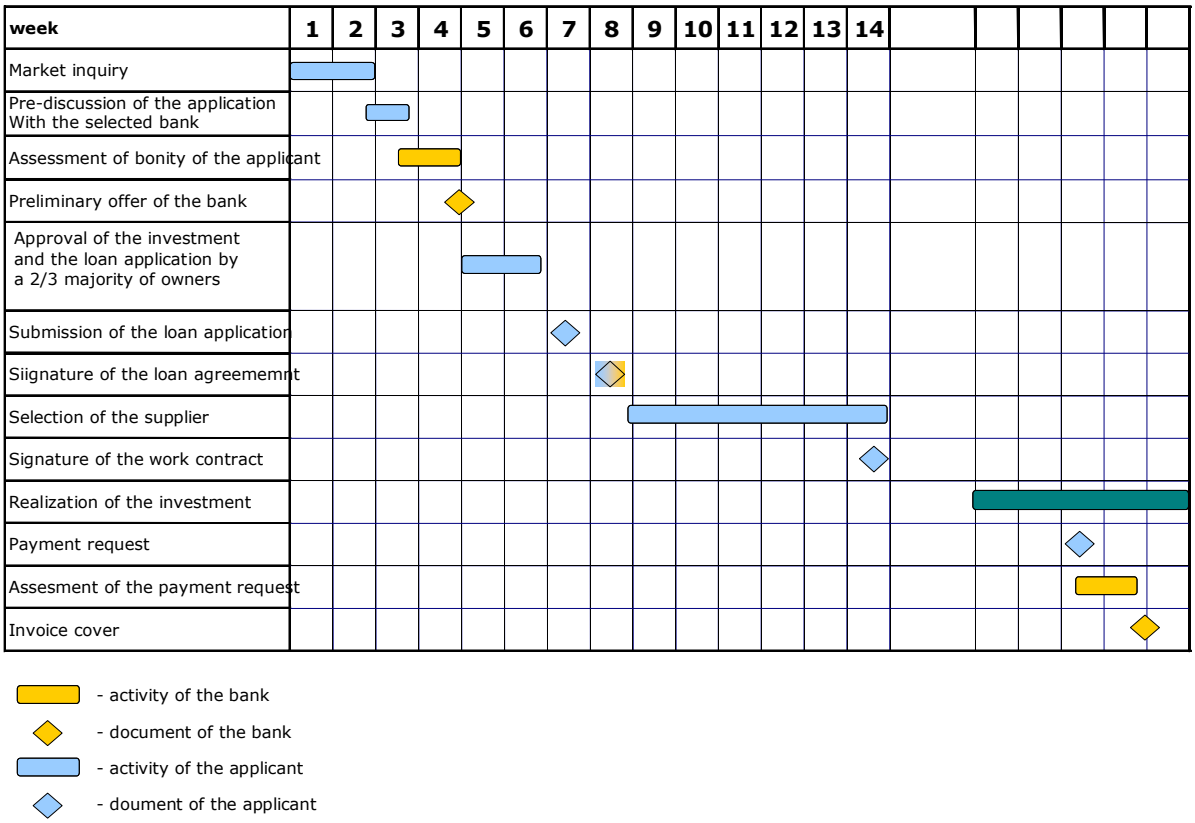
After the signature of the loan agreement the selection of the supplier of the construction work follows and a contract is signed for the construction works, with clearly defined conditions. As regards financing, mainly the conditions of the cover of invoices are important. Under this type of loans (specific investment loan) the invoices are usually distributed directly by the bank, based on the submitted documents.

Based on methods usual within the submission of loans of this type, it is possible to expect following formal requirements of the bank to the applicant:

- Administration of a common account in the financing bank,
- Sustainability of the owners structure,
- Sustainability of the contributions to the maintenance fund (as these contributions are required by law, financial discipline of flat owners is considered in first place),
- Description of the project;
- Approval of a two third majority of owners with the investment activity, the loan application and the guarantee to be provided (at the present usually an insurance pledge and the establishment of a standby right for the assets of the maintenance fund).

The whole process of the preparation of financing in the case of the identified pilot project could be illustrated through the following time schedule. This time schedule takes into consideration the actual state of the preparation of the project as well as the criterion of approval by the owners, based on which a relatively fast process of decision and approval could be assumed.

Time plan



The time chart shows that in the case of a pre-prepared project, the ensuring of financing is relatively quick. In general, the longest part of the whole process is the decision-making on the side of the association of apartment owners about the realization of the investment itself and a follow up market research and from this resulting selection of the bank. Other time consuming stage of the project preparation is a selection of contractor and preparation of the work contract for a signature. This results from the need of several activities (request for quotations, submission of quotations and assessment of them, negotiations with selected supplier on contact conditions) which will be not always fully under control of the Association of Apartment Owners.

In the case of the pilot project it could be expected that the signature

of the loan agreement would be realized within five weeks from the date of approaching the selected bank.

Based on economic characteristics of the investment activity proposed in the pilot project the Association of Apartment Owners seem to be ready to utilize the sources obtained through the energy saving consumption, as well as up to a certain level to increase the contributions in the maintenance fund in such a way that these sources together cover the payment for the loan. The owners currently prefer a loan with period of maturity longer than 15 years so that the repayment does not significantly affect their living standard.

For the purpose of repaying the loan, the resources saved on the consumed energy are offered in a form of contributions into the maintenance fund from the individual owners. The higher contributions into the fund would be compensated for the individual owners through decreased payments for the delivered energy.

For the pilot project financed through a loan product with the parameters mentioned in the previous part, we could consider the following increase of costs:

Maturity 10 years:	2346 euro/apartment for 10 years e.g. average 235 euro/year/apartment
Maturity 15 years:	1809 euro/apartment for 15 years e.g. average 121 euro/year/apartment
Maturity 20 years:	1280 euro/apartment for 18 years* e.g. average 71 euro/year/apartment * as of the 19th year the resources from energy savings are sufficient for the repayment
Maturity 25 years:	908 euro/apartment for 17 years* e.g. average 53 euro/year/apartment * as of the 18 year f the resources from energy savings are sufficient for the repayment

Through testing of the acceptance of the proposed product for the owners of the house as proprietors of a potential pilot project it was discovered that their preferences and economic situation are best suited by the variant with 15 years maturity period.

7.2. Public buildings

In the area of reconstruction of public buildings we have identified as a pilot project the reconstruction of the sports hall in the town of Malacky. This is a town in the Bratislava region, which as a whole has limited allocations of resources from the structural funds.

Characteristics of the applicant project

The city is located in the Western part of Slovakia and is situated within the center of the South part of the Záhorská lowland.

Malacky is an important economic, administrative and cultural center of the Dolné Záhorie. The area of the town Malacky as delineated by the land registry borders is 23,2 km2. The town had 18 165 inhabitants as of 31 December 2008.

As regards energy consumption of the sports facility, several factors have an impact, for example atmospheric conditions, level of population of the building, opening hours and their utilization within the day, the level of the technological equipment, etc.

The city is located in a warm climatic area, in a warm and gentle dry district with a gentle winter. The average annual temperature is over 9°C. The average January temperature does represent -1°C and July +20°C. The annual precipitation amount does represent 600 - 650 mm.

The highest share of energy consumption of urban facilities in Malacky is represented by buildings and heating consumption accounts for the largest part of energy consumption.

The sports hall was built in 1989 and came into operation in 1990. The building is located in the centre of Malacky. Since construction the sports hall did not undergo any important construction changes. The building is in the ownership of the city and its operator is a contributory city organization.

As the following table shows, the sports hall does represents the highest share in the consumption of natural gas used for the production of heat in public buildings in Malacky.

Table 25 Consumption of natural gas - buildings

Localization of consumption of natural gas	Purpose of consumption	Primary energy MWh/year	Share on the overall consumption of natural gas
City Center of Social Services	Cooking	307,685	8,67%
Svitanie	Heating	35,444	1,00%
Cinema	Heating	129,783	3,66%
Cultural House, wedding hall	Heating	53,079	1,50%
Municipal Office	Heating, warm water	977,642	27,54%
Sports hall	Heating, warm water	1 122,292	31,62%
Elementary school, Záhorácka	Cooking	8,817	0,25%
Elementary school, Štúrova	Cooking	13,557	0,38%
Elementary school, Dérera	Heating, warm water	290,466	8,18%
Kinder garden, Kolárova	Heating, warm water, cooking	328,090	9,24%
Kinder garden, Bernolákova	Warm water, cooking	52,486	1,48%
Kinder garden, Hviezdoslavova	Heating	187,296	5,28%
Kinder garden, Štúrova	Warm water, Cooking	42,618	1,20%
Overall consumption of natural gas		3 549,254	100,00%

Similarly, in terms of energy consumption, the sports hall consumes the highest amount of all public buildings:

Table 26 Share of division of electrical energy according to the consumption locality

Consumption of electric energy	Primary energy	Share
	MWh/year	%
Buildings	2 355 460	50,50
Sports hall	779 910	16,72%
Elementary schools	363 198	7,79%
Kinder gardens	183 812	3,94%
Cultural facilities	133 563	2,86%
Municipal Office	614 656	13,18%
Social and other facilities	280 321	6,01%
Public lighting	2 308 943	49,50%
Electric energy TOTAL	4 664,403	100%

Content and contributions of the project

Taking into consideration the above facts, the city of Malacky elaborated an energy audit of the sports hall with the objective to identify possible measures for lowering the costs related to the consumption of energy in this building.

Several measures have been proposed, as summarized in following table:

Table 27 Investment costs of proposed measures

Measure	Price in euro with VAT
Building constructions (thermo-plaster, exchange of windows, exchange of glassed walls)	252 607
Reconstruction of the heating system	93 953
Reconstruction of the system of preparation of warm water	25 636
Reconstruction of the air engineering	27 187
Lighting	21 639
TOTAL	421 022

Through the proposed measures, the following energy savings (in terms of natural gas and electricity) could be achieved:

Table 28 Results of the proposed measures

Measure	Energy savings	Savings EE	Costs savings
	GJ/year	kWh/year	EURO/year
Building constructions (thermo-plaster, exchange of windows, exchange of glassed walls)	702	0	7 402
Reconstruction of the heating system	822	0	8 668
Reconstruction of the system of preparation of warm water	128	0	1 348
Reconstruction of the air engineering	507	66	5 427
Lightning	0	11 519	1 847
TOTAL	2 158	11 585	24 692

The mentioned savings represent annually 24 692 euro, which considering the investment cost of 421 022 euro implies a simple backflow period of 17 years.

Besides the economic benefits the realization of the pilot project would also have significant environmental contributions. The decrease of the consumption of natural gas and electricity would lead to a decrease of emissions CO2 in more than 150 tons annually.

Project financing

Within the financing of a pilot project through the proposed loan product, we do not assume any cardinal problems. The city of Malacky as a subject of public administration represents for the banks a client with good financial standing and typically would not have a problem with the acquiring of loan financing.

A very positive financial aspect of the project is the fact that the main part of the loan repayments (principal and interest) is possible to be financed from the amount saved on energy, with a minimum negative impact on the budget of the city:

As regards the concept of an assignment of the loan, the loan could be offered on the same terms as a commercial investment loan or on preferential conditions.

8. ROADMAP OF THE IMPLEMENTATION OF THE ACTION PLAN OF JESSICA IN THE SLOVAK REPUBLIC

Action plan of implementation

In the following chapter of the Final Report, we would like to propose individual steps which we consider necessary for successful implementation of the financial instrument JESSICA in the Slovak Republic. Together with these steps we are proposing an Action Plan for the individual actions necessary for a successful implementation of the financial instrument. We try to define the individual steps as precisely as possible, including the key players responsible for the individual actions. The main activities could be divided into two areas:

Action Plan of JESSICA implementation	
Activities which need to be realized before the establishment of the implementation structure	Activities which need to be realized after the establishment of the implementation structure.

Activities which need to be realized before the establishment of the implementation structure:

Among the main activities geared towards a future set up of a transparent and effective implementation structure of the financial instrument JESSICA we propose:

- Decision about changes within the operational programs most likely to provide contributions into JESSICA funds (ROP and OPBR), which would also lead to a project orientation of Integrated Strategies of Development of Urban Areas in such a way that within refurbishment of housing, also projects which do not fulfill the at present rigid conditions of the OP would become eligible. A decision about changes within other possible OPs.
- Decision about changes in the OP ROP and OPBR, in such a way that the indicative financial allocations are clearly defined and obligatorily assigned in favor of the financial instrument JESSICA. Decision about an allocation of additional financial sources from other sources (state budget, sale of emissions, other operational programs, etc.)

- Elaboration of an implementation model in accordance with structural funds rules, covering mainly the evaluation and control competences of managing authorities.
- Decision of the managing authorities on the implementation model and on a transfer of financial allocations for utilization within the financial instrument JESSICA.
- Process of selection of the UDF or HF manager (depending on the implementation Option chosen).
- Negotiation and signature of the funding agreement with the UDF/HF manager, including the investment strategy and a description of the rules on the assessment and control of projects and fulfillment of the output indicators.
- Establishment of the SPV between EIB and a national institution, if needed.

Activities which need to be realized after the establishment of the implementation structure:

- Transfer of OP resources to the HF or UDF (depending on the implementation Option chosen).
- Commencing the activity of the HF or UDF, including first investment committee meetings.
- Dissemination of information on the focus of the financial instrument JESSICA among the public, potential recipients of financing and potential UDF managers (if relevant).
- Preparation of financial products, acceptance of first project applications.

Comments and explanations on the proposed activities

Decision about changes within the operational programs most likely to provide contributions into JESSICA funds (ROP and OPBR), broadening the range of possible housing refurbishment projects. Decision about changes within other possible OPs.

In the actual set up of guidelines in the OP ROP and the OPBR, which would be the most likely contributors of resources for investment through the financial instrument JESSICA, the possible utilization of financial tools is rigidly restricted to complex refurbishment of residential buildings through the Measure "Integrated Strategies of the Development of Urban Areas", where the realization of construction interventions is subject to conditions including an elaboration of an integrated strategy, selection of targeted urban areas (fulfilling further conditions concerning the number of inhabitants) and realization of other measures under the relevant Operational Programs in the same urban area. The application of these rules in their present form would mean that the scope for possible application of JESSICA would be restricted to a limited number of residential buildings, meaning a significant restriction on the potential demand

and on the potential take-up of resources. Thanks to this Evaluation study, the representatives of the managing authorities have been informed about possible changes and they have expressed favorable attitudes towards introducing such changes in the future in order to facilitate the implementation of the financial instrument JESSICA.

Based on the present knowledge, it appears that only two Operational Programs (ROP and OPBR) are ready to make financial allocations into funds established as part of the JESSICA mechanism. However, these funds could be utilized only for the support of the segment of the refurbishment of housing. Without additional financial contributions from these or other OPs, other possible segments of urban investment covered in this study – refurbishment of public buildings, integrated energy strategies, etc. – could not be supported. Based on political will and a decision to support a broader range of investments in sustainable urban development, it would be necessary to incorporate appropriate changes into relevant Operational Programs, e.g. into the OP CEG in the case of a decision to finance projects for revitalization of brownfields.

Decision about changes in the OP ROP and OPBR, in such a way that the indicative financial allocations are clearly defined and obligatorily assigned in favor of the financial instrument JESSICA. Decision about an allocation of additional financial sources from other sources (state budget, sale of emissions, other operational programs, etc.)
Within the Operational Programs there is no fixed allocation which would be available in favor of the financial instrument JESSICA. It is generally assumed that within the ROP and the OPBR the support would be offered in favor of refurbishment of housing. But, there are no specific amounts for this purpose as well as no rules for their calculation. As these numbers are important for any modeling of a possible implementation structures, it would be useful that they are mentioned in the relevant Operational Programs.

Additional sources of financing could be also utilized in favor of an increase of resources for the refurbishment of housing or for additional urban development investments through the financial instrument JESSICA. As mentioned above, however, without clarified financial allocations, without knowing the origin of finances and without knowing the conditions of the provider of financial sources, it is difficult to propose and simulate any investment strategy for other areas besides refurbishment of housing. For example, if resources for JESSICA come from carbon emissions sales, this means that the resources be invested in certain specific types of projects (aiming at the highest possible CO2 savings) which may be different from those that can be supported with resources of the state budget or other Operational Programmes. In a case of a decision to activate JESSICA in the SR, it would be necessary at this stage to determine the

exact amount and source of the allocations as this has significant impact on the preparation of investment strategies for different target areas. During the preparatory process of the Final Report, only allocations from the ROP and OPBR were preliminarily confirmed.

Elaboration of an implementation model in accordance with structural funds rules, covering mainly the evaluation and control competences of managing authorities.

The individual OPs include main rules for the selection and assessment of the supported projects. During this step it would be suitable to adjust the concept of the selection of the most probable types of projects – projects in field of housing refurbishment (according to the concept of the selection process of the SHDF, or commercial banks), so these procedures can be accepted by the managing authorities. Otherwise it could happen that after the signature of the funding agreement from the side of the MA, some regulations would be incorporated, which could complicate the functioning of the whole structure. Based on discussions with the present beneficiaries of non-repayable financial support, the present regulations within the OP's are complicated and administratively demanding. For example, it is very difficult to implement changes in the projects after their approval, even if the changes could not be anticipated in advance but the need for them becomes clear only when the realization of individual construction operations is to be starting. The actual procedures of functioning of repayable financial instruments provided by JESSICA funds must be simple, effective, and comprehensible. The reason is that they should be equally attractive at the market as similar tools offered by commercial banks and they should not burden potential clients with a package of bureaucratic requirements.

Decision of the managing authorities on the implementation model and on a transfer of financial allocations for utilization within the financial instrument JESSICA.

One of the crucial steps needed for starting the process of practical preparation of the implementation of the JESSICA instrument. The decision would be related to the MA of the ROP and the OPBR or other managing authorities if they would be also contributing to JESSICA funds.

In the case of a later accession of whatever other Operational Program to the financial instrument JESSICA (i.e. allocation of some resources into JESSICA funds), the conditions of such a transfer would have to be negotiated and potentially necessary changes to the respective OP would need to be considered, including the question whether EC approval is necessary.

In case a Holding Fund is established, the transfer of additional funds for JESSICA can be expected to be easier than in the scenario where managing authorities enter into agreements with UDFs directly.

The choice of the implementation option will determine the exact further steps. In general, the pre-implementation steps will further include:

- Process of selection of the UDF or HF manager by the managing authorities.
- Negotiation and signature of the funding agreement with the UDF/HF manager, including the investment strategy and a description of the rules on the assessment and control of projects and fulfillment of the output indicators.
- Establishment of the SPV between EIB and a national institution, (if Option 4 is selected).

Activities which need to be realized after the establishment of the implementation structure

Once the agreements related to the creation of first JESSICA funds have been signed, the implementation phase starts, consisting of the following main steps:

Transfer of OP resources to the HF or UDF (depending on the implementation Option chosen).
Following the transfer of resources to the HF or UDF, the managing authorities can prepare a request to the EC for an interim payment from ERDF. Managing Authorities should closely cooperate with the Ministry of Finance in this respect.

Commencing the activity of the HF or UDF, including first investment committee meetings.
In case of the HF, the first meeting of the investment committee would focus mainly on building upon the investment strategy and fixing the key parameters of the process of UDF selection (as the main product of the HF is the investment into UDFs). Specification
Similarly, in case of the UDF, the first investment committee meeting would focus mainly on defining with greater precision the financial products to be offered by the UDF. This would be based on the contractually established investment strategy of the UDF.

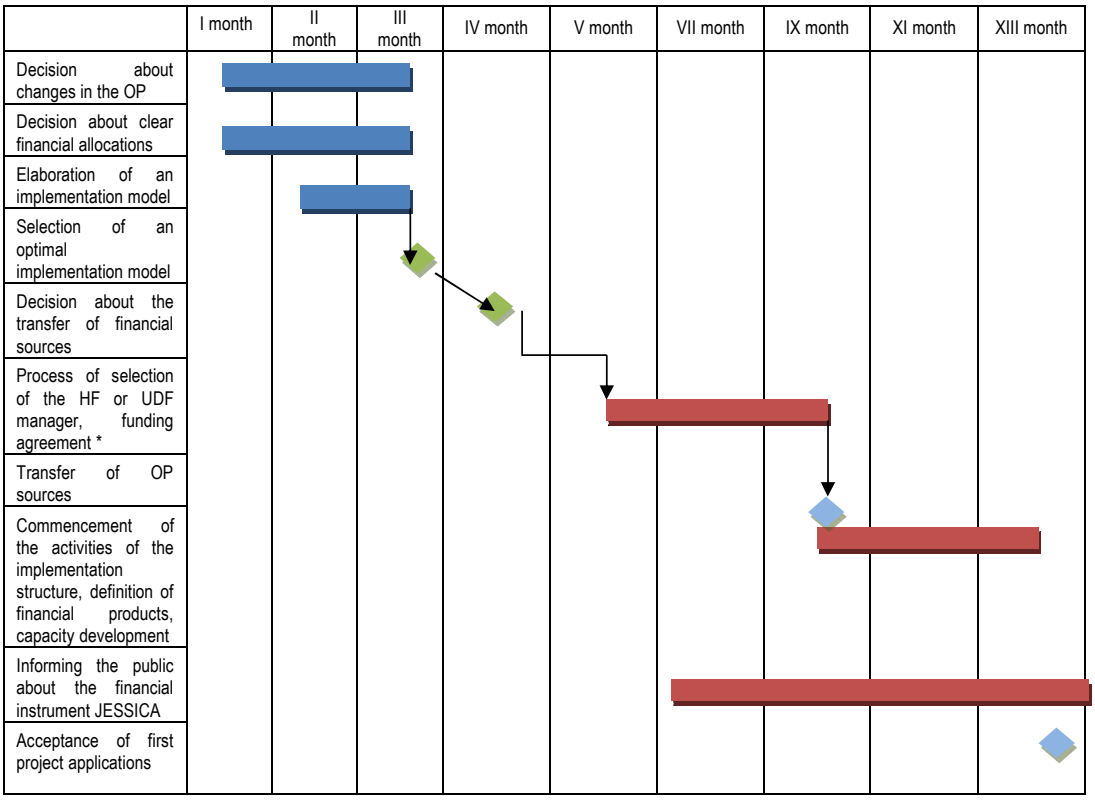
Dissemination of information on the focus of the financial instrument JESSICA among the public, potential recipients of financing and potential UDF managers (if relevant).
Ensuring publicity of the JESSICA instrument and consistent information of potential beneficiaries and implementation partners about the conditions and investment strategies of JESSICA funds would be very impor-

tant. Whereas the SR at present does have an instrument enabling to support refurbishment of the housing stock from the state resources, and specialized products are also offered by the commercial banks, it will be important to consistently make clear in what aspects the conditions of financing from the financial instrument JESSICA are different so that JESSICA products are not lost among the existing products.

Preparation of financial products, acceptance of first project applications
The necessary documentation relating to the financial products of the HF/UDF would be prepared. Subsequently, first clients could submit their applications for financing for the realization of their project objectives.

Time schedule

Below we illustrate the possible sequence of realization of the described activities, including possible inter-linkages. As the implementation of the financial instrument JESSICA is a complex process, a strong political mandate is important. Thus a general start of the process could be expected after the set up of the next Government in July 2010.



** The process of selection of a fund manager may take longer than envisaged here, especially in cases where a UDF is being established directly by the Managing Authorities and it is necessary to apply public procurement law or to agree a legal basis for a direct assignment of this role. It is expected that a Holding Fund with EIB as a manager could be established within a relatively short timeframe.*

9. CONCLUSION AND RECOMENDATIONS

1. The most likely sources of financing for the innovative instrument JESSICA in the programming period 2010 – 2013 seem to be the ROP and OPBR. A potential allocation of 18 000 000 euro can be expected from these OPs together. As this allocation is rather low for the starting up of a strategic instrument sustainable in the long term, we recommend to further examine the following possibilities:

    - Reallocation from other Operational programs - OP Environment and the OP Competitiveness and Economic Growth in the period of 2010 – 2013.
    - The transfer of financial resources from the emissions sold by the SR and/or from the expected revenues from emissions authorizations which the SR does have for sale at the moment or those to be traded within the SR as of 2012. An optimal solution would be, if the so called "Green Schemes" would count with the inclusion of the financial instrument JESSICA as the focus of both schemes on energy efficiency investments is in practice identical.
    - Utilize in the programming of the operational programs the possibility of investment of ERDF resources into the refurbishment of the housing stock (under the recently opened 4% window in Article 7 of Regulation 1080/2006). Furthermore, if possible, try to utilize through JESSICA also the ERDF amounts for housing expenditure which are already envisaged by the ROP and OPBR in their current version (76 million) and are to be used for interventions in housing within an integrated urban development approach. That way the support of the refurbishment of the housing stock could progress through the financial instrument JESSICA and not through the administration of non-recurring financial contributions. We recommend grant financing only for buildings where the need for supporting social inclusion is large and where commercial financing is not viable.
    - Closer cooperation with the commercial banks on the activation of the financial instrument JESSICA and on a long-term adjustment of the financial instrument in such a way that an optimal leverage effect would be achieved. The commercial banks represent important players on the market and it would be appropriate if JESSICA would be reflecting also the requirements and market trends so that JESSICA funds make invest-

ments into segments which do contribute to urban development will remain underfinanced without the support from the side of the public sector.

2. For the implementation of the financial instrument JESSICA we recommend to utilize one of the options involving a Holding Fund (Options 3 or 4) as this enables potential inclusion of institutional investors (leverage effect), transfer of know-how and support to a broader range of urban development investments. Establishment of a HF is also strategic from the point of view of long-term sustainability of the JESSICA in Slovakia, the full development of which we assume mainly with the arrival of the new programming period 2014 – 2020. At the present it would be most important to test the readiness of the SR to create a proper implementation structure and to commence first housing stock refurbishment projects financed on a repayable basis. Achieving these two goals would mean accomplishing an important innovation and providing a basis for a broader utilization of JESSICA in the future.

   The only scenario where we consider that a direct creation of a UDF by the managing authorities is worth contemplating is where the operational program resources available for JESSICA would be clearly limited to the 18 mill euro pre-assigned for housing refurbishment and where the decision would be taken to utilize these resources directly through the SHDF serving as a UDF. However, in that case we would recommend that the Ministry of Finance be involved the preparation of a funding agreement between the managing authorities and the UDF so that financial engineering know-how is preserved at the level of the Ministry of Finance and can be applied in the future. The Ministry of Finance will play an important role also from the point of view of its capacity as the Certification Authority. We would also recommend under this scenario that EIB be asked for providing technical assistance during the process of preparing the agreement between the managing authorities and the UDF (SHDF).

3. The most important players in the process of the implementation of JESSICA are the following:

   Managing authorities – National institutions responsible for the implementation of the operational programs of structural funds. The most important institution from this point of view would be the Ministry of Construction and Regional Development and its institutional successors after the re-structuring of the government as anticipated in July 2010. The managing authorities are the entities to decide on

whether JESSICA should be implemented and through what implementation structure. The managing authorities would also appoint the investment committee (investment board) of the HF or UDF with which they enter into a funding agreement. An important responsibility of the managing authorities may be also to amend the operational programs in such a way that would allow for effective utilization of the JESSICA instrument, e.g. through expanding the range of possible projects. Subsequently, the managing authorities would be responsible for the transfer of the OP financial contributions into the HF or UDF created. In this processes we recommend close cooperation of the managing authorities with the **Ministry of Finance**, which already has experience with the creation of innovative financial instruments (JEREMIE); this cooperation would be important also with respect to the selection of the optimal implementation structure. In case a Holding Fund is utilized, we recommend the involvement of **EIB** as the manager of this HF, in line with Implementation Options 3 and 4 analyzed above.

Financial intermediaries – national institutions such as the SHDF and SGDB and commercial banks. In case of orientating the financial instrument JESSICA towards refurbishment of the housing stock, we recommend a close cooperation with the SHDF as this national institution has long-term experience with investments this area as well as sufficient technical knowledge. We do see certain gaps within the capacities of the SHDF to manage financial resources from the operational programs of structural funds as the SHDF has not yet implemented any project with these funds. For minimizing this threat it would be useful to consider the possibilities of a technical assistance for the SHDF, for instance also through the EIB, in case the UDF is established directly within SHDF. For the allocation of 18 million pre-assigned for housing refurbishment the SHDF would be an ideal financial intermediary (UDF) and its ability to react dynamically he proved also within the implementation of the project Governmental Insulation Program. Commercial banks also represent important potential players and partners in a JESSICA implementation structure. Based on our consultations we came to the conclusion that the commercial banks in the SR generally do have interest in being involved in the implementation of the JESSICA financial instrument for financing urban development, but in case of the allocation being restricted to housing refurbishment, their interest would be low. The reason is the strong competition in this segment and also the fact that all commercial banks are already offering similar financial products. The financial instrument JESSICA should be, in the opinion of commercial banks, designed to present a clear competitive advantage in comparison with other products, for instance SLOVSEFF. If in the case

of JESSICA it was not possible to expect a combination of loans with subsidies or with other incentive benefits, also the banks' interest in cooperation on the implementation of JESSICA would be lower. The commercial banks defined during the consultations other perspective areas of application of JESSICA for investments in urban development, for instance provision of guarantees for companies owned by cities, refurbishment of the vehicles of city transport enterprises, refurbishment of energy infrastructure as well as refurbishment of public buildings.

Final beneficiaries – if support through JESSICA is focused on refurbishment of the housing stock, the final beneficiaries would be mostly the apartment owners, represented by an appropriate legal form (Association of apartment owners, representation through an administration association etc.) If a broader scope of investments is preferred (and resources are available), beneficiaries could include also municipalities, municipal companies and other entities.

4. As concerns the thematic area of investment, we recommend to examine the possibilities of realizing investments through the JESSICA mechanism also in other areas than refurbishment of the housing stock. The latter represents an important contribution to urban development, however it is not the sole area of urban development, which need attention and a higher level of investments. We recommend close cooperation with commercial banks on the formulation of a final investment strategy for JESSICA in Slovakia and the definition of areas of future investments. The characteristics of the investment strategy should be such that JESSICA investments would be „opening of doors" of new prospective investment areas rather than adding a "drop to an ocean" of similar financial products.

5. Also thanks to this study, all relevant institutions have a broadly positive attitude towards the JESSICA instrument and are aware of the necessity to prove the capability of the SR to utilize structural funds through repayable forms of financing, so that the SR would be in the future responsibly prepared for possible changes in the rules for investing EU structural funds, mainly in the new EU programming period 2014-2020. We recommend that the Slovak Government encourages the individual managing authorities to a higher activity in respect of introduction of innovative financial instruments within the process of implementation of operational programs. Further effort is required to overcome the initial lack of understanding of JESSICA on the parts of institutions confronted with the concept of financial engineering for the first time. As we have experienced during the preparations of this study, it is still difficult to get constructive proposals

from various managing authorities concerning the possible adaptations of their OPs to facilitate implementation of the financial engineering instrument JESSICA.

6. Our most important recommendation is to accelerate the work on the implementation of the financial instrument JESSICA with the allocations, which are at the present available, to decide on the optimal implementation structure and to continuously examine the possibilities for additional allocations into JESSICA funds, so that greater volume of operational program resources can be used in a revolving way.

Finally, the consultants would like to express their gratitude to all who contributed to the process of elaboration of this study and to bringing the idea of JESSICA implementation closer to reality. Especially, we would like to acknowledge the active support of the State Secretary Mr. Daniel Ács and representatives of the Housing Policy and Urban Development Department of the Ministry of Construction and Regional Development, as thanks to their involvement and support we obtained a lot of relevant information and contacts without which the finalization of the study would be more difficult.