European Investment Bank
The EU bank

Using Financial Instruments in the Slovak Republic in the 2014-2020 Programming Period

A study in support of the Ex-ante Assessment

Volume I

December 2014

Final Report

Disclaimer

Any disclosure of this report to a third party is subject to this disclaimer. This report has been drafted by PwC at the instruction and under the supervision of the European Investment Bank (EIB) for use by the EIB and by the Ministry of Finance of the Slovak Republic. The contents and layout of this report are subject to copyright owned by the Ministry of Finance of the Slovak Republic save to the extent that copyright has been legally licensed to the EIB or is used by the EIB and by PwC under licence. Any views expressed herein reflect the current views of the author(s), and may not in any circumstance be regarded as stating an official position of the EIB or the Ministry of Finance of the Slovak Republic. Opinions expressed herein may differ from views set out in other documents, including other research published by EIB or the Ministry of Finance of the Slovak Republic. The content of the report is based on market conditions prevailing , and on data and information obtained by the author(s) from various external sources and assumed to be accurate, correct and reliable, at the date of publication / submission, therefore changes affecting such matters after the time of submission may impact upon the content. Nothing in this report constitutes investment, legal, or tax advice to the Ministry of Finance of the Slovak Republic (or to any other person), nor shall be relied upon as such advice. Specific professional advice should always be sought separately before taking any action based on this report. The EIB cannot be held responsible for any loss or damage howsoever arising from the use of this report or of the information contained herein by any person other than EIB.

Contents

List of acronyms

APOH	Professional association harmonising waste management in the Slovak Republic (Asociácia podnikateľov v odpadovom hospodárstve)
CCB	Central Coordination Body
CEB	Council of Europe Development Bank
CEE	Central and Eastern Europe
CEF	Connecting Europe Facility
CF	Cohesion Fund
CNG, LNG	Compressed Natural Gas, Liquid Natural Gas
CP	Cohesion Policy
CPR	Common Provisions Regulation
CSF	Common Strategic Framework
EAC(s)	Ex-Ante Conditionality (Conditionalities)
EAFRD	European Agricultural Fund for Rural Development
EBRD	European Bank for Reconstruction and Development
EC	European Commission
ECOC	European Capital of Culture
ECB	European Central Bank
EE	Energy Efficiency
EIB	European Investment Bank
EIF	European Investment Fund
EMFF	European Maritime and Fisheries Fund
EP	European Parliament
EPA	Effective Public Administration
EPC	Energy Performance Contracting
ERDF	European Regional Development Fund
ESCO(s)	Energy Service Companies
ESF	European Social Fund
ESIF(s), ESI Fund(s)	European Structural and Investment Fund(s)
EU	European Union
FDI(s)	Foreign Direct Investment

FEI(s)	Financial Engineering Instrument(s)
FI(s)	Financial Instrument(s), formerly called FEI(s)
FoF	Fund of Funds
GDP	Gross Domestic Product
GGF	Green for Growth Fund
HICP	Harmonised Index of Consumer Prices
HF	Holding Fund
ICT	Information and Communication Technologies
IFIs	International Financial Institutions
IP(s)	Investment Priority (Priorities)
IROP	Integrated Regional Operational Programme
IT	Information Technologies
JEREMIE	Joint European Resources for Micro to Medium Enterprises
JESSICA	Joint European Support For Sustainable Investment in City Areas
KPI	Key Performance Indicators
LGF	London Green Fund
LT	Long-term
MA	Managing Authority(ies)
MDVRR	Ministry of Transport, Construction and Regional Development
MESRS	Ministry of Education, Science, Research and Sport
MoC	Ministry of Culture
MoE	Ministry of Environment
MoF	Ministry of Finance
MS	Member State(s) of the European Union
MunSEFF	Municipal Finance Facility – Energy Efficiency
NADSME	National Agency for Development of Small and Medium Enterprises
NUTS	Nomenclature of Territorial Units for Statistics
OECD	Organisation for Economic Co-operation and Development
OP(s)	Operational Programme(s)
OP BR	Operational Programme Bratislava Region
OP CEG	Operational Programme Competitiveness and Economic Growth
OP HR	Operational Programme Human Resources

OP II	Operational Programme Integrated Infrastructure
OP QE	Operational Programme Quality of the Environment
OP R&I	Operational Programme Research & Innovation
OP T	Operational Programme Transport
OP TA	Operational Programme Technical Assistance
PA	Partnership Agreement Priority Axis
PPP	Public Private Partnership Purchasing Power Parity
R&D (R&I)	Research and Development (Research and Innovation)
RES	Renewable energy sources
RONI	Regulator of Network Industries
ROP	Regional OP
S3	Smart Specialisation Strategy
SBA	Slovak Business Agency, Small Business Act
SF(s)	Structural Funds of the European Union (ERDF and ESF) Specific Funds
SFRB	State Housing Development Fund (Štátný fond rozvoja bydlení)
SICAF	Société d'Investissement à Capital Fixe
SIEA	Slovak Innovation and Energy Agency
SIF	Specialised Investment Fund
SIH	Slovak Investment Holding
SLOVSEFF	Slovak Energy Efficiency and Renewable Energy Finance Facility
SME(s)	Small and medium-sized enterprise(s) as per European Commission Recommendation 2003/361
SP	Stability Programme
SPP	Slovak Gas Enterprise (Slovenský plynárenský priemysel)
SPV	Special Purpose Vehicle
ST	Short-term
SZRB (AM)	Slovak Guarantee and Development Bank (Asset Management) (Slovenská záručná a rozvojová banka Asset Management, a.s.)
TAC	Technical Assistance Committee

TO	Thematic Objective(s)
UDF(s)	Urban Development Fund(s)
VAT	Value Added Tax
VC	Venture Capital
VUC	Self-governing regions of Slovakia (Vyšší územný celok)
WFD	Water Framework Directive

List of Tables

List of Figures

Executive Summary

The purpose of this study is to investigate the need for, and the possible implementation of financial instruments (FIs) in support of the public investment priorities in the Slovak Republic during the 2014-2020 Programming Period. This was undertaken in two parts: Volume I covering public investment areas that may be compatible with FIs, including energy production, transport infrastructure, energy efficiency, waste and water management, brownfield regeneration and urban development; and Volume II covering only the small and medium sized enterprises (SMEs) sector in the study called Access to Financial Market Assessment (AFMA).

The process is comprised of a thorough analysis of current market conditions in Slovakia to identify financing gaps that can be bridged using FIs as well as the lessons learnt from other instruments previously or currently operating in the market. The results of this analysis were used to shape a proposed investment strategy, including what kinds of interventions are best suited to the investment areas studied, how financial instruments can add value by e.g. leveraging outside financial resources, and what kind of organisational structure is best suited to the needs of the managing authorities (MAs), potential investors, and the investment needs of the country.

The results of the first half of the study indicate that there are market failures or suboptimal investment situations resulting in each of the areas investigated, which FIs could be used to address.

Energy Production

Slovakia has a highly energy-intensive economy due to its inefficient infrastructure, strong manufacturing presence and growing road transport industry. It is also in the untenable position of relying on imports to facilitate some 90% of all energy production. As a result, there is pressure from businesses, consumers, the Slovak public sector and the EU to significantly expand energy production using renewable energy sources (RES). Achieving the Slovak government's energy production goals will require investment of more than EUR 250 million by 2020, primarily to be used to fund small RES facilities for local energy production and consumption.

Through consultation with public and private stakeholders, the study identifies 19 RES projects worth EUR 297 million.

Renewable energy production projects face a number of obstacles in obtaining financing, including the unpriced externalities of competing technologies, an unstable regulatory environment, lack of experience on both the project and financial sides, and general lack of available funds. FIs add value to these markets by lowering the cost of raising capital by taking on some of the risk associated with these projects, leveraging additional resources, subsidising and building capacity through Technical Assistance and proof of concept, as well as stimulating the project pipeline via the catalyst effect. The success of this approach will depend on it being paired with regulatory reforms that create stability and predictability for stakeholders.

Financing should take the form of soft-loans for the development and preparation of projects; and by providing equity or quasi-equity investments, for the construction or expansion of new facilities. This could be combined with subsidies for the Technical Assistance and pre-development phase of the project. Assuming a co-investment rate of 2:1, the recommended envelope for energy

production is roughly EUR 100 million taken from OP QE Priority Axis 4.

Infrastructure

The current condition of the highway, freeway, and rail infrastructure in the Slovak Republic is substandard compared to the EU average. European cohesion, and particularly the development of the Trans-European Transport Networks (TEN-T) project, will require the country to invest as much as EUR 10 billion over the 2014-2020 Programming Period. An indicative list of 72 road, rail and water infrastructure projects was provided by the Ministry of Transport, augmented by one identified by the private sector. This project pipeline exceeds the available budget by a ratio of 3.5:1, meaning that the traditional grants-only funding would leave the vast majority of projects unfunded. Debt financing is also an option, but high upfront costs and long project lifecycles can make commercial lending both costly and difficult to obtain.

Slovakia's experience with public-private partnerships (PPPs) on the R1 motorway project can be a case study. The PPP projects are typically able to leverage considerable outside financing for public infrastructure projects. FIs can help to augment that process by coordinating investment strategies, connecting international investors, and taking on some of the risk during the construction phase via guarantees or junior equity. As such, FIs add value by bolstering the potential leverage effect of a project with relatively short turnover period for the funds involved.

Acknowledging that some projects, particularly those with high costs (EUR 400+ million) and complexity may not be appropriate for the PPP model, a national contribution of EUR 500 million, or less than 50% of the relevant OP II budget (Priority Axes 1, 2, 4, 5, and 6) should be considered. Given the limited interest in traditional transportation projects, a co-investment rate of 1:2 is a realistic estimate.

Waste Management

Average municipal waste production levels are low and stable, but current waste processing practices are distorted by a set of misaligned incentives. A lack of collection and separation infrastructure, inadequate landfilling fees, low public awareness and poor enforcement regarding illegal dumpsites and trash burning mean that less than 5% of generated waste is reclaimed or recycled. Given the revenue generation potential of waste management facilities, private sector interest in both leading and financing such projects is growing, but intervention is needed to bring Slovak waste management practices in line with EU norms.

The paucity of funding for these projects in recent years means that the current project pipeline is relatively shallow. The project list for waste management is approximately EUR 11 million for six municipal projects and EUR 53 million for six private projects plus two projects without an estimated cost.

Injections of equity capital into private and independent utility led projects, and loans and guarantees for municipality lead projects are the best solution to cover the high cost of capital and concentrated risk of construction. And by acting as a proof of concept in a market where such projects are currently rare, the use of FIs can trigger a catalyst effect attracting potential promoters even as the revolving nature of funds ensures that financing for the best developed projects

becomes available.

Assuming an absorption rate below 50% and a co-investment rate below 1:1 for preferential loans to municipalities, a contribution envelope of EUR 25 million is proposed to be made from OP QE Priority Axes 1 and 2.

Water Management

Water management issues largely reflect those present in the waste management sector: the revenue generation potential makes water treatment and infrastructure projects both bankable and interesting to commercial investors and promoters. However, it is important to note that water and sewer project viability depends on fees and charges set by the Regulatory Office for Network Industries, and may have to be revaluated if they are to be used to support construction of facilities.

The project pipeline consists of 4 private sector projects worth EUR 169 million and another 6 public sector projects worth EUR 14 million for a total investment of some EUR 183 million.

As with waste projects, FIs can add considerable value by lowering the cost of capital and taking the short-term risk of the construction phase. This can be achieved using junior equity in the case of non-municipal utilities, and to a lesser extent using loans to municipalities.

Interventions to support projects in water management could come in the form of equity or quasi-equity investments, for the construction or expansion of new facilities, and credit financing with preferential terms combined with grants. The proposed contribution envelope for waste management from IROP Priority Axis 4 should not exceed EUR 20 million, and from OP QE Priority Axis 1 it should be EUR 30 million. Interest in co-investment in such projects is muted among International Financial Institutions (IFIs), but commercial interest is strong. As such, the co-investment rate is unlikely to exceed 1:1.

Energy Efficiency

The housing stock and public building inventories in Slovakia are quite old, and as such are significant contributors to the country's high energy consumption profile. While there has been substantial investment in this area in recent years, another EUR 10 billion would be needed to bring all buildings up to standard. In the public sector, the study identifies a pipeline of 21 projects worth an estimated EUR 24 million. In the residential market, the availability of projects can be surmised from the current flow of projects funded by existing funds, which exceeds EUR 200 million annually.

Assuming that energy efficiency projects could attract co-investment of as much as 2:1, the two OPs considered under energy infrastructure in buildings (OP QE for public buildings and IROP for residential) could contribute an envelope of EUR 117 million. The IFIs interviewed expressed interest in co-investment in such projects at the sub-fund level, and commercial banks are interested to get involved as well. As such, FIs could help close the financing gap by attracting considerable outside resources. They can also attract otherwise reticent property owners by making available terms that more closely align monthly payments with realised energy savings than currently available. The fund's future effectiveness could be further enhanced by investing in the country's nascent ESCO market and allowing them to assume much of the risk and intermediation burden of financing many such small, local projects.

Brownfields

With an inventory of more than 650 unused and ecologically burdensome sites located in the Slovak Republic, brownfield regeneration is a priority, especially at the municipal level. Standing in the way of this goal is the fact that the majority of these sites are privately owned, clean-up costs are substantial and benefits are diverse. As a result, access to private financing is quite limited. Intervention via FIs can help to offset the risks of uncertain clean-up and development costs, making brownfields more competitive with greenfield projects. By pairing regeneration projects with commercial undertakings, a revenue stream is generated that enables repayment of the investment while accomplishing a valuable public investment goal. FI involvement should also have a significant proof of concept effect by providing a successful model to an as yet underdeveloped market.

Because investor guarantees are a preferred intervention method, complimented by equity where possible and preferential loans where necessary, the leverage effect on these projects is quite large. The pipeline of identified projects in this area consists of a number of large-scale projects, and there is the potential for more. As such, an envelope of EUR 108 million is recommended from OP QE Priority Axis 1. This sum may need to be reconsidered as more projects are identified in the future.

Municipal and Urban Development

In addition to rehabilitating brownfield sites, municipal and regional governments have a number of other policy priorities that could potentially be funded using FIs. These include public transport projects, educational and training infrastructure and cultural initiatives. These types of projects have traditionally been funded exclusively via grants, but the stakeholder consultations produced a pipeline of 23 projects totalling around EUR 330 million in five cities which may be suitable, with the bulk of the cost in public transport projects. The primary barriers to financing these projects are the limits on public borrowing under the Slovak debt brake law, and the need to identify a revenue stream for repayment. Public transit and cultural project financing can be repaid via user fees, but other projects may have to be paired with commercial enterprises in order to facilitate repayment.

For bankable projects, FIs can provide substantial added value by attracting additional public and private resources to co-finance at the fund level. Co-investment opportunities are limited, and the leverage rate for soft loans to municipalities is low. As such, the total proposed envelope for municipal and urban development projects is EUR 160 million, coming from IROP Priority Axes 1, 2, and 3 and from OP II Priority Axis 3.

Sub-funds Structure

In order to optimise coordination and benefit from the economies of shared resources, it is recommended that the investment areas identified in this report be organised into a limited number of sub-funds to be managed by an umbrella entity, or Fund of Funds. The choice of funds should be designed to maximise the potential to attract additional funds by reflecting the specific investment priorities of various classes of investors while minimising the administrative burden by exploiting shared competencies among investment board members, project types, and intermediation methods. The report proposes one potential organisational scheme based on sectors that combines the seven investment areas listed above into four sub-funds, with two additional sub-funds

dedicated to SMEs and social enterprise. A summary of the four sub-funds discussed is included in Table 1 below:

Table 1: proposed sub-fund strategy, in Euros

Area	OP Allocation (EU Funds)	Identified Project Pipeline	Proposed FI Contribution
Transport Infrastructure and Energy Production Fund			
Transport infrastructure	2,751,778,621	10,039,894,568	500,000,000
Energy Production	352,671,788	297,300,000	100,000,000
Sub-fund total	**3,104,450,409**	**10,337,194,568**	**600,000,000**
Energy Efficiency in Buildings Fund			
Residential buildings	111,388,554	N/A	111,388,554
Public buildings	474,886,480	24,370,000	6,000,000
Sub-fund total	**586,275,034**	**24,370,000**	**117,388,554**
Waste and Water Management Fund			
Water management	552,836,034	182,949,587	50,000,000
Waste management	822,229,027	64,177,021	25,000,000
Sub-fund total	**1,375,065,061**	**247,126,608**	**75,000,000**
Municipal and Urban Development Fund			
Public transport	445,350,000	314,252,157	150,000,000
Education infrastructure	263,000,000	6,230,000	5,000,000
Brownfields	180,858,298	394,852,000	108,000,000
Culture	215,860,548	11,027,628	5,000,000
Sub-fund total	**1,105,068,846**	**726,361,785**	**268,000,000**
Fund of funds total	**6,170,859,350**	**11,335,052,961**	**1,060,388,554**

Management, Governance and Implementation

Under the 2014-2020 Programming Period, MAs have several options for organising a Fund of Funds. Given the complexity of projects described above and the needs and competencies of the Slovak government, using either an existing management body, such as the EIB Group, or a newly created entity is recommended. A middle road between the two consisting of an independent agency supported by existing bodies could exploit the advantages of both of these options.

The Slovak authorities are currently pursuing a path consistent with this recommendation via the establishment of Slovak Investment Holdings (SIH) as a Luxembourg-based Specialised Investment Fund (SIF), which carries a number of advantages that are well suited to their needs in terms of its internationally recognised regulatory framework, advantageous tax environment, operational flexibility, and investor-focused structure.

Implementation of the SIH is currently being handled by the Slovak Guarantee and Development Bank Asset Management (SZRB-AM) under the supervision of the National Bank of Slovakia. Portfolio management is to be handled directly by SZRB-AM, and it is recommended that the SIH establishes a partnership with EIB that would allow it to benefit from their capacity and experience during the crucial set-up phase as well as during the implementation and investment strategy

activities.

The report identifies a number of open issues to be addressed during the implementation phase that will determine the nature of the fund going forward. These include the processes and priorities for naming, authorisation and replacement of the members of the management board and the investment committees; the investor stratification strategy; the administrative and legal structures for flow of funds and treasury management; and the resource and competencies map governing which activities will be done in house versus out-sourced.

Subsequent to these defining decisions being made, the report lays out a number of steps that will need to be achieved whatever their outcome in order to bring the fund from the inception phase to the operational phase. These include the establishment of a manual of procedure, establishing funding agreements with the relevant MAs, establishing the procurement process and raising awareness in the Slovak financial market, and establishing the indicators and monitoring process that will be used to assess progress and update the investment strategy in the years to come.

1 Introduction

The following section provides an overview of the study, including its objectives and the rationale for it. This section then gives an overall picture of how the study is structured and the general methodology followed during the course of the study. Finally, the overall market environment of the Slovak Republic is covered, including the economic and demographic characteristics of the country.

1.1 Objectives and rationale of the study

The key objective of the present study is to provide analysis and guidance to the Ministry of Finance (MoF) to support the use of Financial Instruments (FIs) in the 2014-2020 Programming Period. The ultimate objective of the ex-ante assessment is to ensure that ESI Fund resource allocations to FIs comply with the objectives and Operational Programmes (OPs) and are used in accordance with the principles of sound financial management. It should allow the Managing Authorities (MAs) of the OPs to tackle investment gaps and to define priorities for the allocation of public resources in accordance with programme objectives and Priority Axes.

The OPs that fall in the scope of the analysis are the OP Research and Innovation, the OP Integrated Infrastructure, the OP Human Resources, the OP Quality of the Environment and the Integrated Regional OP (IROP). Although OP Effective Public Administration (EPA) does not lie within the scope of the study, it should not be ruled out as inappropriate for use with FIs.

In line with Article 37.2 of the Common Provisions Regulation (CPR), this study covers the following:

- **An analysis of market failures**, **sub-optimal investment situations**, and investment needs for policy areas and Thematic Objectives (TOs) or Investment Priorities (IPs) to be addressed with a view to contribute to the achievement of specific objectives set out under a priority and to be supported through FIs;
- **An assessment of the value added** of the FIs considered to be supported by the European Structural and Investment Funds (ESI Funds), consistency with other forms of public intervention addressing the same market, possible State aid implications, the proportionality of the envisaged intervention and measures to minimise market distortion;
- **An estimate of additional public and private resources that could be potentially raised** by the FI down to the level of the final beneficiary (expected leverage effect), including as appropriate an assessment of the need for, and level of, preferential remuneration to attract counterpart resources from private investors and/or a description of the mechanisms which could be used to establish the need for, and the extent of, such preferential remuneration, such as a competitive or appropriately independent assessment process;

- **An assessment of lessons learnt from similar instruments** and ex-ante assessments carried out by the Member State in the past, and how these lessons should be applied going forward;
- **The proposed investment strategy**, including an examination of options for implementation arrangements within the meaning of Article 38, financial products to be offered, final recipients targeted, the envisaged combination with grant support as appropriate;
- **A specification of the expected results** and how the FI is expected to contribute to the achievement of the specific objectives set out under the relevant priority, including indicators for this contribution;
- **Provisions allowing for the ex-ante assessment to be reviewed and updated as required** during the implementation of any FI; when the MA considers that the ex-ante assessment no longer accurately represents the market conditions existing at the time of implementation.

1.2 Structure of the study

This report conveys the objectives and rationale of the study along with actual findings. The study is structured as follows:

Section 1 provides an outline of the study and a brief description of the market environment in Slovakia, including an overview of the general economic situation.

Section 2 introduces the key concepts and background relevant to the use of FIs in the 2014-2020 Programming Period, including identifying the types of investment which are most suitable to be supported by FIs.

Section 3 explores current conditions in the Slovak financial markets, describing areas in which market failures and suboptimal investment situations have resulted in financing gaps for priority public investments.

Section 4 draws on the lessons learnt from the previous Programming Period and from the experience of the implementation of FIs in other Member States to inform current policymakers in Slovakia.

Section 5 examines the ways in which FIs can offer added value to MAs' efforts to pursue key policy goals with limited ESI funding; presents a detailed proposal for how FIs could be implemented in Slovakia using a number of thematic sub-funds under the umbrella of a Fund of Funds structure; and details the role Technical Assistance plays in ensuring the effectiveness and proper oversight of ESI Funds.

Section 6 Lays out the options and considerations relevant to the choice of governance and management of the Fund of Funds, and includes a brief description of the progress of the implementation already underway in Slovakia. It also covers a number of open issues and steps that need to be resolved before the fund can begin operation.

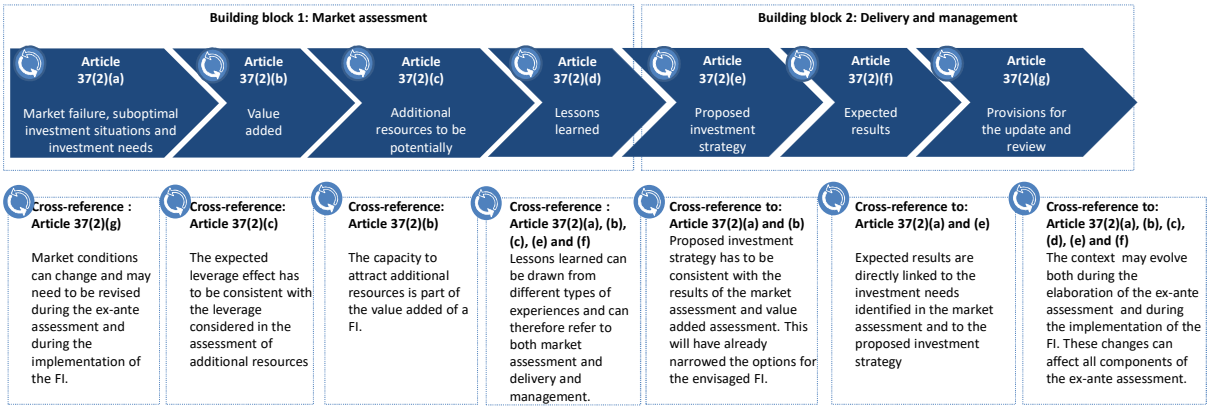
Section 7 concludes with a summary of the study and some proposed next steps.

1.3 General methodology

The analysis performed for this study is based on the following **two building blocks**, which aim to facilitate the development of a strong ex-ante assessment:

- Market assessment; and
- Delivery and management.

Figure 1: Two building blocks in the ex-ante assessment



Source: PwC published ex ante methodology [1]

Based on the above mentioned building blocks, the following components are used in order to collect data for the study:

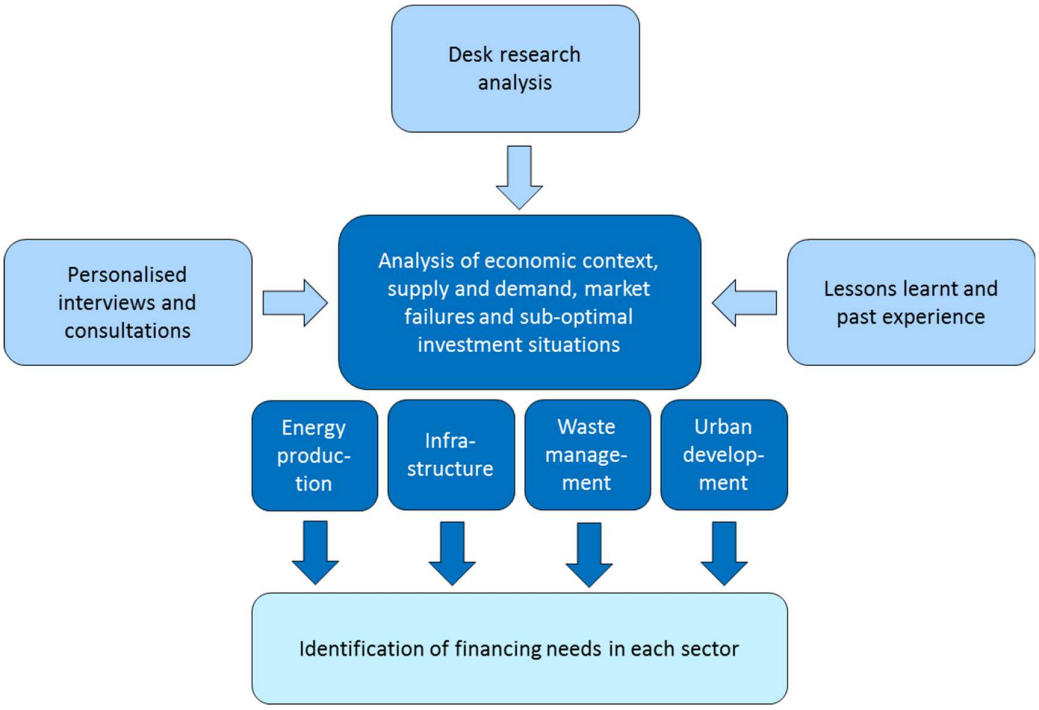
- A **review of existing documentation** for the sectors being analysed: energy production, infrastructure, waste management, Energy Efficiency (EE), and municipal and urban development, (detailed information about these can be found in Appendix 1);
- **Interviews with relevant stakeholders** covering both the demand-side and the supply-side, along with representatives of the MAs and the Central Administration department (detailed information about these can be found in Appendix 2);
- **Stakeholders consultation** with 50 largest cities and corporates (detailed information about these can be found in Appendix 3)[1];
- **Workshops** with the Steering Committee members to discuss, complete, adjust and validate the investment strategy;

The findings of these four different streams of data collection were then synthesised in

[1] During the interviews and stakeholder consultation a project fiche has been used in order to structure the investment needs. (Detailed information about this can be found in Appendix 4 and the entire set of project fiches can be found in Appendix 17 (Vol. II))

order to derive from them an analysis of the economic context in Slovakia, elaborate on the different facets of supply and demand in the country, identify relevant market failures and sub-optimal investment situations. All this was necessary to demonstrate the need for the establishment of FIs. This exercise was conducted paying close attention to the thematic sectors where the use of FIs is applicable: **energy production, infrastructure, energy efficiency, waste management** and **municipal and urban development**. Using this methodology, it was possible to identify the financing needs of these sectors, and provide pertinent recommendations in the setting up of FIs in Slovakia for the 2014-2020 Programming Period.

Figure 2: Flow of the general methodology



1.4 Economic and demographic environment of Slovakia

The Slovak Republic is a country of 5.4 million inhabitants with a GDP of EUR 72.13 billion in 2013, separated from the Czech Republic in 1991 to become an independent country. In 2004 it joined NATO and the European Union (EU), before adopting the Euro as national currency in 2009. This section gives a brief overview of the macro-economic environment of Slovakia, which is described in more detail in Appendix 5.

Economy

The global economic and financial crisis that began in 2008 had a profound impact on Slovakia. Its GDP decreased by 4.9% in 2009, but managed to quickly recover, never re-entering recession after 2009. It managed to reduce its government deficit to 4.8% in 2011

and 2.8% in 2013 [2], which is a critical value regarding the Maastricht criteria. Slovakia is expected to remain below the threshold value regarding deficit and debt in the years to come, but uncertainties (such as the risk of entering another recession) still remain.

Foreign Direct Investment (FDI) plays a crucial role in the development of Slovakia's economy. FDI originates primarily from large multinational companies investing in the automotive and electronics sectors in Slovakia, which represent over half of the top 25 companies (in terms of operational revenue). Most of these originate from Germany, South Korea, or neighbouring countries such as Austria. Slovakia has become an integral part of the global supply chain for these industries, and helped strengthen its export capacity.

Exports of cars and electronics have historically been targeted towards European markets (Germany: 24%, Czech Republic: 14%, Poland: 8%), but European car sales fell sharply during the 2009 recession, and remain far below their 2007 peak. As a result, car exports towards China have taken on greater importance, rising from 2.8% in 2007 to 11.4% in 2013 (detailed information about these companies can be found in Appendix 6).

In the Bratislava region, investment is shifting in recent years from large greenfield investments towards the refurbishment of plants. In terms of public investment, Slovakia lags behind the EU average and most funds are ESI Funds, with a focus on infrastructure, environment, (renewable) energy, and biodiversity projects [3].

Slovakia has managed to **keep inflation** at 1.5%, the same as the European average. It is expected to remain below 1.8% in the next 2 years. While **interest rates** or **short-term loans** (below 1 year) were relatively low in 2013, with a 2.13% average, longer-term loans were substantially higher (with an average of 3.4%) and more volatile. SME and micro enterprise paid approximately a 1% to 3% premium over large enterprises. Nevertheless, in comparison to other European countries, Slovakia still enjoys one of the lowest rates, which represents a key advantage for its competitiveness.

Economic outlook

In June 2014, the European Commission (EC) finalised its assessment of the current situation of the Slovak reform and stability programmes, to serve as a basis for European Council recommendations in the 2014-2015 period. The Commission concluded that Slovakia quickly recovered from the economic crisis but faces challenges in strengthening its domestic production base, diversifying growth sources, and in making structural reforms to strengthen its public finances. These challenges must be overcome for Slovakia to optimise its economic outlook.

The Commission's assessment centred on analysing the main themes that affected the business environment, and on producing a series of recommendations. The main areas considered and the key concerns were:

- Energy market – high energy prices and a lack of market transparency;
- Energy and resource efficiency – undersupply of affordable energy, inefficient use of resources and poor waste water management;

- Transport – high administrative burdens creating structural inefficiencies and overhead;
- Digital infrastructure – low broadband coverage, influencing provision of e-Government, etc.;
- Public administration – poor human resource management, concerns around corruption and public procurement procedures.

From this assessment, in June 2014 the European Council recommended that Slovakia takes specific actions in six fields during the 2014-2015 period[2]:

1. fiscal framework – implementing enforceable and binding expenditure ceilings, and in particular improving the efficiency of healthcare spending
2. tax administration – improving debt collection and audit provision
3. labour – increasing the provision of childcare facilities and other complementary policies to further integrate women and young people into the labour market
4. education – raise attainment levels and implement Roma inclusion policies
5. energy – develop energy interconnectivity with neighbouring countries, in particular Poland and Ukraine to improve competition and bring down costs and prices
6. public services – improve the business environment, in particular for SMEs, and strengthen the efficiency of the public procurement process

Demography

As of 2013, Slovakia's population (5.4 million) accounts for 1.1% of the total EU population, comparable to countries such as Finland (5.4 million) or Denmark (5.6 million) [4]. The share of foreigners in the Slovak population has grown in the recent past, and today Hungarians represent 13% of the population, followed by Czech (8.5%), and Romanians (5%). The life expectancy of 75.7 years (in 2013) is lower than the EU average of 79.6 years (in 2012), which also leads to a lower dependency ratio of both young (below 15 years) and old (above 64 years). The population is unevenly distributed with nearly half of the population living on one third of the territory (in West Slovakia and Bratislava). Lower than EU-average life expectancy and a high unemployment rate of 14% are important problems for Slovakia's economy, along with a relatively low number of people with tertiary education in the labour force.

[2] More details can be found in Appendix 5 [2].

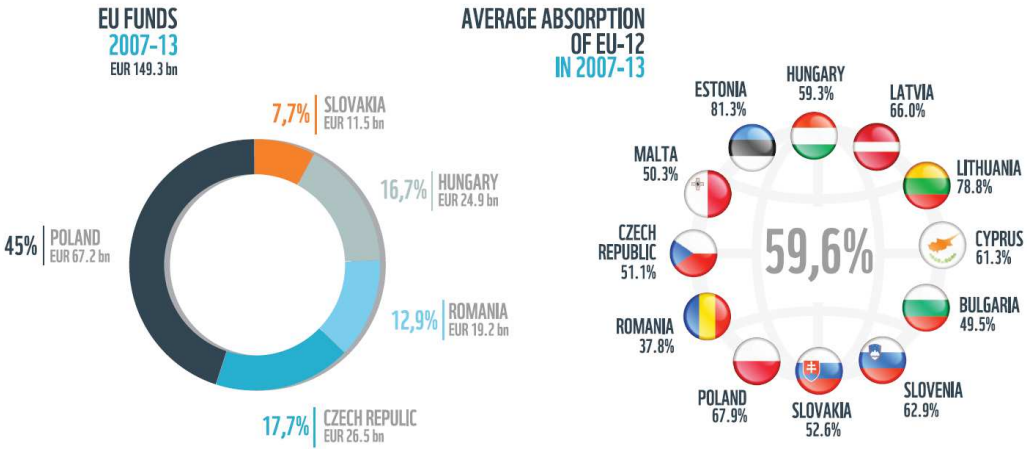
2 General considerations and guidance on the use of FIs covering Thematic Objectives in the Slovak Republic

This section presents an overview of the last Programming Period and where adjustments have been made in the 2014-2020 period.

2.1 General overview of the past Programming Period (2007-2013) and how it evolved for the new Programming Period (2014-2020) in the Slovak Republic

Slovakia is facing an important challenge when setting up FIs since the absorption rate for ESI funding (the actual investment of European Funds made available to the member state) is low. In the 2007-2013 Programming Period, this was one of the lowest in the EU-12 (Central and Eastern European MS), at around 52.6% (Figure 3).

Figure 3: EU Funds within the 2007-2013 Programming Period and the average absorption rate within the EU12



Source: European Commission, data for ERDF, CF and ESF as of December 2013; absorption rate equals payments divided allocation.

In order to increase absorption capacity, and to fully harness the potential of ESI Funds, Slovakia could consider adopting:

- More simplified administrative procedures;
- More advanced investment planning and development;
- A more transparent process of investment selection;
- An abridged implementation mechanism complemented by effective procurement and contracting procedures;
- A wider cooperation with the private sector (also in terms of co-investment).

Appendices 7 through 11 present some considerations towards the ex-ante conditionalities and their compatibility with 2014-2020 OPs. This is particularly important as FIs can be established to support Investment Priorities in OPs, supporting any of the Thematic Objectives (TOs). The 11 TOs defined by the Commission are:

1. Strengthening research, technological development and innovation;
2. Enhancing access to, and use and quality of, information and communication technologies;
3. Enhancing the competitiveness of small and medium-sized enterprises, the agricultural sector (for the EAFRD) and the fisheries and aquaculture sector (for the EMFF);
4. Supporting the shift towards a low-carbon economy in all sectors;
5. Promoting climate change adaptation, risk prevention and management;
6. Protecting the environment and promoting resource efficiency;
7. Promoting sustainable transport and removing bottlenecks in key network infrastructures;
8. Promoting employment and supporting labour mobility;
9. Promoting social inclusion and combating poverty;
10. Investing in education, skills and lifelong learning;
11. Enhancing institutional capacity and an efficient public administration.

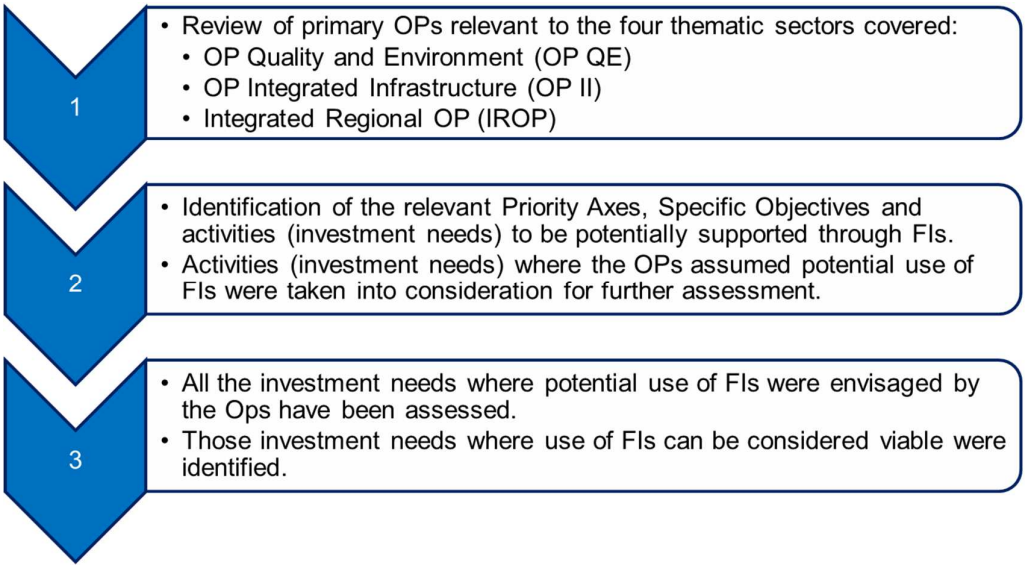
2.2 Investment priorities in the Programming Period 2014-2020

Examination of the guidance provided by the EC through the TOs and from Slovakia through their OPs reveals five primary thematic sectors in which the use of FIs may be appropriate. These include SMEs and social enterprises (covered in greater detail in volume II of this study, which focuses on SME financing), energy production, transportation infrastructure, solid and liquid waste management, and municipal and urban development. All of the relevant thematic sectors come from one of just three OPs: OP Quality of Environment (OP QE), OP Integrated Infrastructure (OP II) and the Integrated Regional OP (IROP). Tables 1-4 below summarise the OPs, Priority Axes, and specific priorities indicated in the four thematic sectors covered here. An exhaustive list of all relevant PAs is presented Appendix 8 and 9. The Thematic sector SMEs and social enterprise is examined in detail in volume II of the study.

The analysis of the potential viability is based on the latest available versions of the OPs (as of October 2014), and the other information sources mentioned in section 1.3 above (see also Figure 4 below). It is important to note that the assessment only includes those specific objectives and activities related to public investments[3].

[3] This division mainly relates to the OP QE, where SMEs are one of the potential beneficiaries in the relevant measures

Figure 4: Steps to identify the investment needs to be financed by FIs



Analysis of the current OPs identified no less than 17 Priority Areas (PAs) and specific objectives (SOs) where the use of FIs might be appropriate, a relatively high number. The number of investment categories apparently suitable to be funded via FIs may decline as the OPs are finalised and put into effect.

The key criteria for FIs include (i) the potential to repay the investment, (ii) economic viability and (iii) generation of income or revenue or savings on future expenditures. A possible combination with grants has been also considered when assessing the identified portfolio of investment needs from the OPs.

Table 2: Indicative allocation from OPs 2014-2020 in the energy production sector*

Area	OP	Priority Axis	Total EU funding for the Priority Axis (EUR)	Relevant investment priorities (IP)	Relevant specific objectives
Energy production	**OP QE**	**Priority Axis 4** Energy efficient low-carbon economy in all sectors	938 886 480	• Promoting the production and distribution of energy derived from renewable sources • Promoting the use of high-efficiency co-generation of heat and power based on useful heat demand	• Increasing the share of RES in gross final energy consumption • Installation of small-scale plants for use of RES in the Bratislava self-governing region • Development of more efficient district heating system based on useful heat demand

*Under this part of the study the EE in buildings is discussed within the analysis of the municipal and urban development sector.

Table 3: Indicative allocation from OPs 2014-2020 in the infrastructure sector[4]

Area	OP	Priority Axis	Total EU funding for the Priority Axis (EUR)[5]	Relevant investment priorities (IP)	Relevant specific objectives
Transport infrastructure	OP II	**Priority Axis 1** Railway Infrastructure (TEN-T CORE) and rolling stock renewal	725,839,166	• Supporting a multimodal Single European Transport Area by investing in the TEN-T • Develop and improve environmentally-friendly and low-carbon transport systems in order to promote sustainable regional and local mobility • Developing and rehabilitating comprehensive, high quality and interoperable railway systems, and promoting noise-reduction measures	• Removal of key bottlenecks on rail infrastructure through modernisation and development of main railway lines and hubs important for international and national transport. Create conditions for growth of railway passenger and freight transport • Improving the technical conditions for the operation of international rail services through the implementation of selected elements of the TSI on the most important routes for international traffic (TEN-T CORE) • Increasing the environment-friendliness and energy efficiency of the transport system • Increasing the attractiveness and quality of services in railway public passenger transport through renewal of the rolling stock • Increasing the quality of railway transport infrastructure
	OP II	**Priority Axis 2** Road infrastructure (TEN-T CORE)	1,142,500,000	• Supporting a multimodal Single European Transport Area by investing in the TEN-T • Enhance regional mobility by connecting secondary and tertiary nodes to TEN-T infrastructure, including multimodal nodes.	• Removing key bottlenecks of TEN-T road infrastructure by construction of new sections of motorways and expressways • To ensure a quality road connection and homogenisation of TEN-T network • Increasing the road transport safety
	OP II	**Priority Axis 4** Water Transport Infrastructure (TEN-T CORE)	116,450,000	• Supporting a multimodal Single European Transport Area by investing in the TEN-T • Develop and improve environmentally-friendly and low-carbon transport systems in order to promote sustainable regional and local mobility	• Improving the quality of services provided in the public port Bratislava • Create conditions for growth of performances in water transport through investments in the infrastructure

[4] Financial allocations of particular Priority Axes are still to be regarded as preliminary.

[5] In IROP this funding also contains a contribution from beneficiaries (usually from 5 % - 10 % of eligible project costs).

	OP II	**Priority Axis 5** Railway Infrastructure (not included in TEN-T CORE)	282,232,227	• Support a multimodal Single European Transport Area by investing in the TEN-T • Develop and improve environmentally-friendly and low-carbon transport systems in order to promote sustainable regional and local mobility • Developing and rehabilitating comprehensive, high quality and interoperable railway systems, and promoting noise-reduction measures	• Eliminating key bottlenecks on railway infrastructure through developing and modernising railway lines and related objects important for international and national transport (outside TEN-T CORE). Create conditions for growth of performances in railway passenger and freight transport • Improving the technical conditions for the operation of international rail services through the implementation of selected elements of the TSI on the most important routes for international traffic (outside TEN-T CORE) • Increasing the environment-friendliness and energy efficiency of the transport system of the Slovak Republic • Increasing the quality of railway transport infrastructure
	OP II	**Priority Axis 6** Road infrastructure (not included in TEN-T CORE)	484,757,228	• Supporting a multimodal Single European Transport Area by investing in the TEN-T • Enhancing regional mobility by connecting secondary and tertiary nodes to TEN-T infrastructure, including multimodal nodes.	• Removing key bottlenecks of TEN-T road infrastructure by construction of new sections of express ways Provide quality road connection between regions • Improving the safety and accessibility of TEN-T road infrastructure and regional mobility by construction and modernisation of first-class roads • Increase traffic safety and continuity on first-class roads
Water management	**IROP**	**Priority Axis 4** Improving the quality of life in regions with an emphasis on the environment	199,716,670	• Investing in the water sector to meet the requirements of the Union's environmental acquis and to address needs, identified by the Member States, for investment that goes beyond those requirements	• Enhancing the availability of underground water reservoirs to supply the population with drinking water • Ensuring inhabitants with the supply of quality drinking water and the efficient treatment of waste waters free of negative environmental impacts
	OP QE	**Priority Axis 1** Sustainable use of natural resources through the development of environmental infrastructure	1,441,766,000	• Investing in the water sector to meet the requirements of the Union's environmental acquis and to address needs, identified by the Member States, for investment that goes beyond those requirements	• Support the provision of the Slovak Republic pre-accession commitments to the EU in the field of treatment and discharge of municipal wastewaters • Support the provision of sufficient quantities of safe drinking water for the Slovak Republic population from public water systems

Table 4: Indicative allocation from OPs 2014-2020 in the segment of waste management

Area	OP	Priority Axis	Total EU funding for the Priority Axis (EUR)	Relevant investment priorities (IP)	Relevant specific objectives
Waste management	**OP QE**	**Priority Axis 1** Sustainable use of natural resources through the development of environmental infrastructure	1,441,766,000	• Investing in the waste sector to meet the requirements of the Union's environmental acquis and to address needs, identified by the Member States, for investment that goes beyond those requirements	• Ensure waste management in compliance with the waste management hierarchy in order to meet the environmental acquis requirements
		Priority Axis 2 Adaptation to the adverse effects of climate change with the focus on flood protection	419,346,261	• Supporting investment for adaptation to climate change including ecosystem - based approaches	• Improve the effectiveness of remediation, revitalisation and safeguarding of extractive waste repositories

Table 5: Indicative allocation from OPs 2014-2020 in the segment of municipal and urban development

Area	OP	Priority Axis	Total EU funding for the Priority Axis (EUR)	Relevant investment priorities (IP)	Relevant specific objectives
Residential buildings	**IROP**	**Priority Axis 4** Improving the quality of life in regions with an emphasis on the environment	199,716,670	• Supporting energy efficiency, smart energy management and renewable energy use in public infrastructure including in public buildings and in the housing sector	• Enhancing energy efficiency of residential buildings
Public buildings	**IROP**	**Priority Axis 2** Easier access to effective and quality public services	755 913,197	• Investing in education, training and vocational training for skills and lifelong learning by developing education and training infrastructure	• Increase of gross school readiness of children by increasing quality and availability of pre-primary education • Improvement of key competences of pupils in primary schools through enhancing the quality of primary schools • An increase in the quality of education and lifelong learning by promoting secondary vocational schools by dealing with their spatial and technical conditions.
	OP QE	**Priority Axis 4** Energy efficient low-carbon economy in all sectors	938,886,480	• Supporting energy efficiency, smart energy management and renewable energy use in public infrastructure, including in public buildings, and in the housing sector	• Reduction of energy consumption in the operation of public buildings
Urban environment (brownfield)	**OP QE**	**Priority Axis 1** Sustainable use of natural resources through the development of environmental infrastructure	1,441,766,000	• Taking action to improve the urban environment, to revitalise cities, regenerate and decontaminate brownfield sites (including conversion areas), reduce air pollution and promote noise-reduction measures	• Reduce air pollution and improve its quality • Ensure remediation of environmental burdens in urban environment as well as in abandoned industrial sites (including conversion areas)

	IROP	**Priority Axis 4** Improving the quality of life in regions with an emphasis on the environment	199,716,670	• Taking actions to improve the urban environment, to revitalise cities, regenerate and decontaminate brownfield sites (including conversion areas), reduce air pollution and promote noise-reduction measures	• Reduction of air pollution emissions from area and line sources of pollution and ensuring good air quality in the vicinity of these sources of pollution and reducing of noise. • Improving environmental aspects in towns, cities and urban areas through the construction of green infrastructure elements and adaptation of the urban environment to the climate change. • Regeneration and utilisation of unused objects and sites (brownfields) in order to improve the quality of life in cities and urban areas.
Culture	**IROP**	**Priority Axis 3** Competitive and attractive regions for entrepreneurship and employment	215,860,548	• Supporting employment-friendly growth through the development of endogenous potential as part of a territorial strategy for specific areas, including the conversion of declining industrial regions and enhancement of accessibility to, and development of, specific natural and cultural resources	• Development of hard and soft infrastructure to promote creativity as a prerequisite of non-technological innovation and development of prototype of creative products and services for growth of employment in cultural and creative industry.
Urban public transport	**IROP**	**Priority Axis 1** Safe and environmentally-friendly transport in regions	123,000,000	• Development and improving environmentally-friendly (including low-noise) and low-carbon transport systems. Including inland waterways and maritime transports, ports, multimodal links, in order to promote sustainable regional and local mobility	• Reduction of environmental burden of urban and suburban areas by promoting and development of integrated transport system[6] • Enhancing the attractiveness and capacity of non-motorised transport (bicycle transport in particular) to the amount of transported passengers.
	OPII	**Priority Axis 3** Public passenger transport	322,350,000	• Development and improving environmentally-friendly (including low-noise) and low-carbon transport systems. Including inland waterways and maritime transports, ports, multimodal links, in order to promote sustainable regional and local mobility	• Increasing the attractiveness of public passenger transport through modernisation and reconstruction of urban transport.

[6] Integrated transport system means system with transport and tariffs integration of all subsystems urban and regional public transport in terms of supported activities of investment priority.

3 Analysis of market failures, sub-optimal investment situations and investment needs

This section of the study provides an analysis of the Slovak market for the four thematic sectors of interest in the study, and identifies the market failures and sub-optimal investment situations that can justify the implementation of FIs. This is achieved through an analysis of the current state of supply of and demand for public sector project financing in the Slovak Republic.

Section 3.1 provides an **overview of the existing supply of financing and of existing FIs likely to be available in the new Programming Period**. This overview covers the supply trends observed in recent years and bases its analysis on data available and provided by the interviewees.

Section 3.2 presents the **analysis of the demand** for financial products in the thematic sectors assessed as part of this study. The analysis includes information gathered through the literature review and interviews with the cities and regions, as well as with the large corporates.

Section 3.3 synthesises these two in order to identify potential **market failures and sub-optimal investment situations** to be addressed through dedicated FIs within the OPs. Thus, the **activities to be covered under each of the four thematic sectors** are:

- Identification of the market failures and sub-optimal investment situations;
- Estimation of financial needs;
- Examination of potential solutions, including use of dedicated FIs.

The study has first identified a number of market failures and suboptimal investment situations that are relevant within the economic and structural context of Slovakia (Appendix 16) and also closely related to the investment priorities of the relevant market segments (from the thematic sectors of energy production, infrastructure, waste and water management, urban development), which have created a significant funding gap. Furthermore, the sector specific market failures will be described under each sector in Section 3.2. The funding gaps in these sectors are not quantified, but it provides thorough overview of both quantitative and qualitative nature of these identified possible/viable gaps.

Various data sources were used to better understand the financing gaps present in the Slovak Republic. Furthermore, 30 interviews with key stakeholders in the Slovak Republic were conducted including both supply and demand side actors, as well as the relevant policymakers, key corporates and consultation with the 50 largest cities and key private stakeholders.

3.1 Supply side analysis

The supply-side analysis provides an overview of the current supply of financial products to the sectors in question. In addition, this section presents the support that is planned in the Programming Period 2014-2020 that is of interest to the SIH and the implementation of new FIs in Slovakia.

The supply-side analysis includes an examination of the Slovakian banking sector including its core strengths and weaknesses, and identifying the commercial banks that currently provide financing to

municipalities, enterprises and households under market conditions. This analysis is followed by an overview of supply provided by international financial institutions (IFIs, i.e. other than commercial banks) and specialised funds supported by the EIB group, EBRD and national funds.

3.1.1 Slovak commercial banks

As of 2014, there were 13 banks headquartered in Slovakia[7], 14 branches of foreign banks[8] and 1 branch of credit cooperative AKCENTA (from the Czech Republic). **Foreign capital,** primarily from Italian and Austrian banks, **accounts for 90% the Slovak Banking sector**. The market leader is Slovenska Sporitelna, part of the Austrian firm Erste Group. Only two of the top 10 banks are under the control of domestic financial groups, Postova Banka and Prima Banka.

The Slovak banking sector is generally regarded as quite healthy among its European peers. Slovak banks offer **lower interest rates and they are currently very liquid, and can manage their liquidity efficiently and reliably** with the National Bank of Slovakia (NBS)[9]**.** According to the NBS, Slovakia's financial sector "reports better results than do the banking sectors of most other EU countries, and its position improved further during 2013" [5]. In early 2014, the ratings agency Moody's upgraded its forecast of the Slovak banking sector, improving its rating from negative to stable for the coming 12-18 months. The improvement in the outlook of Slovakia's banking sector is partly explained by an improvement in the general macroeconomic environment in the country[10].

The Slovak banking sector's core strengths are its strong capital reserves and steady funding stream, both of which contribute to the sector's stable rating. As a Eurozone country, monetary policy in Slovakia is controlled by the European Central Bank (ECB), which has taken a largely accommodating stance during the crisis years, and expects to continue doing so for the near future. Historically low interest rates ensure Slovakian banks' access to cheap credit, boosting profitability.

Recent Slovak governments have operated within a framework of tight fiscal policy and austerity measures, which have constrained the growth of public spending. Conversely, those measures have allowed the country to maintain its core fiscal indicators at healthy levels, which has helped to attract foreign investors and capital inflows. Several financial indicators suggest improvements in household and business performance in the past 18 months, which is anticipated to bolster the demand for loans in the near-term and promote a more balanced credit demand outlook.

Lending activity has shifted since the 2008 financial crisis from businesses to consumers. Figure 5 shows the contours of Slovak bank lending patterns since 2006. Lending to Slovak businesses, which are strongly export focused, slowed considerably in 2009, and is currently experiencing modest

[7] 12 of these banks have headquarters in Bratislava and only one, Prima banka Slovensko, has its headquarter located in Žilina.

[8] All branches of foreign banks are located in the city of Bratislava.

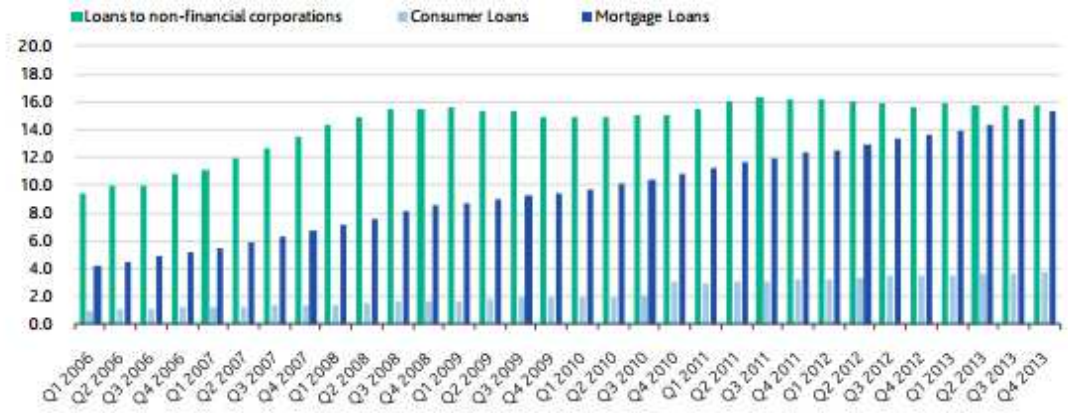
[9] Slovakia's Central Bank's strict rules for bank capitalisation have contributed to the strength of the banking sector, providing valuable capital buffers against the previously weak macroeconomic environment, thus preventing extensive losses. The systemic bank-to-assets (Tier 1 capital) ratio stood at 15.7% in December 2013, considerably higher than in previous years and a key indicator of an improved trading environment. Slovakia's bank-to-assets ratio is one of the strongest in the Eurozone, allowing bank loan books to be fully funded by capital deposits. This is a key advantage given the banking sector's low reliance on external funding sources.

[10] Stemmed mainly from the Euro area's emergence from recession.

contraction. A slight expansion of business lending in the first quarter of 2014 was mainly due to growth in loans for some selected state-owned companies [6]. At the same time, there has been a shift in corporate credit demand away from **short-term credit claims (up to 1 year) toward long-term credit claims (especially the ones over 5 years)**. According to the Slovak National Bank, the decline is two-sided, with businesses engaging in less **investment activity** and credit availability tightening due to banks' uncertainty about future credit risks [6]. Some of this contraction has been offset by cross-border lending from foreign banks, and increased bond issuance, also directed towards foreign markets [6].

Despite the broader Eurozone's economic travails, the domestic Slovak economy recovered relatively quickly, and has since maintained modest but consistent GDP growth. This growth, combined with historically low interest rates, has allowed **Slovak retail sector lending to experience one of the highest growth rates among EU Member States**, almost 10% per year. This growth was experienced mainly in the segment of **loans for housing** and **consumer credit**. Mortgage lending in particular has increased substantially. This has not fuelled a property bubble to date, although continuous monitoring of this area is advisable to avoid over-leveraging households or leaving banks over-exposed to potential adverse developments in the real estate market (see Appendix 12).

Figure 5: Lending in the Slovak banking system, 2006-2013*



Source: Moody's Analytics Slovakia report [7] **Outstanding amounts in billion EUR)*

There is growing interest among financial institutions, including the EIB Group, EBRD and IFIs, to provide services to municipalities in order to support energy efficiency related projects. Some commercial banks have established specialised departments responsible for public investments (although it is important to note that the share of public sector project financing is still very limited)[11].

Lending to local governments in Slovakia has been in decline since 2011 as regions and municipalities responded to the 2011 debt brake law. As

Table 6 below shows, although lending to Bratislava has more than doubled since 2009, in all other regions debt has fallen back to or below 2009 levels. The phenomenon is primarily on the demand side. Municipalities are required under the debt brake law to reduce their debt to revenue ratios

[11] E.g. Public sector department of „Slovenská sporiťelna" bank.

from the high levels seen in 2009 and 2010. As a result, new borrowing is severely limited despite falling interest rates.

Table 6: Local government - outstanding amount of loans (million EUR[12])

	2008	2009	2010	2011	2012	2013
Outstanding loans - total receivables	500.1	856.6	1,089.8	1,071.0	1,002.5	946.3
Annual interest rate	4.5%	1.9%	2.3%	3.3%	2.5%	2.4%
Bratislava	**32.3**	**172.1**	**190.3**	**303.73**	**312.3**	**333.7**
Trnava	32.5	96.4	111.4	78.7	78.5	72.1
Trenčin	95.3	113.5	138.6	114.4	103.4	94.5
Nitra	65.9	93.7	124.4	89.8	79.4	61.6
Žilina	81.9	116.4	144.0	143.6	128.1	114.3
Bansko- bystrica	81.4	97.4	121.1	110.7	101.5	93.8
Prešov	46.6	67.8	127.6	103.3	92.6	79.9
Košice	64.0	100.4	133.4	127.8	106.3	95.9
Year on year change		**71.5%**	**27.2%**	**-1.7%**	**-6.5%**	**-5.6%**

Source: National Bank of Slovakia

The number of financial products offered for **public financing in the Slovak Republic** (i.e. for municipalities and self-governing regions) **is limited.** Table 7 presents examples of financial products provided by commercial banks in Slovakia to finance public projects[13].

Table 7: Examples of existing products for municipalities provided by commercial banks in Slovakia[14]

Bank	Product	Value of the loan (min. amount – max. amount)	Maturity in years	Security (variable possibilities)	Interest rate
OTP Banka Slovensko, a. s.	Investment loan	No limitations[15]	Up to 20	Promissory note; property (exceptionally)	2.3% - 3.5% (Euribor)
Všeobecná úverová banka, a. s.	Investment loan	EUR 40 000– EUR 25 000 000	Up to 10 to 15 years (mostly between 4-8 years)	-	Lower interest rate compared with a usual offer of the bank
Československá obchodná banka, a. s.	Investment loan	-	-	-	Lower interest rate, by 0.25% p.a. compared with a usual offer of the bank, potential fixation

[12] fix rate SKK/EUR = 30.126

[13] Unfortunately, several of the interviewed stakeholders declined to provide more detailed data on financing the municipality sector, referring to bank secrecy.

[14] Based on limited amount of information available on website/provided by particular banks.

[15] The amount for the sector of municipalities – around EUR 30 million.

Societe Generale	Leasing, credit, loan	Max. EUR 12 500 000	Max. 5 years	-	Lower interest rates, by 0.25% p.a. at least compared to a usual offer of the bank
Tatra banka, a.s.	Loan, grant	Max. EUR 12 500 000	Min. 2 years	-	Lower interest rate compared with a usual offer of the bank

Source: Interviews and desk research.

Based on interviews with key stakeholders in the banking sector, the **key challenges related to securing financing for municipal projects** were:

- **High level of municipal indebtedness** – a national law limits the level of public debt and borrowing by municipalities and self-governing regions, such that "if the total amount of debt of a municipality or a self-governing region reaches or exceeds 60% of its actual current revenues in the previous fiscal year, the municipality or self-governing region concerned shall pay a penalty imposed by the MoF amounting to 5% of the difference between the total debt amount and 60% of its actual current revenues in the previous fiscal year. The national government is not responsible, financially or otherwise, for the insolvency of any municipality or self-governing region."[16] Given the decline in revenues and increase in spending needs directly caused by the economic crisis, nearly all Slovak municipalities find themselves needing to sharply reduce their borrowing.
- **Poor local capacity** - low creditworthiness of local governments and poor administrative capacity of local bodies make some municipalities unable to compete with the private sector and central government for funds. Strengthening of local capacities in financial planning is essential for successful local infrastructure development. Slovakia lacks the capacity to manage more complex forms of financing local capital formation such as municipal bonds, leasing contracts, and sophisticated FIs, or to assess and monitor budget contingencies such as government guarantees and joint ventures.
- **Lack of long-term projects and investment pipeline** - in recent years, investment activity has been low and requests for financial resources for new projects has decreased[17]. According to the interviewees, part of the problem lies in the fact that investment planning is often linked to the 4-year political cycle.

  Local governments focus on quick wins that are immediately visible. Because many projects related to municipal development[18] tend to have longer payback periods, long- term investments are as a result, often neglected.

[16] Report on long-term sustainability of public finance - http://www.rozpoctovarada.sk/download2/sustainability_report_2014_en_final.pdf

[17] The banks interviewed unfortunately rejected to provide detailed statistics, yet all the banks stakeholders interviewed stated more or less similar experience and therefore it is cited in the report. Further, while the national budget expenditure since 2008 increased by 41%, municipal expenditures without financial operations increased only by 5.9%.

[18] Particularly energy related investments were mentioned.

- **The revenues of municipalities are unpredictable** – the most important source of ordinary revenue in the budget of the municipalities is their share of tax revenues collected at the national level. This revenue source fluctuates substantially from year to year (more so in the last years due to the financial and economic crisis) making it difficult to predict future income streams accurately. The lack of predictability hinders the ability of municipalities to properly plan their investments and to use debt to finance larger and/or longer-term investments. This is particularly true for the high number of municipalities which are already close to the indebtedness limit set by the legislation.

These challenges to secure financial support for municipal investments are elaborated on in greater detail in Section 3.2.5.

3.1.2 International financial institutions and specialised funds

In Slovakia, the vast majority of public investments are financed through grants. FIs have not been used extensively. Projects that were financed either wholly, or in cooperation with IFIs, were developed with specialised instruments. During the 2007-2013 Programming Period, Slovakia allocated just 1.1% of its EU budget allocation to FIs, compared with an EU average of 3.1% [8]**.** Table 8 presents a summary of the FIs currently in operation in Slovakia.

It is important to note that the overwhelming majority of these programs are directed towards a single public investment category: energy efficiency in the housing segment. Other categories, including **renewable energy production, transportation infrastructure, waste management, water infrastructure, and brownfield regeneration are more or less entirely unserved by FIs**. The Ministry of the Environment does fund some of these priorities through their Environmental Fund, but funding is extremely limited.

Table 8: Overview of financial instruments in Slovakia

Category of instruments	Financial instrument (or similar type of instruments)	Operating since	Provider	Resources (EUR)	Origin of resources	Type of resources	Area	Description	Implemented through	End beneficiaries
EU	JEREMIE[19]	2013	Slovak Guarantee and Development Fund (SZRF)	100 mil.[20]	EU Structural funds	Risk capital instruments; portfolio guarantees; portfolio risk sharing instrument	Support to SMEs	Support for SMEs through financial intermediaries, which provide them resources for loans and guarantees for entrepreneurs.	Slovak Guarantee and Development Fund[21]	Entrepreneurs
	JESSICA	2013	State Housing Development Fund (SFRB)	11.5 mil.	EU Structural funds National resources	Loan resources – discounted interest rates	Sustainable urban development and regeneration	Support beneficiaries for improving the thermal performance of existing residential buildings.	State Housing Development Fund	Owners of apartments and apartment owners associations
National[22]	State Housing Development Fund		State Housing Development Fund	154.93 mil. for loans and 0.07 mil. for grants (in 2013)	National resources	Loan resources – soft loans	Renewal and thermal insulation of buildings	Support for purchase, construction, renovation, rebuilding and insulation of buildings through soft loans or non-refundable grants.	N/A	Natural persons and legal entities
	Environmental Fund	2004	Environmental Fund	6.5 mil. for loans and 32.5 mil for grants (in 2012)	Fees, revenues from payments etc.	Loan resources – advantageous interest rate of 1%	Environmental issues	Support through loans/grants in the area of waste management, environmental protection, green investment, protection and use of water etc.	N/A	Natural persons and legal entities

19 JEREMIE is covered in Volume II of this study, dedicated to SMEs.
20 Guarantee agreements signed with 5 banks in April 2013 and March 2014 improves access to a total of EUR 262 million of new loans for local SMEs.
21 The Fund was founded as a state institution which will implement the JEREMIE initiative.
22 At the national level, there is also the Slovak Guarantee and Development Bank – a specialised State-owned commercial, which is described below.

EBRD	SlovSEFF	2007	EBRD + International Fund from the decommissioning of Bohunice (BIDSF)	60 mil. (SLOVSEFF I) 90 mil. (SLOVSEFF II)	EBRD	Loan resources	Residential energy efficiency	Support for the development of energy efficiency in the industrial sector, renewable energy and energy efficiency investments in the residential sector.	N/A	Private companies, housing associations
	MunSEFF	2011	EBRD	10 mil. (MUNSEFF I) 90 mil. (MUNSEFF II)	EBRD	Loan resources	Municipal energy efficiency	Support for the implementation of energy efficient rehabilitation of municipal infrastructure.	N/A	Municipalities, housing associations, public or private companies providing municipal services and ESCOs[23]
SZRB[24] and CEB [25]products	Loans and guarantees from the Slovak Guarantee and Development Bank		Slovak Guarantee and Development Bank (together with CEB)		National resources	Loan resources; Guarantees	Energy efficiency	Renewal of housing stock	N/A	Association of owners of apartments or directly to the owners of the apartments
Private fund	Ekofond	2007	Slovak Gas Industry s.a.	6.6 mil.(since 2008)	Slovak Gas Industry s.a.	Grants	Energy efficiency	Support for the energy efficiency, environmental protection and promotion both through programmes and grants.	N/A	Households, schools, municipalities, non-profit organisations

[23] ESCOs only when implementing energy efficiency investments in co-operation with one or more municipalities.
[24] Slovak Guarantee and Development Bank.
[25] Council of Europe Development Bank.

Many of the supply solutions offered by IFIs and delivered by specialised instruments have demonstrated the necessary viability to be continued in the 2014-2020 Programming Period. The following programmes have been identified as potential opportunities for the Fund of Funds in the creation of new FIs. The following section presents the programmes in more detail, along with the anticipated supply of financing they could provide in the upcoming Programming Period.

State Housing Development Fund (SFRB)

The SFRB has a number of other programmes, besides JESSICA[26], that support the renewal and thermal insulation of buildings through the provision of soft loans and non-refundable grants. The final beneficiaries for these programmes can be both natural persons as well as legal entities that may receive support, for purposes such as:

- Purchase of a flat, construction, extension, built-ins, extensions, or conversion of non-residential space in apartment houses, in a family houses or in multifunctional buildings;
- Construction or completion of social service facilities;
- Retrofitting of non-residential premises for social services facilities;
- Renovation of residential buildings;
- Construction of rental flats - including superstructure, construction, addition, or conversion of non-residential space;
- Restoration of social service facilities;
- Insulation of residential buildings.

There are two types of support provided by the SFRB, **soft loans and non-refundable grants** (see). The **grants** provided to citizens with severe disabilities **should be used for the compensation of costs for the creation of barrier-free apartments**.

Soft loans support is provided to applicants, who can prove that:

- Own financial resources covering at least 25% of the cost of the construction;
- The area of floor space in the flat corresponds to the rules according to the type of construction/reconstruction;
- Net monthly income of the applicant and persons, whose income is considered together, does not exceed three and a half times the subsistence minimum [9].

Table 9: Support for housing development by SFRB in 2010-2013 (EUR)

Type of financing	2010	2011	2012	2013
Grants to municipalities	157,060.0	59,560.0	30,990.0	42,670.0
Grants to individuals	14,640.0	25,260.0	19,520.0	29,280.0
Grants TOTAL	**171,700.0**	**84,820.0**	**50,510.0**	**71,950.0**
Loans to municipalities	78,321,864.9	52,770,670.8	36,409,065.7	37,684,004.5

[26] JESSICA will be covered under the Section 4 - Lessons Learnt.

Loans to individuals	26,149,592.0	17,754,856.6	15,864,481.2	10,757,501.7
Other loans (e.g. corporate loan)	31,465,556.9	70,018,437.8	89,692,081.9	106,149,438.3
Loans TOTAL	**135,937,013.9**	**140,543,965.3**	**141,965,628.9**	**154,590,944.6**
TOTAL	**136,108,713.9**	**140,628,785.3**	**142,016,138.9**	**154,662,894.6**

Source: SFRB Annual reports

The table above shows that total SFRB support for housing projects has consistently risen in recent years. However, during that time there has been a shift away from loans to municipalities and private individuals and towards corporates. In fact, loans to corporates more than tripled from 2010 to 2013[9].

In total, by 31 December 2013, **the construction of 74,289 new flats and the renewal and insulation of 126,680 housing units was supported and 46,080 loan agreements were signed**. As stressed in the conception of the State housing policy 2015, funds should further continue to create favourable conditions for loans in the area of renewal and insulation and construction of new housing stock [9].

Table 10 below shows that the demand for soft loans supporting the renewal of houses exceeds supply (which is described more in-depth under the demand analysis). Demand for soft loans reached a value of EUR 123.4 million in 2013. In 2010 this was EUR 32 million, and increased to EUR 82 million. This growth has been highly dependent on the volume of grants from the state budget, which results in a degree of uncertainty for applicants [10]. An overview of support provided by SFRB to beneficiaries since 2010 is presented in the following table.

Table 10: Overview of support from State Housing Development Fund according to its activities

		2010	2011	2012	2013
		Million EUR (number of applications)	**Million EUR (number of applications)**	**Million EUR (number of applications)**	**Million EUR (number of applications)**
Construction of a new flats	Requested	31.1 (786)	19.3 (488)	17.8 (445)	15.6 (345)
	Supported	24.8 (647)	16.2 (415)	13.5 (340)	8.9 (222)
Construction or completion of social service facilities	Requested	1.4 (2)	0.8 (1)	2,7 (2)	0.3 (1)
	Supported	0 (0)	0.8 (1)	1.2 (1)	0.3 (1)
Buying a new flat	Requested	10.4 (47)	13.1 (46)	14.1 (76)	**33.7** (135)
	Supported	10.2 (43)	11.4 (41)	11.4 (60)	26.5 (82)
Renovation of residential buildings	Requested	**59.0 (299)**	**63.8 (278)**	**86.9 (403)**	**123.4 (560)**

	Supported	**32.2 (170)**	**53.7 (242)**	**68.8 (3329)**	**82.1 (393)**
Construction of rental flats/ apartments	Requested	123.1 (262)	59.1 (152)	35.2 (106)	13.3 (37)
	Supported	68.7 (130)	41.8 (108)	25.9 (89)	12.6 (32)
Restoration of social service facilities	Requested	0 (0)	0 (0)	0 (0)	0 (0)
	Supported	0 (0)	0 (0)	0 (0)	0 (0)
Insulation of residential buildings	Requested	17.3 (97)	18.3 (98)	35.3 (176)	**29.6** (185)
	Supported	0 (0)	16.6 (87)	20.9 (108)	24.0 (143)
TOTAL	**Requested**	**242.4 (1,493)**	**174.5 (1,063)**	**192.2 (1,208)**	**216.1 (1,263)**
	Supported	**136.1 (990)**	**140.6 (894)**	**142.0 (927)**	**154.6 (873)**
	Ratio - applications submitted /supported	**56.14%**	**80.55%**	**73.87%**	**71.56%**

Source: SFRB Annual reports

Environmental Fund

The Environmental Fund is an **independent legal entity under the administration of Ministry of Environment of the Slovak Republic**. The fund provides financial resources for the achievement of goals set within the national environmental policy on the national, regional or local level. The fund supports legal entities and natural persons using **grants, loans or a combination of both**. Activities, supported through these instruments include:

- Air and ozone layer protection: support for the use of low-emission sources, renewable energy and support for projects aimed at the improvement of air quality;
- Protection and use of water: support for the expansion or upgrading of existing wastewater treatment plants, protection of water sources, building public water supply system utilising the existing water supply capacity and flood protection;
- Development of waste management: support for the closure and reclamation of landfills, separation and recovery of biodegradable waste, introduction of separate collection of waste in rural areas, building collection sites and sorting facilities;
- Nature and landscape protection: support for the implementation of measures in protected areas, protection of species and ecosystems etc.;
- Environmental education and promotion: support for the implementation of international, national, provincial, regional or municipal environmental education and non-profit educational activities;
- Exploration, research and development (R&D) to monitor and improve the environment;
- Green Investment Scheme: support mechanism for financing domestic projects for reducing greenhouse gas emissions;
- Environmental burdens: support for the removal of environmental burdens (support only through grants).

The Environmental Fund provides support in the form of credit at interest rates under 1% per annum, with loan maturities between 5 and 15 years. Loan guarantees are required in the amount of 130% of the value of the requested loan [11].

In 2012, the fund did not receive any financial support from the EU or national budgets. Its income consisted of various types of fees, such as fees for air pollution, fees for groundwater consumption, revenue from mining activities etc. That year, **EUR 6.5 million** were provided for loans (nevertheless, according to the planned budget, it could have been up to **EUR 33 million**). The volume of grants provided reached **EUR 32.3 million.** Areas supported through loans are presented in Table 11.

Table 11: Support provided by the Environmental Fund through loans in 2012 (EUR)

Area of support	2010	2011	2012
Waste management	3,562,996.5	579,702.6	-
Wastewater management	661,696.5	-	-
Reduction of pollution	3,596,165.1	19,670.7	1,358,309.9
Nature and landscape protection	-	-	5,228,084.0
Others	295.4	-	-
Total	**7,821,153.6**	**599,373.3**	**6,586,393.9**

Source: ME SR [12]

An overview of the support, which was provided by the Environmental Fund through grants, is presented in Table 12. From these data, it is clear that the volume of grants provided in 2012 (EUR 32.3 million) is significantly smaller than what was requested (EUR 406.5 million).

Table 12: Support provided by the Environmental Fund through grants in 2012 (EUR)

	2009	2010	2011	2012
Number of applications submitted	1,335	1,350	1,705	1,881
Number of applications supported	395	394	287	377
Volume requested (thousand EUR)	320,792	327,991	357,709	406,548
Volume provided (thousand EUR)	48,496	37,482	36,072	32,322
Average amount provided per application (thousand EUR)	123	95	126	86
Ratio - applications submitted /supported	29.5%	29.2%	15.2%	20.0%

Source: Envirofond annual reports

Examples of projects supported through the Environmental Fund are presented in Table 13 and Table 14, separately for loans and for grants. Other programmes aimed at energy efficiency measures in Slovakia were supported by the EBRD. In 2007, the EBRD launched the SlovSEFF programme in Slovakia, followed by the MunSEFF in 2011.

Table 13: Examples of supported projects in the segment of waste management in 2013

Entity	Market Segment	Loan (EUR)
Cmc, spol. s.r.o.	Completion of a biogas station	1,124,719
Falc-com, s.r.o.	Purchase of the equipment for a collection site	150,000
EAST-WEST, s.r.o.	Extension of a collection site designed for the waste recovery	400,000

Source: Envirofond

Table 14: Examples of grants provided through the Environmental Fund

Entity	Market Segment	Grants EUR)
7 municipalities and Zoo Bojnice	Separate collection and recovery of biologically decomposable waste	892,629
13 municipalities	The introduction of separate collection, building of collection sites and sorting facilities	1,060,777

Source: Envirofond

SlovSEFF - Slovak Energy Efficiency and Renewable Energy Finance Facility

The European Bank for Reconstruction and Development (EBRD), in cooperation with the Ministry of Economy, has launched the **Slovak Energy Efficiency and Renewable Energy Finance Facility (SlovSEFF)**. In **the first phase** of the scheme (2007 - 2009), **the total allocation of the EBRD's credit line was EUR 60 million and almost 300 projects were supported:**

- Investments in the energy efficiency industry;
- Investments in renewable energies;
- Investments in energy efficiency in housing.

The first phase was extended with an additional EUR 90 million, as SlovSEFF II (2010-2013). Within **the second phase, loans between EUR 20,000 and EUR 2,500,000 as well as grants between 7.5% and 20% of the loan amounts and free Technical Assistance were available** through local banks for private companies and housing associations implementing energy efficiency and renewable energy projects. The breakdown of projects is presented in Table 15.

Table 15: Overview of results of phases I. and II. of the SlovSEFF initiative

Program	Phase (year of initiation)	Volume disbursed (EUR)	% of total disbursed volume per phase	Number of supported projects	Average volume per project (EUR)
Industry	I. (2007)	19,321,500	32%	34	568,279
	II. (2010)	21,203,000	24%	42	504,833
	I. + II.	**40,524,500**	**27%**	**76**	**533,217**
Renewable	I. (2007)	8,078,000	13%	8	1,009,750
	II. (2010)	9,844,000	11%	7	1,406,285
	I. + II.	**17,922,000**	**12%**	**15**	**1,194,800**

Housing	I. (2007)	32,600,500	55%	250	130,402
	II. (2010)	58,906,000	65%	348	169,270
	I. + II.	**91,506,500**	**61%**	**598**	**153,021**
TOTAL	I. (2007)	60,000,000	100%	292	205,479
	II. (2010)	89,953,000	100%	397	226,582
	I.+II.	**149,953,000**	**100%**	**689**	**217,639**

Almost 600 projects were completed in the residential sector, resulting in a refurbished floor area of more than 2.5 million m^2 and more than 86,000 people benefiting from lower energy bills and better thermal comfort. Beneficiaries realised an average energy savings of 33%.

Both phases were supported by the Bohunice International Decommissioning and Support Fund (BIDSF). The contribution from BIDSF of EUR 30 million was allocated for Technical Assistance, such as consultancy and incentive payments. Both phases of SlovSEFF aimed to compensate for losses in electricity generation capacity as a result of the early closure of the Bohunice nuclear power plant [13].

Loans for EUR 150 million were signed by the partner banks which represented 689 eligible projects and a value of projects of more than EUR 188 million within both phases of the programme [13]. Annual primary energy savings achieved as a result exceed 580,000 MWh. Over 110,000 tonnes of CO_2 equivalent are being avoided per year as a result of the projects. Basic parameters of the support provided through SLOVSEFF II (2010 – 2013) are summarised in Table 16.

Table 16: Parameters of the SLOVSEFF II programme

Financial instrument		**SLOVSEFF II**
Administrator and participating banks		ENVIROS Dexia banka Slovensko Slovenská sporiteľňa Tatra banka Všeobecná úverová banka
Type of support		Loans
Size of the fund		EUR 90 million credit line EUR 15 million from the BIDSF fund
Eligible beneficiaries		• enterprises • municipalities • communities of apartments owners
Aim of the support		• energy efficiency in industry • renewable energy resources • energy efficiency of residential buildings
Parameters of the support	Height	• between EUR 20,000 – 2.5 million per project • up to 100% of eligible costs
	Grant part	• free Technical Assistance (energy audit of identified energy efficiency measures, processing of technical and financial feasibility study, simple energy audit including certificate of energy intensity of buildings) • provision of unrepayable grants in case the project reached given level of saving (industry 7.5%, RES 5 – 15%, residential buildings 10 – 15%)

According to the latest available news from January 2014, the EBRD plans to launch the **third phase**

of this facility ("SlovSEFF III" or the "Facility"). The EBRD is considering the extension of the existing SlovSEFF (SlovSEFF III) by providing **up to EUR 40 million**. Resources would be aimed at addressing the demand for energy efficiency and renewable energy projects in Slovakia through credit lines to local banks for on-lending to private enterprises and housing associations for projects in sustainable energy [14].

SlovSEFF III is expected to create a self-sustaining market for investments in sustainable energy in Slovakia. **The focus will be shifted away from investments in residential energy efficiency to investments in renewable energy production and industrial energy efficiency**. In both previous phases, in total 61% of loans were signed for projects in residential energy efficiency. It is envisaged that the EBRD will commit up to EUR 40 million worth of credit lines to be deployed through partner banks in Slovakia. From this value, 45% and 35% are to be allocated to projects in the respective sectors [13].

Another goal is to reduce GHG emissions in anticipation of the industry emissions caps, if not already covered by the European Union Emissions Trading System (EU ETS). Financing up to EUR 40 million to partner banks in Slovakia will be complemented with EUR 5.7 million in incentive payments.

Such incentive payments will be linked to the given project's emission reduction potential. Through the provision of a dedicated training programme and support, partner banks will be trained to recognise the link introduced between a project's emission reductions potential and the resulting positive cash flows through financing sustainable energy projects. Partner banks (Participating Financial Institutions or PFIs) will be selected according to EBRD procedures. Currently active partner banks in Slovakia are: Slovenska Sporitelna, Tatra Banka, VUB, UniCredit and CSOB [13].

SlovSEFF III is expected to have two forms of impact. The first is **financing**, which will demonstrate the benefits of energy conservation and promoting the expansion of energy efficiency and renewable energy lending in the Slovak Republic. The investment will then generate impact, before demonstrating the positive effects of rational energy utilisation and the reduction of greenhouse gas (GHG) emissions. On the basis of a project's annual GHG emission reduction potential, the **incentives to end-borrowers** (not including housing associations) will be calculated.

The second source of impact represents a **skill transfer** among both banks and companies, related to sustainable energy projects. Participating financial institutions will build capacity in identifying opportunities for investing in sustainable energy, as well as assessing the risk and credit-worthiness of clients for energy efficiency and renewable energy loans. Sub-borrowers are expected to become more familiar with banks' requirements for providing such loans [14].

Table 17: Overview of the three phases of the SlovSEFF initiative in Slovakia

Program	Year of initiation	Volume	Number of projects
SlovSEFF I	2007	EUR 60 million	280
SlovSEFF II	2010	EUR 90 million	320
SlovSEFF III	2014	EUR 40 million	in preparation

MunSEFF

The **Municipal Finance Facility – Energy Efficiency (MunSEFF)** is an initiative of the EBRD and the EC aimed at developing and stimulating commercial bank financing to municipalities and their utility companies in Slovakia. The main purpose of the programme is to stimulate the rehabilitation of municipal infrastructure, where there is a high potential to achieve savings through improved energy efficiency.

MunSEFF provides a **combination of credit lines with Technical Assistance to help local banks support municipal sustainable energy investments in Slovakia**. The local banks use the credit line to provide loans to sub-borrowers with eligible investment opportunities at their own risk. Support to the credit line is provided using a comprehensive Technical Assistance package. This assistance helps potential sub-borrowers to prepare loan applications and familiarise local bank officers with sustainable energy investment opportunities and credit appraisal methods, but also underpins demand for the Facility. **Technical assistance is provided free of charge, via grant support from the EU**. Moreover, the grant element of the Facility includes:

- **Investment incentives for municipal and residential sub-borrowers** designed to encourage the prioritisation of energy efficiency projects, to reward the most energy efficient projects and to improve the financial viability of such projects.
- **Incentive payments for SLSP**[27] designed to compensate for the additional administrative and reporting requirements set forth by this facility and the EU, and also as an incentive to roll-out the Facility. Incentives are limited to municipal sub-investments only.

MunSEFF started in spring 2011 and since then numerous projects have been implemented. Due to high demand for its services, the facility has been extended to a second phase as **MunSEFF II**. The new form of MunSEFF is designed to reach an even larger variety of municipal projects. Both phases offer identical forms of support and procedures, whether it be Technical Assistance, low-cost loans or financial grants provided to approved sub-investments.

Currently MunSEFF II has three components covering different target segments:

- **Municipal infrastructure** (excluding buildings) energy efficiency sub-investments with incentive payments to sub-borrowers of up to 20%;
- **Municipal/Residential building energy efficiency** sub-investments with incentive payments to sub-borrowers of up to 15%;
- **Municipal infrastructure and/or municipal building renewable energy** sub-investments with incentive payments to sub-borrowers of up to 15%.

The maximum sub-investment size is EUR 5 million. A total of EUR 90 million will be available to be invested, which represents a dramatic increase in comparison to the EUR 10 million paid out in MunSEFF I. The money will be allocated to eligible sub-investments through the local commercial banks chosen by EBRD (Slovenska sporitelna, a.s., VÚB Banka, a.s.).

[27] Slovenska sporitelna

Eligible sub-borrowers for MunSEFF II are **municipalities, housing associations, public or private companies providing municipal services and ESCOs implementing energy efficiency investments in co-operation with one or more municipalities** [15].

Table 18: Overview of results of MunSEFF initiative up to 2013

Program	Start Date	Total available funds (EUR)	Volume disbursed (EUR)	Financial Intermediary	Number of SMEs supported	Number of clients supported other than SMEs	Total projects supported
Municipal infrastructure, renewables and buildings	2010	10,000,000	10,000,000	Slovenska sporitelna, a.s.	0	30	30
	2014	35,000,000	-	Slovenska sporitelna, a.s.	-	-	-
Municipal infrastructure, renewables and buildings + residential buildings	2012	30,000,000	17,163,000	Slovenska sporitelna, a.s.	0	84	84
	2013	15,000,000	2,159,000	VÚB Banka, a.s.	3	8	11

Ekofond

The Ekofond, established in 2007 by SPP[28], is a non-state fund providing resources for the renewal of buildings. The aim of the fund is to support and promote environmental protection and regeneration, as well as energy efficiency. This vision is fulfilled through financial contributions in the area of cogeneration and trigeneration based on natural gas; energy efficiency of buildings; support for installation of gas heat pumps; R&D of new progressive technologies based on natural gas; and support for developing the use of alternative fuel (Compressed Natural Gas – CNG), to list a few. Support is provided for households, schools, municipalities and non-profit organisations [16].

The non-investment fund provides resources for the support of environmental protection, energy efficiency and awareness raising.

Since 2008, a total of 193 projects were supported by the amount of EUR 5.7 million. Nevertheless, the Fund's budget has allowed the allocation of up to EUR 8 million, therefore its potential has not been fully used [16].

Support is provided in 5 main areas:

1) Cogeneration and trigeneration based on natural gas – activities aimed at implementing progressive technologies of combined production of electricity, heat and cooling on the basis of natural gas with a power up to 1MWe.

    a) Micro-cogeneration – power up to 50kWe (e.g. family houses), up to EUR

[28] Slovak Gas Industry - Slovenský plynárenský priemysel, a.s

15.000/application

b) Cogeneration – power between 50kWe and 1MWe (e.g. swimming pool), up to EUR 200.000/ application

c) Trigeneration – power up to 1MWe (e.g. hospital), up to EUR 400,000 / application

2) Improving the energy efficiency of buildings – support mainly for municipalities. The fund provides e.g. contribution of EUR25/m^2 of insulated area or EUR 80/m^2 in case of replacing windows.

3) Support for installation of gas heat pumps – support mainly for municipalities. The fund provides resources of up to 60% of the price of gas heat pump (max. EUR 19,200)

4) Introducing advanced technologies based on natural gas – support for young researchers.

5) Promotion of the use of alternative CNG fuel – support for public benefit organisations and municipalities. The fund provides a contribution of up to 50% of the price of the vehicle (max. EUR 7,000).

Supported projects in the period 2008-2014 in five main areas are presented in Table 19.

Table 19: Financial resources allocated in the period 2008-2014 – status as of 13.6.2014

Programme	Number of supported projects	Allocated amount (EUR)	Number of applications waiting for decision	Requested amount waiting for decision (EUR)
Cogeneration and trigeneration based on natural gas	3	305,905	0	0
Improving the energy efficiency of buildings	132	4,757,896	48	2,151,794
Support for installation of gas heat pumps	1	19,200	3	121,693
Introducing advanced technologies based on natural gas	9	1,186,061	6	30,550
Promoting the use of alternative CNG fuel	72	365,821	5	25,000

Source: Ekofond [16]

Combined SZRB and CEB product

The Slovak Guarantee and Development Bank (SZRB)[29] provides **direct loans for the renewal of housing stock** to the association of apartment owners or directly to the owners of the apartments, **where resources for loans are provided by SZRB and by the Council of Europe Development Bank (CEB)** (see Table 20 and Table 21). The aim of the loans is to support the renewal of housing stock

[29] SZRB is a specialised state-owned commercial bank that focuses on supporting business activities of most SMEs, nevertheless some of its instruments target other groups. The Slovak Guarantee and Development Bank largely provides loans and guarantees.

and enable simplified access to credit facilities. Its purpose is to finance projects aimed at the reconstruction of residential building, especially repair, modernisation and reconstruction of common areas, equipment and accessories for residential buildings. The minimum volume of a loan is EUR 16,500 for one residential building and the maximum volume for one housing unit is EUR 13,500. The maximum repayment term of the loan is 15 years.

Table 20: Loans for the renewal of housing stock for owners of apartments/owners of apartments by SZRB

	2009	2010	2011	2012	2013
Amount of approved loans (EUR)	2,322,906	2,214,044	7,705,315	3,425,257	30,000
Amount of provided loans (EUR)	2,185,633	944,877	6,771,169	4,568,397	732,248
Number of provided loans	40	12	66	51	13
Average amount of loans per project (EUR)	54,641	78,740	102,593	89,576	56,327

Source: data provided by SZRB on request

Table 21: Loans for renewal of housing stock provided by Council of Europe Development Bank

	2010	2011	2012	2013
Amount of approved loans (EUR)	5,710,710	247,907	2,901,912	1,903,555
Amount of provided loans (EUR)	4,715,896	959,412	1,875,115	2,270,379
Number of provided loans	36	12	23	34
Average amount of loans per project (EUR)	130,997	79,951	81,527	66,776

Source: data provided by SZRB on request

As shown in the tables above, the number and value of projects has fluctuated significantly in the past years.

SZRB loans for the renewal of housing stock are backed up by loan guarantees from the State Housing Development Fund (SFRB). Guarantees are made up to 100% of the loan principal, whereas the maximum volume of the guarantee per apartment building is EUR 7,300 per flat. The maximum repayment term of the guarantee is 20 years. Also, in this case, the amount of provided guarantees (which is equal to the amount of supported loans with provided guarantees) fluctuated significantly. In 2012, the bank provided guarantees to the SFRB totalling **EUR 5,065,000**, while in 2013 only one such guarantee was provided. In 2010, 16 guarantees were provided by SFRB, totalling EUR 5.45 million, whereas in 2013, only one guarantee worth EUR 470,000 was made.

Table 22: Bank guarantees for loans for renewal of housing stock provided by SZRB

	2010	2011	2012	2013
N° of provided guarantees	16	10	13	1
Amount of provided guarantees (EUR)	5,454,500	3,783,912	5,064,881	465,600
Amount of supported loans with provided guarantees (EUR)	5,454,500	3,783,912	5,064,881	465,600

Source: data provided by SZRB on request

Another type of support using guarantees is the programme of state support for renewal of the housing stock, which targets legal entities with the registered agreement of association of apartment owners, or directly owners of apartments (mostly natural persons represented by administrator). Guarantees are up to 100% of the loan principal. The overview of support provided

is presented in the following table.

Table 23: Guarantees within the programme of state support to the renewal of the housing stock provided by SZRB

	2009	2010	2011	2012
N° of provided guarantees	579	5	5	6
Amount of provided guarantees (EUR)	37,450,036	467,540	1,110,100	1,527,527

Source: data provided by SZRB on request

Moreover, SZRB is committed to provide future **bank loan guarantees to municipalities** that use loans provided by the SFRB to purchase rental housing [17].

3.1.3 Summary of the supply-side analysis

Financing for public projects is quite limited, and unevenly distributed among Slovak and EU priorities. Commercial banks are focusing on lending to the mortgage market, and on SMEs and microfinance, while municipalities are often either undergoing forced de-leveraging, lack the capacity to propose economically viable projects, or both. IFIs are considerably more active in public investment via a variety of specialised instruments, but their involvement is heavily biased towards energy efficiency projects to the near exclusion of other priorities. The SFRB and the EBRD in particular are heavily invested in energy efficiency in both private and public buildings.

There is considerable potential for institutions and instruments currently in place to play an active role in support of FIs during the 2014-2020 Programming Period. Slovakian commercial banks, with their strong capital reserves and integration in the market, could act as intermediaries, especially if supported with Technical Assistance and risk sharing. Some of the IFIs mentioned in section 3.1.2 have already expressed an interest in co-investing in FIs in Slovakia under the proposed investment structure currently being developed, and may continue to operate existing instruments in parallel.

3.2 Demand side analysis

Having explored the kinds and amounts of public project financing currently available, in section 3.1, the following section examines the public investment needs of the Slovak Republic, regions and municipalities in the four priority sectors covered in this report, including energy, infrastructure, waste management and urban development. For each investment area, some background information is provided on the specific market, including the key players, recent trends, and some of the challenges facing the MAs involved.

For each of the investment areas, a list of projects is identified as an indicator of the need for, or ability to absorb financing in the 2014-2020 Programming Period. It is important to note that this project list is only indicative. The projects included are of variable maturity, and there is no guarantee that any individual project will be able to be successfully implemented. Also, inclusion in the list, and attribution to a specific Priority Axis, is done based on the best publicly available data. However, decisions about which projects are ultimately eligible for support, and which will receive financing, can only be made by the relevant authorities. As a result, the projects identified cannot be interpreted as final, but simply as an indication of the need for financing in the given investment area.

3.2.1 Energy production

The first priority sector the report considers is energy production, which includes a number of specific priorities relevant to the energy sector including the production of energy from traditional RES like solar and wind, small scale RES plants in the Bratislava region, heat generation, cogeneration (power and heat), and trigeneration (power, heat and cooling) projects.

Slovakia is a highly energy-intensive country due to its large, energy-intensive industrial sector combined with rapid expansion in both the road transport industry and personal automobile ownership. As shown in Table 24, the industry sector is by far the largest consumer of energy in the Slovak economy, accounting for 34.7% of overall final energy consumption in 2011 despite a decline of more than 10% since the 2008 recession. Largely offsetting those gains, the transport sector in Slovakia has experienced a continuous long-term increase in energy consumption driven by the growth of logistics services and a growing number of new vehicles. Furthermore, the ongoing shift from more energy efficient forms of public transit to individual motor vehicle travel, and in the cargo sector from railway to road transport, will put additional upward pressure on the energy intensity of the transport sector in the future.

Table 24: Energy consumption by individual sectors in Slovakia, in TJ

	2005	2006	2007	2008	2009	2010	2011	2012
Industry	148,785	148,381	153,704	150,591	130,038	134,268	135,575	134,692
Transport	74,846	76,496	85,004	91,490	81,895	94,303	92,851	90,976
Households	106,059	96,721	87,248	89,209	89,994	96,595	92,918	86,671
Agriculture	6,847	5,895	5,673	5,839	5,393	5,589	6,545	6,007
Commercial and public services	67,531	78,965	77,404	81,162	81,405	88,098	62,741	60,759
Total	**404,068**	**406,458**	**409,033**	**418,291**	**388,725**	**418,853**	**390,630**	**419,489**

Source: Ministry of Finance of the Slovak Republic [18]*, Statistical Office of the Slovak Republic* [19]

Slovakia is also characterised by its strong dependence on imports for energy production. Slovakia imports almost 90% of its primary energy sources from abroad. Nearly all of Slovakia's three major energy sources (oil, natural gas and nuclear fuel) are imported from one source: Russia. This high level of external energy dependence makes the country one of the most vulnerable states in Europe in terms of energy security[30].

The lack of security is further underscored by the fact that the agreement authorising shipments via the Druzhba ("friendship") pipeline (Slovakia's key import source) will expire in 2014, at a time of heightened political tensions between Russia and the EU. There are a number of alternative energy sources in various stages of planning, but none ready to become operational this year.

[30] This became apparent in Slovakia during January 2009 – Slovakia was one of the worst hit countries in Europe during the 2009 Russia-Ukraine gas crisis. Source: Świątkowska, J. (2011): Energy security of the V4 countries. How do energy relations change in Europe.

The Slovak government has already identified a list of key energy infrastructure projects (see in Appendix 13), which could be potential recipients for financing from the Connecting Europe Facility (CEF). This EU facility directly supports energy, as well as transportation and telecommunication infrastructure projects with importance beyond a single MS.

Finally, the Slovakian economy suffers from disproportionately high final electricity prices. This is due in large part to overly generous subsidies to small RES producers distorting the market. The country's generation and wholesale activities were fully liberalised in January 2005. As a result, there has been no price regulation at the wholesale-level. Import and export prices are determined by bilateral contracts, and since January 2005 there are no limits on the amounts of electricity that can be sold to foreign markets. The government introduced excessively generous price guarantees for RES producers, leading to a brief gold rush that drove up costs. Subsidies for new producers have been reduced, and the government is considering other interventions to further realign subsidies to target investment in additional capacity rather than per unit price of electricity.

As a result, **RES policy has fluctuated significantly in the past few years, depriving investors of the kind of stable and coherent legal and regulatory background necessary to make investment viable** (see the box below). In order to be successful, a project to provide financing for RES production must be paired with regulatory reform that reduces the perceived riskiness of projects in this area.

RES energy framework in Slovakia

In spring 2009, a new renewable energy law was introduced in Slovakia and since then the country has become more attractive for investments in renewable energy.

The RES Promotion Act regulates the methods and requirements of the promotion of electricity from renewable energy sources, in particular: (i) prioritising the connection of such energy facilities into the regional distribution system; (ii) prioritising access to the grid, transmission, distribution and supply of electricity; (iii) off-taking electricity at the price for electricity to cover grid losses; (iv) providing a feed-in tariff; and (v) transferring the liability for deviations (i.e. the difference between the production of electricity and demand) to the regional distribution system operator.

Excessively generous prices paid for electricity from these sources set by a regulation of the Regulatory Office for Network Industries stimulated significant investor interest in building new plants – particularly photovoltaic ones. In December 2010, the Slovak Parliament adopted an Amendment to the RES Promotion Act in order to adapt the tariff scheme to the decreasing price of some photovoltaic components, while maintaining a certain level of subvention. Consequently only solar rooftop facilities or solar facilities on the exterior wall of buildings with capacity not exceeding 100kW were promoted in the form of additional payment on a feed-in tariff, introducing a distortion on the tariff of others RES like extensive wind power generation but also large photovoltaic farms.

Nevertheless, in January 2014, two more amendments came into force, changing the framework. In particular, the support for photovoltaic plants has been reduced, i.e. additional payment on a feed-in tariff only applies to facilities up to 30kW. Similarly, only small hydro plants up to 5MW can be currently supported. Additional payments on a feed-in tariff for electricity produced from RES and high efficiency cogeneration currently apply only to facilities up to 5MW (instead of 10MW). Amendment 382/2013 also excludes the possibility of combining investment support with the increased price support.

3.2.1.1 Key players of the energy market

The energy mix of Slovakia is quite homogenous. The majority of Slovakia's energy is generated by two nuclear plants in Jaslovské Bohunice and Mochovce; making Slovakia a largely **nuclear power-based country**. The share of electricity sources is as follows: 54% nuclear, 18% thermal power plants, 15% hydroelectric power plants, 2% solar power, 10% other sources and 1% is imported [20].

Within RES, the most important source is **hydro-electric power** (more than 50%), followed by **biomass**, which accounts for 38%. There is a significant gap after these two RES, which is followed by sources such as wind, solar power and geothermal energy.

The biggest electricity producer in Slovakia is Slovenské Elektrárne, with a market share of 82%.[31] Slovenské Elektrárne is 66% owned by Italian company Enel S.p.A., and 34 % owned by a national fund called Fond Národného Majetku SR (National property fund). Slovenské Elektrárne is the main supplier of electricity for the three biggest regional distribution companies in Slovakia (ZSE, SSE and VSE) and also supplies electricity to large businesses.

Tepláre Kosice a.s., Martinska Teplarenska, a.s., Zilinska Teplarenska, Teplaren Zvolen, a.s. Bratislavska Teplarenska, a.s. are operators of combined heat and power plants that use renewables for power generation.

The state-owned Slovenská elektriza ná prenosová sústava, a.s. (SEPS a.s.) is the only transmission company and the nationwide transmission system operator. It is responsible for transmission planning and investment, upon their approval by the Ministry of Economy.

Currently, there are **3 key regional distribution companies:** ZSE Energia, Východoslovenská energetika (VSE), Stredoslovenská energetika (SSE).

These companies are 51% controlled by the State, but most of the minority shareholdings and executive rights are in the hands of private investors such as E.ON, the Energy and Industrial Holding plc (Czech-Slovak private equity fund), and the German RWE Group.

The **natural gas segment is controlled by the Slovak Gas Enterprise (SPP - Slovenský plynárenský priemysel)** and its 100% subsidiaries Eustream (for transport) and SPP Distribution. In 2002, the Slovak Government sold 49% of SPP to Slovak Gas Holding – a consortium of E.ON Ruhrgas and GdF SUEZ, who sold it to Energy and Industrial Holding plc in 2013. The remaining 51% remains in the hands of the State. In January 2009, the first alternative traders entered the Slovak gas market and have been competing with SPP, the former monopoly supplier. Due to the economic crisis, shale gas development in the USA, and Europe's gas surplus, spot market gas prices have fallen beneath oil-indexed pipelined gas. This was the impetus for increased competition in Slovakia's gas market, as new entrants, like RWE, offered lower gas prices and as a result, began winning market share from incumbent players.

[31] Also represents around 8% of CENTREL's installed capacity which is 7% of its annual generation. The Slovak electricity market is part of the CENTREL area which also includes Poland, Hungary and the Czech Republic.

3.2.1.2 Demand characteristics

The Slovak energy production market is characterised by significant demand for increased RES production capacity. High energy consumption, disproportionately high prices, and supply insecurity due to dependence on imports are factors pushing the demand for RES. In addition to market forces, Slovakia's membership in the EU brought additional obligations.

Europe 2020 - the EU strategy for smart, sustainable and inclusive growth - identifies five headline targets to be achieved by the end of 2020[32], some of which relate to energy, climate change and environmental issues. Slovakia has adopted measures in line with the Europe 2020 strategy as part of the National Reform Programme of the Slovak Republic [21], as well as under the rubric of the **Slovak Innovation Strategy and Innovation Policy of 2013** [22][33]. These include providing financial support through non-repayable grants from EU structural funds to increase energy efficiency in production and consumption, upgrade public lighting and promote green innovation activities in enterprises and green innovation and technology transfer [23]. Despite these efforts, the energy sector will have to overcome substantial challenges to achieve the targets laid out in these documents.

In 2012, **renewable energy production accounted for 10% of Slovakia's total inland energy consumption** (Table 25). While the share is rising, renewable energy resources in Slovakia have to be strengthened further, in order to reach the national Europe 2020 target of 14%.

Table 25: Share of renewable energy in gross final energy consumption

	2006	2007	2008	2009	2010	2011	2012	Target 2020
Slovakia	5.9%	7.3%	7.5%	9.3%	9.0%	10.3%	10.4%	14.0%
EU 28	9.3%	10.0%	10.5%	11.9%	12.5%	12.9 %	14.1%	20.0%

Source: Eurostat [4]

Furthermore, desk research and the interviews indicate that there is a high demand for **RES**. Due to the limitations of the Slovak transmission system, **new investments in the energy generation capacity will focus on small RES** (up to 10 kW). In its current state, the electricity grid would not be able to handle a major load increase without substantial upgrades. Small RES should be used to meet local demand with only surplus energy being supplied to the distribution system, thereby mitigating any risks to the transmission system.

As of 1 January 2013, **there were only 201 small RES facilities registered in Slovakia** (installed capacity up to 10 kW). The following table shows that the Slovak government's targets for increasing small RES capacity by more than 150 MW per annum by 2020. Even this ambitious investment forecast would get Slovakia only about half way to its Europe 2020 target of 300 MW, meaning the rest will have to be made up through investments in larger scale production.

[32] To achieve the climate change and energy objectives laid out in Europe 2020, the European Union set itself the target of reducing EU greenhouse gas emissions by 20% compared to 1990, drawing on renewable resources for 20% of its total energy consumption, and reducing total energy consumption by 20% through increased energy efficiency.

[33] Link to PDF version: http://www.siea.sk/materials/files/inovacie/dokumenty/IP_2011_2013.pdf

Table 26: Estimation[34] of expected rise of new installations of small RES in Slovakia (for photovoltaic/micro wind sources)

Year	Number of 2kW installations	Number of 10kW installations	Annual production (MWh/year)
2014	3,300	100	7,600
2015	10,000	300	23,000
2016	16,600	600	39,200
2017	26,600	1,000	63,200
2018	40,000	1,500	95,000
2019	53,300	2,100	127,600
2020	**67,600**	**2,800**	**163,200**

Source: Concept of the support of electricity production from the small RES in Slovak Republic [24]

Table 27 shows that next to **photovoltaic, micro-wind type of installations, solar collectors, biomass boilers and heat pump installations will be the focus investment area within small RES according to the Government Office of the Slovak Republic.**

Table 27: Estimated composition of supported projects

Type of RES	Number of installations	Average installed capacity / house	Total installed capacity	Production of electricity (MWh/yr) / heat (GJ/yr)
Photovoltaic/ micro-wind for family houses	67,600	2 kW	135,200 kW	135,200 MWh/y
Photovoltaic/ micro-wind for multi-family	2,800	10 kW	28,000 kW	28,000 MWh/y
Solar collectors	30,000	5 m^2	150,000 m^2	216,000 GJ/y
Biomass boilers	10,000	20 kW	200,000 kW	1,080,000 GJ/y
Heat pumps	5,000	15 kW	75,000 kW	320,760 GJ/y

Source: Concept of the support of electricity production from the small RES in Slovak Republic [24]

The average cost of the installation of 2kW RES in 2013 – which is the main scope of the government – is approximately EUR 4,000-5,000. Nevertheless, costs are expected to decrease in the following years, hence investment intensity will decline and RES installation will become more affordable.

Installation costs for small-scale RES modules remain slightly higher than EU averages dues to the still underdeveloped nature of the sales and service market. The Slovak government assumes that these prices will decline in coming years as the increased availability of funding drives competition among providers, and material costs continue to fall.

Table 28 below shows the official forecasts of installation prices for small 2 kW modules. Prices for larger units (up to 10kW) have a comparable cost per kW of capacity.

[34] Model according to which producers will use approximately 80 % of produced energy for his own consumption.

Table 28: Estimation of prices of 2kW installation

Year	Average cost (EUR)
2014	4,000
2015	3,900
2016	3,700
2017	3,500
2018	3,300
2019	3,100
2020	3,000

Source: Government Office of the Slovak Republic [25]

Based on these estimates, fulfilling Slovakia's policy target would cost **approximately EUR 250 million**. Furthermore, the following table shows that the estimated share of using RES in the building sector should significantly increase compared to the situation in 2010. This is mainly due to the planned support schemes, especially in residential buildings (Table 29).

Table 29: Estimated share of using renewable energy sources in the building sector (%)

	2005	2010	2015	2020
Residential	1	4	7	12
Commercial	1	2	4	8
Public	1	2	4	8
Industrial	1	1	2	3

Source: Ministry of Economy and Construction of the Slovak Republic [26]

Citizen-led renewable energy

Citizen-led renewable energy relates to increasing the adoption of energy efficiency through in-depth community engagement. The box below provides an example of grant financing and serves as an inspiration for FIs, although some revolving element must be added.

Bystricko Bioenergy – local strategy for sustainable energy production and consumption

The project "Bystricko Bioenergy" is located in central Slovakia in a secluded rural region called Poľana. In 2005, a number of local municipalities coordinated by the Friends of the Earth-CEPA established an **association of municipalities** called "The Bystricko Biomass" with the aim **to become self-sufficient in energy production by using local wood waste for heating municipal buildings**. Being aware of the steadily growing energy prices, the representatives of the association decided that it was vitally important to increase energy independence and energy safety. None of the villages has had access to gas and the heating system was heavily dependent on coal.

In 2008, the association submitted an application for the contribution from the OP Environment funded by ERDF in order to build four warehouses for the distribution of wood chips, and to reconstruct 15 boiler rooms, which would heat 43 buildings in eight villages. **The project has been**

funded at a level of EUR 6,699,368, and the total costs amounted to EUR 7,191,311.

Bystricko Biomass signed a contract with the involved villages to rent municipal buildings, all of which were heated by coal. The old boilers were removed and replaced by new biomass boilers. In some cases, where buildings were centrally heated by a single boiler, new external heat distribution systems with higher efficiency standards had to be installed. Four independent storage houses for wood chips were built, and wood chipping machines and other machinery and equipment were purchased. Everything is owned by the association, which is also managing the new boiler rooms and distributing the energy to individual villages.

The whole heat supply should come from wood clippings from several local municipal and private sawmills. Yearly wood consumption shall amount to 1,980 tons of wood chips and 143 tons of lump wood.

Overall, 15 old boiler rooms with overall installed capacity 3,170 kW were modernised, supplying 43 municipal buildings with 19,817 GJ of heat per year. **By using local energy sources, the municipalities have reduced energy costs by 67%.** The price of energy shall decrease by more than 25% with comparison to the biggest regional suppliers. **Greenhouse gas emissions will decrease by 2,643 tons per year and particle pollutions by 52 tons per year**.

Basic information about the project:

Name of the applicant	Bioenergia Bystricko, Association of municipalities
Name of the project	Reconstruction of boiler rooms in villages near Banská Bystrica and transition from the current heating system to biomass
Total costs of the investment	EUR 7,051,967
ERDF support	EUR 6,699,368
Co-investment	EUR 352,598
Installed power capacity	3 170 kW
Installed input - before	6,984 kW
Installed input - after	3,522 kW
New distribution system	1,546 m
Heat supply	17,430 GJ/year
Annual income	EUR 312,419
Savings on variable costs	EUR 222,466
Basic pollutants emission decrease	51,944 ton/year
Greenhouse gas emission decrease	2,643,37 ton/year
Total energy savings	10,720 GJ/year

Through interviews with public and private sector stakeholders, 13 RES projects and another 6 energy infrastructure projects were identified, which could be potentially supported by FIs (see Table 30 and

Table 31). Each project has been assigned a reference code (column two in the tables) based on their organisation into sector specific project pipelines (see Appendix 17). The identified RES projects are mostly investments in biomass and geothermal energy facilities. **Investment size is expected to reach as much as EUR 224 million for the identified RES projects and over EUR 62**

million for the identified energy infrastructure projects.

One example is the thermal power station Vojany (owned by Slovenské elektrárne[35]), which is planned to be upgraded with a new technical facility for processing biomass in order to increase its share of RES production to 20%. Another example is a geothermal power station in Dargov, which is expected to reach a capacity of 6 MW, producing 45 000 MWh per year, of which approximately 30 000 MWh will be sold. The majority of these planned facilities will consume part of the produced energy themselves and the rest will be sold to the distribution system.

Energy infrastructure projects will also emphasise cogeneration (i.e. combined production of electrical energy and heat). Out of six projects in the segment of energy infrastructure, four are focused on cogeneration and the rest is represented by two large projects, namely a new high-pressure gas boiler with low emission gas burners and the construction of new electrical power lines.

Another challenge is that **RES should support regional and local economic development**, by reducing regional differences within Slovakia. The financial support for creating new energy production capacities should target disadvantaged or developing regions[36].

Table 30: List of RES projects to be potentially supported by financial instruments

Organisation	Code	Project Title	Description	Cost in EUR	Project start
Bio-Agro, s.r.o.	I.57	Bio-Agro energy facilities	Construction of energy facilities for processing of biomass (corn and grass silage) for biogas and fertiliser.	13 mil.	2014
Slovenské elektrárne/ ENEL	I.68	Biomass facility and power station at Vojany	New technological facility for processing of biomass in the thermal power station Vojany.	1.9 mil.	2014
Private energy producer	I.58	Geothermal plant	Construction of geothermal energy facilities	28 mil.	2014
	I.59	Small-scale hydropower	Construction of small-scale hydropower plant	15 mil.	2014
	I.60	Biogas station	Construction of biogas station	7.6 mil.	2014
	I.61	Woodchip gasifier	Processing of wood chips for energy generation from gas combustion	6 mil.	2014
Energo Block s.r.o.	I.67	Biomass Power Plant Stretava	Construction of a biomass power plant in Stretava for 3.2MWe of energy in electricity and heat.	15.3 mil.	2016
EFES s.r.o.	I.62	EFES electrical energy production	Production of electrical energy through combustion of renewable energy sources	17 mil.	2014

[35] Slovenské elektrárne is a joint-stock company, where the National Property Fund of Slovak Republic owns 34 %, the rest is owned by Enel SpA.

[36] In economically developed regions and cities, EU funds should primarily support measures, which bring savings in distribution and energy consumption, with the exception of small RES installed on buildings in line with the Energy Performance of Buildings II Directive.

EKOJET, s.r.o.	I.63	EKOJET geothermal power station	Geothermal power station in Horný Jatov	32 mil.	2014
GEOCOM INVEST, a.s.	I.64	GEOCOM INVEST geothermal power station	Construction of geothermal power station in Dargov with the capacity of 6 MW	40-45 mil.	2014
Clean Eternal Energy s.r.o.	I.65	Biomass plant Brezno	Biomass Power Plant Brezno 3,2MWe	14.7 mil.	2016
Quatro Group s.r.o.	I.66	Biomass plant Kostolne Kracany	Biomass Power Plant Kostolne Kracany for 19MWe of combined production of electrical energy and heat	23.8 mil.	2016
Martinská teplárenská, a.s.	I.56	Biomass boiler	Electrical electricity production using a biomass boiler	16 mil.	2015

Table 31: List of identified non-RES projects to be potentially supported by financial instruments

Organisation	Code	Project Title	Description	Cost in EUR	Project start
Komunal Energy Žilinská teplárenská, a. s.,	I.74	High-pressure gas boiler	Purchase of new high-pressure gas boiler with low emission gas burners. The gas boiler is expected to have capacity of 75 tonnes of steam per hour.	N/A	2014
Private energy producer	I.69	Energy plant #1	Combined production of electrical energy and heat	9 mil.	2014
	I.70	Energy plant #2	Combined production of electrical energy and heat	9 mil.	2014
	I.71	Energy plant #3	Combined production of electrical energy and heat	7 mil.	2014
Slovenská elektrizačná prenosová sústava, a. s.	I.73	Electrical power distribution infrastructure	Construction of electrical power lines	17 mil.	2014
ENERGO CS a.s.	I.72	Michalovce power plant	Cogeneration power plant with heat supply in Michalovce	20 mil.	2014

3.2.1.3 Key challenges and needs of the sector

The main challenge to achieve Slovakia's RES investment goals is the fact that unpriced externalities put them at an economic disadvantage with fossil-fuel based power generation facilities. Because the social cost of GHG emissions, energy insecurity and other externalities are not included in market prices, **RES projects often struggle to compete for private investment financing**. The failure to internalise social costs is a market failure that justifies intervention.

A related challenge is the **lack of available funding** to support the Slovak government's desired level

of capacity expansion. The handful of projects included in the sample pipeline alone would exhaust the entire RES budget for the 2014-2020 Programming Period without achieving either the Europe 2020 goals or making a qualitative improvement in energy independence. As such, MAs would need to leverage additional public and private sector funds to achieve these goals.

Another barrier to achieve the Europe 2020 goals is the lack of **a stable regulatory environment**, with several significant changes enacted in recent years related to the support of RES. For projects to be economically valuable, investors need to have confidence in the predictability of future costs and revenues. Abrupt shifts in policy in the past several years from large to small production scales, from solar and wind to biomass and other sources, and from high feed in tariffs to direct capacity subsidies create uncertainty for which investors have to be compensated.

Finally, Slovak financial institutions and energy producers **lack the institutional knowledge and capacity** necessary to significantly expand production in compliance with EC regulations. As such, there is a need for a share of the energy production budget to be set aside for Technical Assistance.

3.2.1.4 Summary of key findings

Market overview and key players of the sector	• Slovakia is one of EU's most energy intensive MS, as it has an industry-intensive economy • Electricity production and distribution in Slovakia is largely dominated by the public sector and by few key players • Energy Efficiency suffers from inadequate financing • Slovakia's disproportionately high final electricity prices are linked to RES subsidies • Hydro-electric power and biomass are – by far – the leading RES contributing to the energy mix • An intersectoral working group including municipalities was launched in 2007 by governmental decree, relating to the Energy Efficiency Strategy
Demand characteristics	• Approximately 300 MW of RES must be built per year to meet the EU 2020 target • Approximately EUR 250 million is required in the new Programming Period in RES under the OP QE • Slovakia needs to focus on small RES for local consumption, so surpluses do not jeopardise the safety and reliability of the transmission system • Slovakia needs to devise an alternative route to replace this oil pipeline if needs be, e.g. by expanding the JANAF-Adria pipeline • Slovakia needs to strengthen connections with Hungary and Poland to facilitate connections with planned LNG terminals in Poland and Croatia
Number of projects identified	• 6 energy infrastructure projects have been identified for financing under FIs (estimated amount over EUR 62 million) • 13 RES projects have been identified for financing under FIs (estimated amount over EUR 224 million)
Key challenges and needs of the sector	• There is the possibility that the Friendship pipeline, Slovakia's key import source, might be terminated • Slovakia is highly dependent on a single source for its energy imports: Russia • The unstable regulatory environment favors particular RES and small installations, and is reducing feed-in tariffs • Slovakia needs to steer the creation of new production capacities to disadvantaged or developed regions in order to ensure that Cohesion Policy (CP) targets are met

3.2.2 Infrastructure

In the past few decades, substantial resources have been invested in Slovakia's infrastructure, especially the road infrastructure, in large part financed by EU Structural and Cohesion funds. Despite these efforts, there are still significant shortcomings in all areas of the country's infrastructure, including road and railway infrastructure, water transport and public transport, leaving it unable to ensure adequate connections and to overcome regional disparities.

In addition to transportation infrastructure investments, the area of green infrastructure investments such as water management should also be emphasised. Green infrastructure is a new EU policy tool to stop biodiversity loss aiming to connect habitats and increase ecosystem resilience by creating a network of both artificial and natural corridors and areas. For many years, so-called grey infrastructure[37] has been a substitute for natural solutions to problems such as flood prevention. Green infrastructure offers an alternative, or complementary approach to standard grey solutions.

Finally, the country also faces challenges with its water infrastructure. In 2012 only 87% of the resident population were connected to a water supply system with public access, which represents a substandard value compared to the EU average. The coverage of public sewage systems in Slovakia is at an even lower level with high regional disparities. In 2012 only 62.4% of the population was connected to the public sewage system. These priority areas are under the supervision of the Ministry of Environment and supported by OP QE and IROP.

Table 32 provides an overview of investments in transport infrastructure in the period 2008-2012. Investment in infrastructure peaked in 2009, and has subsequently declined due to the economic recession and cuts to public investments as a whole. The majority of the investments (approximately 60% of total expenditures in transport infrastructure) have been allocated to road infrastructure, since road transport is the most common mode of transport in Slovakia. In 2011, 76% of the transportation was done by road transport [27].

The second most important type of infrastructure investments was in railway infrastructure, representing approximately 25-30% of total expenditures in the transport segment. This division of resources is partly explained by the fact that rail infrastructure investments have primarily focused on modernisation, which is less financially demanding than the new construction projects typical in road infrastructure.

Table 32: Total expenditures in the transport segment in Slovakia (EUR)

Infrastructure type	2008	2009	2010	2011	2012
Total	**1,082.7 m**	**1,187.3 m**	**951.8 m**	**1,006.8 m**	**834.1 m**
of which: expenditures to acquire tangible fixed assets	867.9 m	950.7 m	730.7 m	810.8 m	601.5 m
Maintenance	214.2 m	236.5 m	221.0 m	196.1 m	232.6 m

37 Grey infrastructure: such as conventional piped drainage and water treatment systems (i.e. pipes, tanks, conventional treatment systems including energy-intensive water treatment systems and processes such as membranes and reverse osmosis); and green infrastructure: the emerging trend for systems such as Bio-filtration, ponds, wetlands, rain gardens and other natural land and plant based ecological treatment systems and processes.

Road infrastructure total	**755.1 m**	**854.0 m**	**516.8 m**	**591.5 m**	**503.7 m**
of which: expenditures to acquire tangible fixed assets	587.7 m	661.6 m	342.1 m	431.9 m	311.1 m
Maintenance	167.4 m	192.4 m	174.7 m	159.6 m	192.6 m
Railway infrastructure total	**214.4 m**	**190.3 m**	**285.8 m**	**295.6 m**	**224.6 m**
of which: expenditures to acquire tangible fixed assets	199.8 m	175.3 m	273.4 m	289.2 m	216.0 m
Maintenance	14.6 m	15.0 m	12.4 m	6.4 m	8.6 m
Inland Waterways total	**4.7 m**	**3.8 m**	**5.1 m**	**3.6 m**	**4.0 m**
of which: expenditures to acquire tangible fixed assets	0.9 m	1.5 m	2.9 m	1.3 m	1.4 m
Maintenance	3.8 m	2.3 m	2.1 m	2.3 m	2.6 m
Air transport (airports) total	**33.4 m**	**59.1 m**	**74.7 m**	**34.6 m**	**33.8 m**
of which: expenditures to acquire tangible fixed assets	30.8 m	56.4 m	70.1 m	32.5 m	31.3 m
Maintenance	2.6 m	2.7 m	4.6 m	2.1 m	2.5 m
Oil pipeline transport	4.6 m	**2.5 m**	**7.5 m**	**39.8 m**	**30.5 m**
of which: expenditures to acquire tangible fixed assets	2.4 m	1.5 m	6.1 m	35.7 m	26.7 m
Maintenance	2.2m	1.0 m	1.4 m	4.1 m	3.8 m
Gas pipeline transport	**41.7 m**	**61.1 m**	**46.6 m**	**32.5 m**	**24.0 m**
of which: expenditures to acquire tangible fixed assets	18 m	39.3 m	25.0 m	15.4 m	7.5 m
Maintenance	23.8 m	21.8 m	21.6 m	17.1 m	16.5 m
Intermodal transport - terminals of intermodal transport	23.3 m	**5.7 m**	**3.0 m**	**5.0 m**	**7.3 m**
of which: expenditures to acquire tangible fixed assets	22.7 m	5.6 m	2.4 m	3.4 m	6.7 m
Maintenance	0.6 m	0.1 m	0.6 m	1.6 m	0.6 m
City transport - transport route	5.5 m	**10.7 m**	**12.3 m**	**4.3 m**	**6.2 m**
of which: expenditures to acquire tangible fixed assets	5.5 m	9.5 m	8.7 m	1.4 m	0.8 m
Maintenance	-	1.2 m	3.6 m	2.9 m	5.4 m

Source: MDVRR [28]

3.2.2.1 Key players in the infrastructure sector

So far investments into transport infrastructure were entirely under the control of the **Ministry of Transport, Construction and Regional Development (MDVRR)**, and mainly financed by the EU Cohesion Fund (CF) and European Regional Development Fund (ERDF).

The MDVRR's underlying organisations ***Slovenská správa ciest*** (Slovak Road Administration) and ***Národná diaľničná spoločnosť, a.s.*** (National Motorway Company) are operating and developing Slovakia's road infrastructure. In relation to motorways and expressways, the MDVRR plays the role of the road administrative authority and decides on key aspects of the operation of roads.

Similar to the road infrastructure, the railway infrastructure is also owned by the Slovak Republic,

through the MDVRR. ***Železnice Slovenskej republiky*** **(Slovak Railways)**[38] manages the Slovak railway system (according to Act no. 258/1993 Coll. on Railways of the Slovak Republic) and the **Railway Regulatory Authority** (Úrad pre reguláciu železničnej dopravy) takes care of the regulatory issues.

Železničná spoločnosť Slovensko, a. s. (Railway Company Slovakia) is the key operator, and is 100% owned by the Slovak Republic. The core activity of the company is **passenger transport on national railway tracks, regional tracks, and activities related thereto**.

Passenger rail transport has historically been dominated by the state-owned companies. But in March 2012[39] the first **private operator,** RegioJet, entered the market. It managed to capture a 3% market share and reported a EUR 6.7 million turnover in its first year of operation[40]. The company has transported more than 1.5 million passengers on the regional railway line Bratislava – Dunajská Streda – Komárno route (100km).

Until 2004, **Železničná spoločnosť Cargo Slovensko, a. s. (Railway Company Cargo Slovakia),** another 100% state owned company monopolised **cargo railway services.** Today, the cargo railway transport sector is liberalised and works without regular state intervention. However, unlike the road transport sector, **the railway transport sector is still highly concentrated**.

The largest carrier in **passenger ship transport is Lodná osobná doprava, a.s.** (Passenger Ship Transport Company), which operates most passenger ships in Slovakia. It is in competition with a few other carriers, most of which operate just one or two vessels.

The largest carrier in **freight ship transport is Slovenská plavba a prístavy, a.s.** (Slovak Shipping and Ports Company), which deals with inland navigation, port services in the ports of Bratislava and Komárno, freight repairs and shipbuilding. It provides logistical services for the transport of goods along the Danube and on the entire network of European waterways between the North Sea and the Black Sea.

3.2.2.2 Demand characteristics

Slovakia's transportation infrastructure needs are overwhelming, which is according to the Strategic Development Plan of Transport Infrastructure of the Slovak Republic approaching to EUR 10 billion. Table 33 below gives an overview of the Slovak government's projected infrastructure needs in the 2014-2020 Programming Period.

Table 33: Indicative transportation infrastructure needs for the period 2014-2020

Financial needs (million EUR)	TOTAL	2014	2015	2016	2017	2018	2019	2020
Railway infrastructure	**2,370.0**	95.5	470.9	565.1	442.7	467.9	205.0	92.7

[38] Since 2002 a law divided the company: Slovak Railways was left with infrastructure maintenance and passenger and cargo transport was moved into company "Železničná spoločnosť, a. s." (ZSSK). In 2005 this new company was further split into "Železničná spoločnosť Slovensko, a. s." (ZSSK) providing Passenger transport services and "Železničná spoločnosť Cargo Slovakia, a. s." (ZSSK Cargo) providing cargo services.

[39] RegioJet, a member of the Czech Student Agency group, began operating regional rail service on the route linking Bratislava, Dunajská Streda and Komárno, south-east of the capital, on 4 March 2012, replacing ZSSK.

[40] Annexes to the 2nd IRG-Rail Annual Market Monitoring Report, 27 February 2014

Road infrastructure (TEN-T)	**4,864.4**	478.8	725.8	891.6	923.6	785.4	725.1	297.6
Road infrastructure (outside TEN-T)	**901.9**	37.2	84.3	128.0	285.7	207.4	71.7	13.5
Public passenger transport	**966.7**	61.9	166.3	200.9	204.7	224.7	40.3	60.6
Airport infrastructure*	**157.4**	3.2	5.8	3.7	36.3	30.2	30.2	27.3
Water infrastructure	**478.2**	14	17.5	17	46.7	148. 0	181	54
Total	**9,738.6**	690.7	1,470.9	1,806.4	1,939.9	1,863.8	1,253.4	518.5

Source: Strategic Development Plan of Transport Infrastructure of the Slovak Republic by 2020. (Note: The table does not contain costs)for the provision of investment documentation.)

A detailed list of potential projects in need of development was provided by MDVRR, and is included in Appendix 17 as part of the pipeline of infrastructure needs. To reiterate, these needs are of an indicative nature only. A list of major projects that were selected by MDVRR for inclusion in the 2014-2020 OP text is also included in Appendix 14.

The EU funds in the Slovak Republic still remain the major source of funding (except the national co-funding amount). In summary, this indicative list of projects amounting to approximately EUR 10 billion far exceeds the EU allocation of the next Programming Period. For reference, the amount indicated in the Strategic Development Plan (approximately EUR 10 billion) is more than twice the entire OP II budget for the 2014-2020 Programming Period. The total OP II allocation for the Programming Period is EUR 3.96 billion. Furthermore, the airport infrastructure mentioned above, is not deemed to be eligible according to the OP II approved by the EC. Therefore this area cannot be funded by EU funds.

Table 34 summarises the planned usage of these financial resources from EU funds:

Table 34: Planned financial resources – European funds

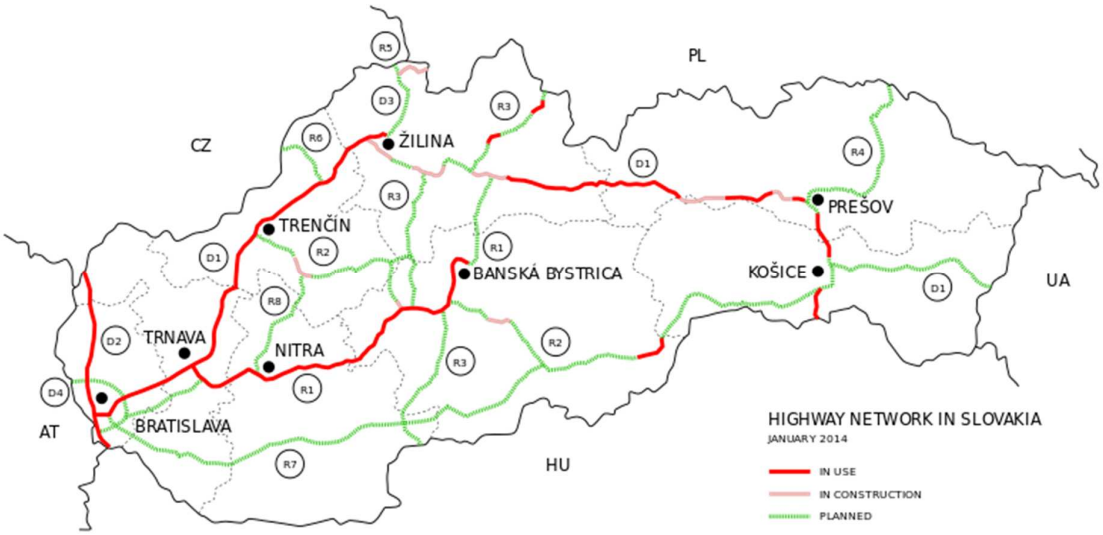
No.	Name of Priority Axis/Priority	EU + National co-funding (EUR)	EU 85% (EUR)	National co-funding 15% (EUR)
COHESION FUND				
1.	Railway infrastructure (TEN-T CORE) and renewal of rolling stock	853,928,431	725,839,166	128,089,265
2.	Road infrastructure (TEN-T CORE)	1,344,117,648	1,142,500,000	201,617,648
3.	Public passenger transport	379,235,295	322,350,000	56,885,295
4.	Waterway transport infrastructure (TEN-T CORE)	137,000,000	116,450,000	20,550,000
TOTAL CF		**2,714,281,374**	**2,307,139,166**	**407,142,208**
				ERDF
5.	Railway infrastructure (other than TEN-T CORE)	332,037,915	282,232,227	49,805,688
6.	Road infrastructure (other than TEN-T CORE)	570,302,622	484,757,228	85,545,394
TOTAL ERDF		**902,340,537**	**766,989,455**	**135,351,082**
SUM OF CF AND ERDF		**3,616,621,911.00**	**3,074,128,621.00**	**542,493,290.00**
				CEF
--	Financial envelope	876,470,588	745,000,000	131,470,588
Total		**4 493 092 499**	**3 074 128 621**	**673 963 878**

Road infrastructure

At the most basic level, there is currently no continuous motorway/expressway connection from the west to the east of the country. Though such a motorway has been planned, some sections of D1 motorway are still in the Environment Impact Assessment (EIA) process [29].

From the perspective of ESI funds management, the Slovak road system is divided into the roads included in the Trans-European Transport Network (TEN-T) and so-called non-TEN-T roads. Within the TEN-T category, the priority in Slovakia is on developing the CORE network first, which includes the D1, D3 and part of R3 expressways. Non-CORE elements are referred to as Comprehensive TEN-T, and are viewed as lower priority during the present Programming Period. Figure 6 below provides an overview of the highways now in use, those under construction, and those still in the planning phase.

Figure 6: Highway and expressway network in Slovakia



Source: OECD Regions at a Glance 2014, Note: Appendix 14 includes both the major project list, as well as the list of core TEN-T and comprehensive TEN-T projects, during the 2014-2020 Programming Period for road infrastructure development.

In addition to the construction of new highways and first-class roads, many existing roads are in a state of disrepair, and there exist a large number of high-accident sites that should be high priority for maintenance, improvement and repair. As shown in Table 35 which provides an overview of the conditions of various types of roads, **the quality of road infrastructure in Slovakia is very low**.

Table 35: Quality of the roads according to a survey (% of respondents)

	Very good	Good	Convenient	Inconvenient	Emergency
Motorway	53.1	35.6	8.9	2.2	0.2
Expressway	59.6	30.8	7.1	2.0	0.5
1st class roads	7.5	28.6	32.2	29.0	2.7

2nd class roads	5.8	24.5	33.4	32.3	4.0

Source: Masárová, Šedivá [27]

The key challenges and issues to be addressed include fixing dangerous road sections (high accident locations), reducing the number of cars passing through towns and municipalities and mitigating other negative externalities affecting the environment and the health of the population (e.g. noise barriers, PM, CO2, NO_x emissions). Slovakia also needs to improve road safety, road width and radius, visibility conditions and homogeneity of routes, and to construct anti-flood measures for bridges and roads. The continuous development of smart traffic systems, which is currently taking place, will also play an important role [21]. The estimated financial needs for maintenance and repair for transport infrastructure between 2014 and 2020 is provided in Table 36.

Table 36: Financial needs for transport infrastructure maintenance for the period 2014-2020

Cost per year (million EUR)	2014	2015	2016	2017	2018	2019	2020
Road infrastructure maintenance and repairs							
Motorways and expressways	**64.6**	**68.5**	**71.2**	**73.7**	**75.2**	**76.7**	**78.2**
1st class roads	63.6	64.9	66.3	66.6	67.4	68.3	69.1
Railway and intermodal infrastructure maintenance							
Railway infrastructure	11.0	10.9	10.7	12.4	12.3	12.2	12.1
Combined transport – CT terminals	2.3	2.6	3.0	3.8	4.2	4.5	4.9
Infrastructure maintenance							
Air transport (airports)*	3.9	4.2	4.4	5.5	5.7	6.0	6.2
Water infrastructure maintenance							
Water transport (inland waterways)*	2.3	2.6	2.9	3.2	3.5	3.0	4.1

*Source: Strategic Development Plan of Transport Infrastructure of the Slovak Republic by 2020. (*Note: Maintenance of waterways in the Slovak Republic falls under the competence of the Ministry of the Environment of the Slovak Republic. According to the approved OP II by the European Commission, the airport infrastructure is not deemed to be eligible. Therefore this area cannot be founded by EU funds.)*

Rail infrastructure

The modernisation of railway transport presents its own unique challenges. The number of passengers on Slovakia's railroad system has fallen by half in the past 20 years, from 89.4 million in 1995 and only 45.1 million in 2012. Today, the share of the population that utilises rail transport is one tenth of the EU average. Ridership has been sapped by the dramatic rise in personal automobile ownership, and the development of the country's highway network. As a result, the Slovak government has made it a priority to increase the quality and capacity of rail transport in order to improve the future attractiveness of railway transport. Progress has been made recently, including the purchase of new trains and the introduction of new timetables establishing departures at regular intervals.

Despite recent progress, significant hurdles remain. There are currently a large number of temporary speed restrictions, a high proportion of unsecured crossings, problems with electromagnetic compatibility and many stations are in bad condition. **Investments into the modernisation of railway corridors are already underway and aim to relieve congested road infrastructure by shifting traffic to railways** (e.g. renewal of suburban and interregional public rail transport). Furthermore, approximately one fifth of trains operated in regional and suburban rail transport will be replaced by the Slovak government (according to MDVRR) [21] [30].

Other infrastructure

Environmental protection investment in Slovakia is rather low as compared to the EU-27 average.

As in 2011, only 0.07% of GDP in Slovakia was spent in environmental investments by the public sector, while the EU-27 average was 0.13% [4]. In 2009, investment by the Government for environmental protection reached EUR 168 million, while the business sector spent a total of EUR 469 million. Investments of private and public companies specialised in environmental protection services reached EUR 89 million in the same year.

Concerning **water management**, 87% (2012) of the population were connected to a water supply system with public access (Table 37), which was the result of a gradual increase in the past years. In 2002, the share was lower by 3 %. [4].

Table 37: Share of the population connected to a public water supply (%)

Region	2009	2010	2011	2012
Bratislavský kraj	95.8	95.8	96.9	96.8
Trnavský kraj	85.4	86.4	86.8	87.8
Trenčianský kraj	88.8	89.0	89.5	89.8
Nitrianský kraj	90.4	90.3	89.1	90.2
Žilinský kraj	88.7	88.8	89.0	89.5
Banskobystrický kraj	85.6	85.8	86.7	86.2
Prešovský kraj	78.0	78.3	79.3	78.8
Košický kraj	80.8	81.2	81.2	80.8
Total	**86.3**	**86.6**	**86.9**	**87.0**

Source: Statistical Office of the Slovak Republic [31]

The share of the population connected to the **public sewage system** in Slovakia is very low and has significant regional disparities. Only the region surrounding the city of Bratislava reached relatively high values (87.4% in 2012), while all other regions were only poorly connected to the public sewage systems (with 50.2-62.2% of the population covered). In the Nitra region, barely half of the population is connected (Table 38).

Table 38: Share of the population connected to the public sewage systems (%)

Region	2009	2010	2011	2012
Bratislavský kraj	85.2	86.2	87.1	87.4
Trnavský kraj	52.3	54.2	57.9	60.3
Trenčianský kraj	58.1	58.3	59.0	59.6
Nitrianský kraj	47.3	47.5	48.6	50.2
Žilinský kraj	57.4	60.0	60.6	62.2
Banskobystrický kraj	60.9	60.8	61.1	60.5
Prešovský kraj	56.0	57.2	59.2	60.8
Košický kraj	60.1	60.5	61.2	60.7
Total	**59.4**	**60.4**	**61.6**	**62.4**

Source: Statistical Office of the Slovak Republic [31]

Furthermore, Table 39 shows some of the investment needs (with the exception of major projects

listed in Appendix 14) that are planned to be implemented in the 2014-2020 period. The first project, received from the City of Snina during the consultations, is an integrated one, covering three segments (energy efficiency, infrastructure and waste management) with an anticipated cost of at least EUR 5 million. The other 17 projects are local/regional transport infrastructure and water management projects.

Table 39: List of infrastructure projects identified, from the consultation with the cities, to be potentially supported by financial instruments

Organisation	Code	Project Title	Description	Cost in EUR	Project start
City of Snina	W.7	Snina energy and waste infrastructure	Combined activities in energy efficiency, infrastructure and waste management.	8mil.	2015
City of Šaľa	U.1	Šaľa cycling infrastructure	Cycleways within the city and cycleways connecting the city with surrounding municipalities	5.9 mil.	2017
City of Šaľa	U.6	Šaľa integrated station	Building of a park-and-ride at the railway and bus station; rebuilding of bus station into integrated station; creation of stops for buses, trains, cyclist and parking facilities.	900,000	2017
City of Šaľa	W.21	Šaľa water retention measures	Improvement of the water management –the aim is to find a way to retain rainwater and water outflowing from artesian wells.	600,000	2018
Public transport company – Košice	U.11	Košice Tram & Trolley Fleet[41]	Purchase of trams and trolley buses in the city of Košice.	Trams I.: 108 mil. Trams II.: 108 mil. Trolley buses: 70 mil.	2015
City of Malacky	W.1	Malacky sewage system extension	Aim of the project is extension of sewage system in the city of Malacky. The system network will be prolonged.	5 mil.	2015
City of Malacky	U.2	Malacky cycling infrastructure	Construction of cycling infrastructure, such as cycling roads, parking, bike racks and others within the city.	500,000	2015
City of Malacky	U.3	Revitalisation of public spaces at main stations	Improvements to main stations including car and bicycle parking to improve the attractiveness of public transport	1 mil.	2,015
City of Malacky	U.4	Malacky safety measures	Construction of safety measures along high traffic public transport stops, pedestrian crossings, etc.	1 mil.	2016
City of Bratislava	U.5	Bratislava tram line modernisation[42]	Modernisation and reconstruction of tram lines and infrastructure, including the purchase of new trams.	> 5 mil.	2015

[41] Based on an update from MDVRR, the projects have been covered in the OP Transport 2007-2013. However it should be further ascertained whether the project has been fully funded, or if there is demand for additional funding. The particular project does not have significant impact on total proposed allocation for financial instruments in this area.

[42] Based on an update from MDVRR, the projects have been covered in the OP Transport 2007-2013. However it should be further ascertained whether the project has been fully funded, or if there is demand for additional funding. The particular project does not have significant impact on total proposed allocation for financial instruments in this area.

City Stará Ľubovňa	W.22	Jarabinka rill flood protection	Revitalisation of the locality with adjustment of the rill and flood protection measures to protect roads and sport facilities in the locality	325,788	2015
City Stará Ľubovňa	U.8	Poprad Valley bike trails	Construction of bike trails in the Stará Ľubovňa district, on the route Chmeľnica – Stará Ľubovňa – Hniezdne – Nižné Ružbachy	2.1 mil.	2,016
City Stará Ľubovňa	U.9	EuroVelo 11	Construction of bike trails in the Stará Ľubovňa and its connection to the international trails (mainly Slovakia – Poland)	9.9 mil	2017
City Stará Ľubovňa	U.10	Stará Ľubovňa public spaces regeneration	Reconstruction of pavements, barrier-free access, public green, public lightning, pedestrian crossings etc. to improve the public spaces and increase safety.	1.3 mil.	2015
City Stará Ľubovňa	W.5	Sewage system – Popradska street	Construction of sewage system with connection to city wastewater treatment plant, including preparation of connection for particular family houses.	282,448	2016
City Stará Ľubovňa	W.6	Extension of sewage system – Vansova street	Construction of sewage system with connection to city wastewater treatment plant, including preparation of connection for particular family houses.	267,139	2,015
City of Trebišov	E.5	Trebišov vehicle share	Improved energy efficiency and the creation of jobs in the municipality through the implementation of an electric vehicle-sharing scheme	1 mil.	2016

Six projects have been identified from the consultation with the corporates, of which one is in transport infrastructure, two in wastewater management (primarily investments into new wastewater treatment plants and sewage systems) and three in energy efficiency and infrastructure. Together these projects are expected **to reach an investment size of at least EUR 256 million**.

Table 40: List of infrastructure projects identified, from the consultation with the private sector, to be potentially supported by financial instruments

Organisation	Code	Project Title	Description	Cost in EUR	Project start
Vychodoslovenska energetika Holding a.s.	E.2	Intelligent metering systems, Košice and Prešov	Implementation of intelligent metering systems in housing buildings.	500,000	2014
Železničná spoločnosť Slovensko , a.s. (ZSSK) (Slovak Railway company)	I.34	Modernisation of railway line between Bratislava and Zwardoň	Modernisation of railway line within TEN-T corridor (Bratislava – Žilina – Čadca – Zwardoň) to accelerate the traffic and improve safety in 8.5 km of the railway line.	84.3 mil.	2014
Bratislavská vodárenská spoločnosť, a.s. (BVS)	W.8	Bratislava wastewater treatment plants and pipes	Investment into wastewater treatment plants, renewal of water pipes and new inlet water pipes mainly within the city of Bratislava, but also in the surrounding region operated by the BVS.	111 mil.	2014
Vodárenská spoločnosť Ružomberok,	W.2	Sewage systems and WTP in Stankovany	Sewage system in Hubová, Ľubochňa, Švošov with WTP in Stankovany	>21 mil	2014

a.s. (VSR)	W.3	Sewage systems and WTP Liptovská Lúžna	Sewage system and WTP in Liptovská Lúžna, Liptovská Osada and Liptovské Revúce	11.4 mil	2014
	W.4	Sewage system in Ružomberok and WTPs	Sewage system Ružomberok and WTP in Liptovská Teplá and Liptovské Sliače	26 mil	2014
Vychodoslovenska energetika Holding a.s.	E.6	Energy efficiency improvements of stations	Improvement of the energy efficiency of stations at Kežmarok, Michalovce, Lipany, Prešov 1, Rožňava, Prešov 2, Poprad).	1 mil.	2014
KA Contracting SK, s.r.o.	E.1	National energy infrastructure upgrades	Reconstruction of energy infrastructure of customers and energy supply through EPC.	1 mil.	2015

3.2.2.3 Key challenges and needs of the sector

The primary challenge facing Slovakia's transportation infrastructure is that the need for investment vastly exceeds available funds. Despite significant investment over the past several years, the length, quality and safety of the transportation network remains substandard.

Until recently, transport infrastructure projects were funded exclusively with public money via grants. But as demonstrated above, investment needs exceed expected budgets by a ratio of 2:1. As such, additional public and private financing will be necessary.

Future investments might take inspiration from the investment in R1 expressway– PR1BINA, as an alternative approach to financing infrastructure development through PPPs. The next box provides an example of a PPP project within the transportation sector, which was able to attract additional private funding. This example should be also analysed in the future set-up of the FIs.

PPP projects within the infrastructure sector

An approach to financing infrastructure development is public-private partnership (PPP). This type of financing is being considered in Slovakia in connection with the construction of certain sections of D4 highway and the construction of R7 expressway sections: Bratislava Ketelec – Bratislava Prievoz, Bratislava – Dunajska Luzna and Dunajska Luzna – Holice.

This form of financing has already been used for the **R1 expressway construction project called "PR1BINA**."

The project involves securing financing, design, construction, operation and maintenance of the expressway with a total length of 51.6km over 30 years. The newly built expressway connects the city of Nitra and the village Tekovské Nemce. The project also passes through the city of Banská Bystrica.

The first three sections (Nitra - Selenec, Selenec - Beladice, Beladice - Tekovské NemceGermans) are linked to the sections of R1 Nitra - Trnava and Hronský Beňadik - Banska Bystrica so that they create a 167km long connection "Trnava - Banská Bystrica".

The project is implemented by a consortium of GRANVIA. The tender and the concession contract were managed by the Ministry of Transport, Posts and Telecommunications. The total cost of the project including planning, construction, provision and maintenance of the R1 expressway is over EUR 1.2 billion.

GRANVIA invested EUR 149 million, mostly in the form of subordinated debt. The project was originally co-financed in the form of senior credit provided by 13 banks. The European Bank for Reconstruction and Development (EBRD) also played an important role in the investment financing by providing 20% of the credit amount.

In November 2013, the original financing was replaced by the investment bond issuance, which led to savings of EUR 145 million. The strategic role of bond issuance in the process was managed by Deutsche Bank.

Another challenge comes from a misalignment of incentives. Fuel taxes have the dual purpose of disincentivising motor vehicle use on the one hand in order to reduce GHG emissions and traffic congestion, and on the other hand to raise revenues to support infrastructure investment. Meanwhile, new cars in Slovakia are becoming much more fuel-efficient, meaning that as the fleet is renewed over time, fuel tax revenues will become a less reliable source of funding.

Other sources of revenue for the transportation system include tolls and motorway stickers, neither of which is impacted by improving fuel efficiency. Nevertheless, at 0.2% of GDP, revenues from taxation of transport (excluding fuels) are low in Slovakia compared to other EU countries, ranking 22nd in 2013 [32].

Effective promotion of passenger rail ridership, meeting infrastructure revenue needs and GHG emission reduction goals will require a realignment of these incentives. In addition to investing in rail infrastructure and reliability, reforms should seek to increase fuel taxes.

3.2.2.4 Summary of key findings

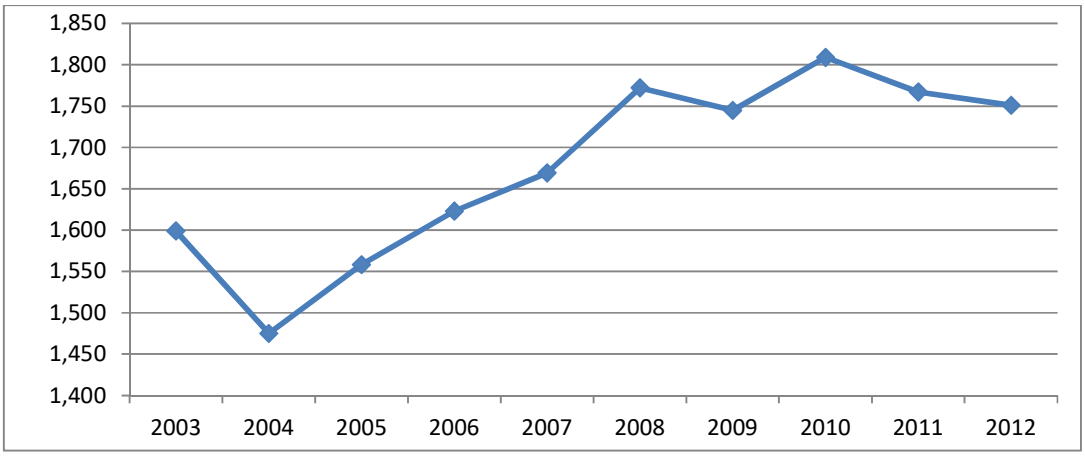
Market overview and key players of the sector	Transport	• As a % of all infrastructure investment in 2012, road infrastructure accounted for 60%, railway infrastructure 26.9%, intermodal transport 7.3%, and city transport 6.2%, air transport 4%, oil pipelines 3.7%, gas pipelines 2.9%, inland waterways 0.4%
	Water	• Areas in Slovakia with low water retention capacity will be more vulnerable to climate change; floodplain forests are a cheap alternative to pure technical solutions like building dams and floodplain reservoirs
Demand characteristics	Transport	• The length and quality of road infrastructure in Slovakia is sub-standard • Slovakia needs to fix its high accident locations, build CORE TEN-T motorway sections and shift traffic from roads to railways and other sustainable modes of transport, while modernising its railway corridors
	Water	• Regional disparities of population connected to public water supplies remain • A small share of Slovakia's population is connected to public sewage systems
Number of projects identified		• 30 major projects (Appendix 14), with a separate list on high priority projects (26 railway projects and 46 road infrastructure projects) (estimated amount is still under discussion) • 6 infrastructure projects promoted by private sector have been identified (estimated amount over EUR 256 million) • 16 infrastructure projects have been identified from the cities (estimated amount over EUR 321 million).
Key challenges and needs of the sector	Transport	• The mobilisation of private capital is necessary to realise PPP projects like PR1BINA • Need to complete CORE TEN-T motorway and expressway connections (remaining sections are characterised by difficult terrain conditions and associated costs) • Railway passengers have decreased by 50% over the 1995-2012 period
	Water	• The coverage of public sewage systems in Slovakia is low and is characterised by relatively high regional disparities

3.2.4 Waste management

Waste management in Slovakia is an issue where complex measures at the national level need to be taken. Based on an analysis by BiPRO[43], public awareness of waste management in Slovakia is low. Many households still burn or dump their waste, unaware of the environmental harm caused by their actions. Thus, education on environmental protection, not only waste management, should be addressed in order to increase general environmental awareness [33].

Municipal waste generation is not a major issue in Slovakia. Growth in waste has slowed in recent years, and at 333 kg per person, remains well below the EU average of 502 kg. The manner in which that waste is processed is however problematic.

Figure 7: Total amount of municipal waste generated in Slovakia (in thousands of tonnes)



Source: Eurostat [4]

Slovakia has policies and initiatives in place to combat the use of illegal dumpsites, rehabilitate landfills and implement separate waste collection. Such activities are supported by EU Funds, the Recycling Funds (non-governmental fund promoting the collection, recovery and recycling of certain wastes in the Slovak Republic), the Environmental Fund (operated by the Ministry of Environment) and by municipalities via fees.

The Government is preparing a waste management reform package for 2016. Municipal waste, is to be transitioned away from landfilling towards greater recycling – both for energy and material recovery purposes. Economic instruments for encouraging the population to reduce or recycle waste will be used [18], and it will be considered as a potential area for FIs.

3.2.4.1 Key players of the waste management sector

The Department of Waste Management (Ministry of Environment) is the key waste management authority at the national level. It prepares and implements the related legislation. The **Slovak Environmental Agency** supports the MoE by conducting data analysis and preparing the National

[43] BiPRO (Beratungsgesellschaft für integrierte Problemlösungen). Link to the PDF version: http://ec.europa.eu/environment/waste/framework/pdf/SK_factsheet_FINAL.pdf

Waste Management Plan. The Regional Waste Management Plans are prepared by Regional Environmental Offices and, at the district-level, Environmental Offices issue permits for waste management activities and approve Waste Management Plans of municipalities and waste producers.

The first professional association harmonising waste management in the Slovak Republic, **APOH (Asociácia podnikateľov v odpadovom hospodárstve)**, was established in 1998. APOH involves business entities offering a wide range of services in the field of waste management. The members are engaged in household waste collection, energy and material recovery, ecology disposal sites and waste management consulting. One of the crucial goals is to harmonise Slovakia's waste management legislation with EU legislation. In 1999, APOH was accepted by the European Federation of Waste Management and Environmental Services – FEAD, located in Brussels. The list of current APOH members and their activities is presented in the table below.

Table 41: Overview of members of APOH – association of entrepreneurs in waste management

Main actors in waste management	Place of activity	Main Activities
AGB ekoservis, s.r.o	Košice	Complex legislative engineering, consultancy, logistics of waste movement, physical distribution of waste etc.
A.S.A. Slovakia s.r.o	Zohor	Complex services of waste management
Auto Glass Recycling, s.r.o.	Trnava	Ecological recycling of electric waste
Brantner Slovakia, s.r.o.	Bratislava	Waste management facilities[44]
Ecorec Slovakia, s.r.o.	Pezinok	Producer of alternative fuels made from recycled communal waste
ERGONA, a.s.	Bratislava	Waste management consulting
General Plastic, a.s.	Kolárovo	Treatment of plastic, recycling of non-metallic scrap and remains, production of PET bottles and PET preforms
KBZ, s.r.o.	Košice	Accumulation, treatment – by cutting, shredding, crushing, handling and transporting the waste
Marius Pedersen, a.s.	Trenčín	Complex services of waste management
NATUR-PACK, a.s.	Bratislava	Sustainable packaging and recovery of waste services
Reclay Slovakia s.r.o.	Bratislava	Packaging disposal and recycling, consultancy services etc.
Zberné suroviny, a.s.	Žilina	Liquidation of technology equipment, complex services of waste management, leasing of containers, shredding of documents
ARGUSS, s.r.o.	Bratislava	Waste handling
AVE SK odpadové hospodárstvo, s.r.o.	Bratislava	Transport, maintenance and waste disposal
BOMAT s.r.o.	Veľké Orvište	Electric waste recycling
DILMUN SYSTEM, s.r.o.	Bratislava	Asbestos consultancy, liquidation of environmental strain etc.
ENEX trade, s.r.o.	Trenčín	Consultancy services
FECUPRAL, s.r.o.	Veľký Šariš	Collection, sorting and disposal of hazardous waste
H+EKO, s.r.o.	Košice	Collection, sorting and disposal of waste
KOSIT a.s.	Košice	Municipal waste collection and disposal, regular summer and winter road and street maintenance
MEVA-SK, s.r.o.	Brzotín, BAK	Bins for waste and equipment of storage places for the oil economy
OLO, a.s.	Bratislava	Municipal waste collection and disposal, regular summer and winter road and street maintenance
SCHWARZ-EKO, s.r.o.	Topoľčany	Collection of bio waste

Source: APOH

[44] Services are: waste cooking oil collection, waste recycling centre services, landfilling, junk removal, facility services, green space services, sewer cleaning, municipal waste collection, skip and container services, collection of non-hazardous wastes, collection of hazardous wastes, sorting, road cleaning, tank cleaning and tank disassembly, reutilisation.

3.2.4.2 Demand characteristics

In 2011, only 4.4% of generated waste was recycled, while 74.7% was deposited into or onto land. It is necessary to systematically support waste recycling to change this very negative trend. When comparing NUTS 2 regions in Slovakia, Table 42 shows that the share of recovery, i.e. recycling plus energy generation, is very low in all regions, except in the Bratislava area where nearly half of municipal waste is incinerated.

Table 42: Share of selected types of treatment of municipal waste from the total amount of generated waste in NUTS 2 regions in Slovakia in 2011 (in %)

	Slovakia total	Bratislava	Western Slovakia	Central Slovakia	Eastern Slovakia
Material recycling	4.4	1.1	4.1	5.6	5.9
Composting and digestion	5.7	6.3	6.8	4.6	4.2
Total incineration (including energy recovery)	10.5	48.3	0.1	0.0	13.4
Deposit onto or into land	74.7	34.2	86.1	85.7	71.3

Source: Eurostat [4]

Slovakia has made little progress in recent years in reducing landfilling rates. **Landfilling is still the most prevalent method in municipal waste management, while waste recovery and recycling remain marginal**. The amount of energy produced from waste has gradually increased. A majority of municipalities have a separate waste collection system in place, yet its effectiveness is below the required parameters. Insufficiently treated municipal waste causes surface water pollution, which poses a serious threat to the environment and public health [34].

The following box is introducing a success story of two waste management facilities. Both of the projects could be viable under FIs.

Waste recovery in Slovakia

Currently, Slovakia has two facilities in operation using waste for energy production – one facility generates electricity and the other generates heat. Nevertheless, the use of bio-waste for energy production is growing rapidly in recent years – particularly bio-gas plants. **In mid-2011, 33 landfill gas plants were in operation and, by September 2012, this figure increased to 60 operational landfill gas plants.**

In two of the largest cities in Slovakia, there are facilities for the processing of waste. A facility in **Bratislava** (refurbished in 2003), owned by the City of Bratislava, is the largest in Slovakia and is capable of processing 140,000 tonnes of waste per year. A proportion of the energy from this waste facility is consumed by the facility itself with the remaining energy being transmitted into the public grid. [35].

Despite the continuous rise in the proportion of separated municipal waste, the recycling of municipal waste still poses an issue to be dealt with. The infrastructure for the separate collection of waste is insufficient in Slovakia and as such, investments in the area of waste collection and separation are necessary. Another issue is that of the ineffective and expensive collection of waste in small towns and villages due to the low number of inhabitants [33].

Table 43 shows some of the investment needs identified in the segment of waste management to

be implemented in the next Programming Period (**5 projects**). The integrated investment from Snina has a waste management element involving the construction of waste container stations and the purchase of waste containers. The other city investments mostly target waste recovery, which has been widely neglected in Slovakia.

Through the consultation with the corporates, a number of investment needs have been identified which could potentially be supported by an FI. The projects identified from the corporates (see Table 44) are focused on either the sorting of municipal waste and its adjustment for further processing or directly on the incineration of waste for energy purposes. **The investment size of these 8 projects is estimated at EUR 53 million** (the last two projects have no information on the investment size).

One waste management stakeholder interviewed said their motivation to invest in the construction of a new gasification plant processing waste was driven by the lack of such facilities in Slovakia. The company plans to process the waste for producing energy. Another company that manages a waste dump will invest in a sorting line and composting plant to gradually process the waste which has been landfilled so far. Some of the planned waste-processing are to be new facilities built in old industrial areas, which solves two problems at once, since new jobs will also be created in these facilities. In the majority of facilities, producing energy from waste will consume part of the produced energy themselves and the rest will be supplied to the electricity grid.

Table 43: List of waste management projects identified, from the consultation with the cities, to be potentially supported by financial instruments

Organisation	Code	Project Title	Description	Cost in EUR	Project start
City of Snina	W.7	Snina energy and waste infrastructure	Combined activities in energy efficiency, infrastructure and waste management.	5mil.	2015
City of Šaľa	W.11	Collection and waste recovery/separation. Building up of composting plant	Construction of a composting plant and municipal waste sorting line to reduce landfilling and increase recovery of biodegradable waste.	1.9m	2017
City of Levice	W.9	Technological equipment for a composting plant in Levice	Construction of a composting plant and municipal waste sorting line to reduce landfilling and increase recovery of biodegradable waste.	560,000	2015
City of Malacky	W.10	Construction of composting plant and sorting line for waste	Construction of a composting plant and municipal waste sorting line to reduce landfilling and increase recovery of biodegradable waste.	5m	2015
City Stará Ľubovňa	W.18	Intensified separated collection for biodegradable waste	Investment in the implementation and promotion of separated waste collection and pick-up, residential composting, and biodegradable waste collection.	2.8m	2015

Table 44: List of waste management projects identified, from the private sector consultation, to be potentially supported by financial instruments

Organisation	Code	Project Title	Description	Cost in EUR	Project start
Brilant SK	W.12	Brilant SK Gassification plant	Construction of new gasification plant processing waste with a capacity of 5.5 MW. Approximately 50 tonnes of waste will be processed every day.	8m	2014
ROMAG s.r.o.	W.13	Centre for sorting and adjustment of components of the municipal waste	Construction of the centre with the aim of sorting municipal waste (textile, wood, paper, glass, metal, plastics…) and also waste to energy recovery.	12.5m	N/A
Bzenex BMP	W.14	Extension of a landfill and sorting line	Extension of the landfill and sorting line with composting plant.	5m	N/A
BPS Zemné	W.15	BPS Zemné waste to energy facility	Construction of energy facilities for processing of plastic waste for combined production of electrical energy and heat.	2.5m	2014
WFF DREVOTES	W.16	WFF DREVOTES waste to energy facility	Construction of energy facilities for processing of plastic waste. Expected capacity of facilities is 24 MW.	12 – 15m	2014
Private energy producer	W.17	Waste to energy facility	Processing of municipal waste for energy purposes.	10m	2014
DETECH, s.r.o.	W.19	DETECH waste recovery station in Dolný Bár	Waste material will be processed in a way that produces an output material that is a mixture of liquid hydrocarbons, which is suitable for further processing and using petrochemicals	N/A	2014
Environcentrum , s.r.o.	W.20	Processing of steel waste in Košice	Investment into new equipment for the treatment of waste. According to plan, up to 100,000 tonnes of waste could be processed annually.	N/A	2014

3.2.4.3 Key challenges and needs of the sector

Slovakia's waste management sector is characterised by the critically low share of total waste that is recycled or recovered. Landfilling prevails, due in large part to the **very low gate fees charged for placing communal waste on landfills, providing little incentive for more sustainable practices**. Efforts to realign incentives to deal with the problem have been modest, allowing the environmental burden that will be left for future generations to deal with to mount.

Public awareness of the benefits of smarter waste management practices is low. Thus, waste needs to be promoted as a valuable source of energy that could be treated before being used again and again; in turn, preserving mineral resources and protecting the environment. The improvement of public awareness regarding waste management, the negative impacts of landfilling and the possibilities of waste reuse should be stressed as well.

Within the industry sector, there is a growing interest among corporates to take the initiative to reduce landfilling if feasible. A number of private companies are developing waste management projects on their own (see Table 44), but have indicated that a lack of available capital is a problem for large scale projects.

3.2.4.4 Summary of key findings

Market overview and key players of the sector	• The amount of municipal waste generated by Slovakia has grown rapidly in the past 10 years but has stabilised at approximately 1.8 million tonnes per year • Landfilling prevails
Demand characteristics	• In 2011, 4.4% of total amount of Slovakia's generated waste was recycled, while 74.7% was deposited into or onto land
Number of projects identified	• 8 projects promoted by the private sector has been identified, from which 6 projects' estimated investment size is app. EUR 50 million (the last two projects have no information on the investment size). • 5 city projects worth EUR 15 million have been identified as part of an integrated approach.
Key challenges and needs of the sector	• The whole waste recovery and recycling system is undermined by the low gate fees for placing communal waste in landfills • Slovakia needs to raise public awareness on the benefits of waste treatment and use, and the costs of landfilling

3.2.5 Municipal and urban development

The EU's Regional Policy for integrated urban development, aims to ensure cities excel in economic, social and environmental areas to achieve the Europe 2020 strategy of smart, sustainable and inclusive growth, while striving for a high quality of life for citizens. Integrated urban development may cover investments in innovation, education and culture as well as face the challenges of urban sprawl, poverty, migration and beyond.

This chapter mainly focuses on energy efficiency in public and residential buildings, which is (and has been in the past Programming Period), one of the key investment areas for the Slovak Republic where FIs as well as specialised funds are utilised. Furthermore, the urban development sector highlights some investment opportunities within the cultural sector as well.

Slovakia's national urban development strategy is laid out in the **National Strategy of Regional Development** [36][45].

Slovakia's population is distributed unevenly and so is the level of municipal development. As Table 45 and Figure 8 show, population density is highest in the area surrounding the capital city of Bratislava in the western part of the country, which is also the most developed area of Slovakia. The area consisting of two NUTS 2 regions (the Bratislava region and Western Slovakia) covers approximately one third (34.8%) of the total area of Slovakia with almost half of the population (45.3%) living there.

[45] Link to the PDF version: http://www.telecom.gov.sk/index/index.php?ids=93254

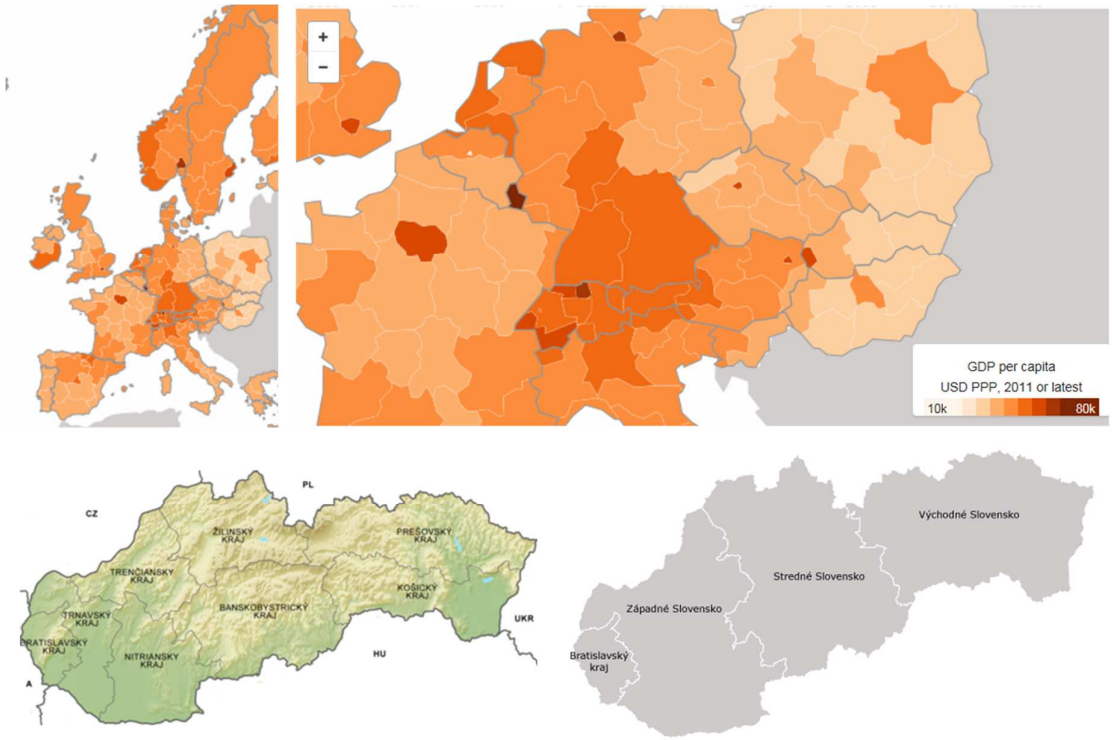
Table 45: Characteristics of the Slovak population in the NUTS 2 regions in 2013

	Population	Share of total population	Area (km^2)	Population density
Slovak Republic	5,410,836	-	49,036	110
Bratislava Region	612,682	11%	2,053	298
Western Slovakia (East)	1,838,136	34%	14,992	123
Central Slovakia (Centre)	1,348,611	25%	16,263	83
Eastern Slovakia (West)	1,611,407	30%	15,728	102

Source: Eurostat [4]

In 2013, the region surrounding the capital city of Bratislava was also the region registering the highest population growth, driven primarily by internal migration [37]. The corresponding depopulation of the remaining regions and in particular the emigration of young educated people to larger cities or its suburbs represents a threat to the future development of municipalities in more peripheral regions.

Figure 8: 8 regions in the Slovak Republic[46]



Source: Regions of Slovakia, OECD

[46] The 8 regions were set up when Slovakia joined the European Union.

As of 31 December 2012, there were **2,890 municipalities in Slovakia, of which 138 were towns**. Taking into account the population of Slovakia (of 5.4 million), it is clear that the **settlement structure is very fragmented**, unlike most European countries (but very similar to the Czech Republic due to their common history).The Slovak Republic is territorially divided into four NUTS 2 regions, eight NUTS 3 regions (called self-governing regions, VUC[47]), and 79 districts belonging to NUTS 4.

Table 46: Territorial units in Slovakia

Unit type	Designation	Number of units
Statistical units + planning regions	**NUTS II**	**4**
Self-governing regions (so called higher territorial units – VUC)	**NUTS III**	**8**
Districts	**NUTS IV**	**79**
Municipalities	**NUTS V**	**2,890**

The setting up of the 8 regions was organised after Slovakia joined the EU in 2004. On the basis of NUTS classification, the Slovak Republic was required to **transfer more than 400 competences from the central government to municipalities and VUCs** [38]. The self-governing regions (VUC) are responsible for the management of regional budgets, coordinate regional activities, cooperate with the relevant ministerial departments and are responsible for planning the ROP for EU Structural Funds.

Slovakia ranks among the least urbanised countries in Europe, with just 54.4% of residents living in cities compared with an EU average of 75%. Table 47 below shows that Slovakia's population is becoming slightly less urbanised over time.

Table 47: Basic municipal development indicators for selected years

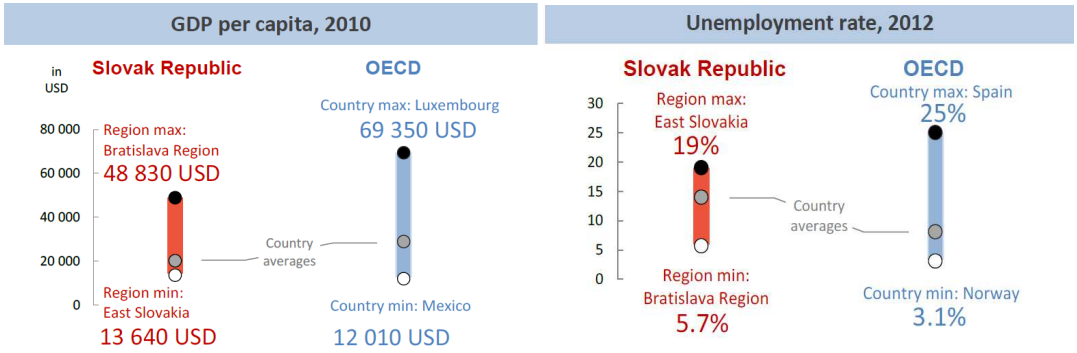
		1970	1980	1991	2001	2011
Number of municipalities		3,091	2,725	2,825	2,883	2,890
Population living in municipalities	up to 1 999 inhabitants	42.7%	33.2%	30.7%	30.6%	30.4%
	2 000 – 4 999 inhabitants	20.4%	16.6%	13.2%	13.8%	14.9%
	5 000 – 9 999 inhabitants	8.6%	7.5%	6.6%	6.9%	7.6%
	10 000 and more inhabitants	28.3%	42.7%	49.5%	48.7%	47.1%
Share of population living in	**urban residences**	**41.4%**	**52.0%**	**56.8%**	**55.0%**	**54.4%**
	rural residences	**58.6%**	**48.0%**	**43.2%**	**45.0%**	**45.6%**

Source: Statistical Office of the Slovak Republic [39]

[47] VUC (Vyšší územný celok) – territorial division in the Slovak Republic

Furthermore, **in 2010 the Slovak Republic had the 6th largest regional disparities in GDP per capita within OECD countries.** Figure 9 shows that GDP per capita is almost four times higher in the Bratislava area than in the East part of the country.

Figure 9: Regional disparities in GDP



Source: OECD Regions at the glance 2014 – Slovak Republic

The following table provides an overview of capital expenditures at the national level, by self-governing regions and by the municipalities. During the period 2008-2012, a slightly decreasing tendency can be observed. In 2012, the national government's capital expenditure was below 3% (EUR 460 million), the regional level around 10% (EUR 120 million), while the municipality level was at almost 20% (EUR 644 million). Nevertheless, these municipal capital expenditures should have been around EUR 907.7 million[48] according to the planned budget.

Table 48: Capital expenditure (as % of total expenditures)

	2008	2009	2010	2011	2012
Municipalities	21.1%	21.5%	26.6%	-	18.2%
Self-governing regions	12.2%	11.6%	9.0%	-	10.4%
National level	4.1%	3.6%	2.9%	3.3%	2.9%

Source: Ministry of Finance of the Slovak Republic [40].

Table 49 shows that the vast majority of investments from the municipalities in 2012 (over 85% for an amount of EUR 548.8 million) were allocated to **new buildings and the technical improvement of existing buildings.**

[48] The budget was modified during year, originally an amount of EUR 917 million was approved.

Table 49: Share of municipal capital expenditures in 2012

	Construction of new buildings and technical improvements to existing buildings	Purchase of machinery, instruments, devices, equipment, and tools	Purchase of means of transport	Purchase of buildings, premises or its parts	Preparatory and project documentation	Purchase of land and intangible assets
Share of the total capital expenditures budgeted	85.2%	3.6%	3.0%	2.9%	2.1%	1.5%
Amount in million EUR	548.8	23.2	19.1	18.6	14.3	10.3
Resources invested[49]	70.1%	71.7%	86.5%	73.9%	67%	72.8%

Source: Ministry of Finance of the Slovak Republic [40].

Similarly to municipalities, self-governing regions spent the vast majority of their resources on constructing new buildings and making technical improvements to existing ones (88.2%). The state has spent only 39.5% of its capital expenditures on new buildings and technical improvement of existing ones, the other 36% was allocated to purchasing land and other intangible assets.

According to the MoF of the Slovak Republic the **indebtedness of self-governing regions (NUTS 3) and largest cities in Slovakia in 2012 reached relatively high values** (Table 50).

Table 50: Indebtedness in the 8 regions, 50 largest cities and municipalities in 2012

Self-governing region	Number of inhabitants	Total debt[50] (in %)	Debt per inhabitant (EUR)
Prešovský region	815,000	26.9	50
Nitrianský region	690,000	27.6	54
Bratislavský region	604,000	38.6	70
Žilinský region	689,000	29.4	59
Košický region	793,000	30.4	53
Trnavský region	555,000	53.9	100
Trenčiansky region	594,000	49.1	93
Banskobystrický region	661,000	25.0	50
All regions	5,401,000	34.0	64
50 largest cities	2,269,000	30.9	178

Source: INEKO[51] [41] [42]

The **Trnavský and Trenčiansky regions** had the highest indebtedness among all the Slovak self-governing regions and the highest debt per inhabitant. **They are close to a situation where they**

[49] The budget was modified in the course of the year.

[50] Debt is reported as a ratio to current income for the previous year. According to law, it should not exceed 60% (when exceeding, the self-governing region cannot use any more loans.

[51] Inštitút pre ekonomické a sociálne reform (Institute for Economic and Social Reforms)

cannot apply for any additional loans (see the box on the debt brake law in Slovakia). **Average rate of indebtedness[52] among the 50 largest cities in Slovakia reached almost 31%**. The city of Žilina has the highest debt, reaching 85.6%[53]. The capital city of Bratislava ranked sixth among the 50 largest cities in Slovakia (42.3%) in terms of indebtedness. The detail the level of indebtedness level is presented in Appendix 15.

Budgetary responsibility – Debt brake law in Slovakia

A Constitutional Law on Budgetary Responsibility, or so-called debt brake law, was passed in parliament on 8 December 2011. The new legislation sets up an **independent Board for Budgetary Responsibility** that will oversee the government's compliance with budgetary objectives. In addition, it stipulates **the maximum level of public finance debt and puts enforcement measures in place in case public debt reaches a threshold level**. The debt threshold for public finances will be set at 60% of GDP initially and will be lowered gradually to 50%[54] after 2017.

Slovakia subsequently activated its debt brake in spring 2013 after the country's debt exceeded 50% of GDP. The Finance Ministry had to submit a report on the causes of the state debt growth along with proposals for reducing it. Slovakia also reduced its government deficit below 3% of gross domestic product (GDP) in 2013 – cuts of EUR 1.5 billion were needed to lower the deficit.

The development of debt at the end of 2013 showed that another threshold of the debt brake of 55% of GDP was exceeded. In line with the constitutional law on fiscal responsibility, the Finance Ministry was to freeze 3% of nominal expenses in public administration and bar expenditures incurred in the co-funding of EU-funded investments, the servicing of the state debt and transfers to the social security provider Sociálna Poisťovňa.

With Eurostat's plans to introduce this autumn a stricter methodology on assessing budget deficits of EU Member States, Slovakia's deficit may be re-calculated and raised. In such a case, the government would not be allowed to submit a budget for 2015 that would involve a rise in nominal expenses in public administration, which could potentially create conflicts between co-funding of EU-funded investments and the servicing of the state debt.

To be clear, the allocation of funding to an FI does not have any direct effect on the level of central government debt relative to other kinds of one-time expenditures. That said, the use of FIs for local government projects would impact on sub-national debt levels, and thus total government debt levels. Therefore, the limitations of the debt brake law will affect which municipalities will be able to make use of FIs to finance projects.

One of the key priorities for municipalities is energy efficiency in buildings, both residential and public[55]. Nevertheless the country still has the fifth highest energy intensity in EU-27, exceeding the

[52] Debt is reported as a ratio to current income for the previous year.

[53] Nevertheless the debt includes also a loan from the central government for the purchase of land related to the investment of KIA. From the total amount of debt (EUR 40 million in 2012), the loan from the central government in relation to KIA covered approximately EUR 17 million. Without this loan, the rate of indebtedness would be 49% [42]

[54] If public-finance debt exceeds 50%, the finance minister will have to write a letter to parliament explaining the reasons and proposing remedial steps. If debt reaches 53%, the government will be obliged to adopt a package of measures and freeze its own salaries. At 55%, it will be impossible to increase expenditures for the following year. At 57%, the government will have to prepare a balanced budget. If these measures do not work and the debt still reaches the 60% ceiling, the government must initiate a vote of confidence.

55 These are main challenges, as listed in EIB (2013), which are further supplemented by other critical areas and discussed on the basis of

EU average about three times [30].

The key decision-makers in the municipal and urban development sectors, besides the local-governments, are the Ministry of Economy, the Ministry of Environment, the Ministry of Transport, the Ministry of Finance, and the Government Office Central Coordination Body. In addition, the Slovak Innovation and Energy Agency (SIEA), monitors and evaluates public support measures aimed at energy efficiency and the development of innovations, and also serves as the implementation agency for Structural Funds investments.

In the private sector the key player is the Energy Centre Bratislava (ECB), a non-governmental, non-for-profit information and consulting organisation whose mission is to promote the rational use of energy and the utilisation of RES. Their priorities include the development of the EPC/ESCO market.

The ECB has a working relationship with both the public-sector side, and the ESCO companies' side. The ECB is also the local implementer for the ongoing TransparenSe project[56], an initiative co-funded by Intelligent Energy Europe (IEE), with the purpose of increasing the transparency and trustworthiness of the Energy Performance Contracting (EPC) markets throughout Europe.

ESCO market in Slovakia

In Slovakia only a limited number of ESCO-type enterprises are operating, according to the recent survey of the Joint Research Centre (JRC)[57].Market size estimates vary, and figures cited include EUR 10-20 million for the non-residential sector, and app. 5 PJ (EUR 60 million) as the overall public sector energy saving potential. According to JRC, major barriers to market development have included the lack of data to construct baselines, subsidised energy prices and poor building management. Other challenges were the lack of appropriate financing, and mistrust from clients who had no local experience and lack of confidence to engage with ESCOs due to the perceived high complexity of this investment structure.

The Energy Centre Bratislava recently helped to establish the Slovak Association of Energy Service Providers (APES)[58] a national ESCO association, but the market remains underdeveloped. The ESCO presence in the Czech Republic is considerably more advanced, and given the historic relationship between the two countries, might be used as a model for further Slovak development.

Since 2012, at least five new projects have been successfully closed, at a volume of above EUR 90 million. The biggest one is a project involving 50 schools in Kosice, implemented by a Dalkia subsidiary. The four smaller projects have volumes that vary between approximately EUR 1 million and EUR 3.5 million, and include a hospital in Eastern Slovakia (Siemens), another hospital complex in Zilina (AB Facility), university dormitories in Kosice, and a public lighting project (Siemens). The companies active on the market are a mix of local firms, usually subsidiaries of larger international companies, and other competitors that often have Slovak-focused activities or have focused on the

expert documents and analyses and interviews carried out.

[56] Transparense investment website: www.transparense.eu

[57] Energy Service Companies Market in Europe – Status Report 2010 (http://publications.jrc.ec.europa.eu/repository/handle/JRC59863)

[58] http://www.munseff.eu/en/news/20140404-apes.html

Czech Republic and Slovakia.

Residential buildings

Table 521 shows that the majority of the residential buildings were built between 1961-1990, consisting mainly panel buildings (single-layer and sandwich panels). Still today, 81% of the housing stock is represented by these types of buildings [43].

Table 51: Age structure of flats in residential buildings[59]

Measure	Construction Period							
	Not identified	Before 1919	1919-1945	1946-1960	1961-1970	1971-1980	1981-1990	1991-1999
Number of flats (e.g. panels buildings)	6,580	6,327	17,610	78,831	**159,648**	**278,701**	**238,006**	42,806
Share on overall volume	0.7%	0.7%	1.9%	8.8%	17.9%	31.3%	26.7%	4.8%

Source: EIB [43]

According to the MDVRR, in the period 2008-2013 over 98,000 flats were built (within 6 year period) and at the same time every year app. 60-70,000 flats need to be renovated (Table 52).

Table 52: Overview of started, completed and under construction flats in Slovakia for the years 2008 to 2013

	Construction period					
	2008	**2009**	**2010**	**2011**	**2012**	**2013**
Started[60]	28,321	20,325	16,211	12,740	13,090	14,758
Completed[61]	17,184	18,834	17,076	14,608	15,255	15,100
Needs construction	66,122	67,597	66,596	64,734	62,783	61,382

Source: MDVRR [44]

Public buildings

The regeneration of public buildings should be designed in a way to decrease the maintenance cost by using high standards for technical features during the reconstruction of roofs, thermal insulation, exchange of doors and windows, thermostatisation and the adjustment of the heating system, reconstruction of electrical installations and reconstruction of heat resources. Measures for RES utilisation should be made as well, such as the purchase of fuel switches for heat resources (usually to biomass), installation of solar collectors for hot water preparations, installation of heat pumps for heating/hot water preparation or exploitation of flat roofs through installation of photovoltaic panels [43].

59 Period 2007-2008: expert estimation based on data from Information on Housing Construction in Slovak Republic in 2008.

60 Number of flats for which a building permission was issued.

61 Number of flats for which a final inspection decision has been issued.

Table 53 shows that more than half of public buildings (in terms of the volume of buildings) are schools, 13% health care facilities and 12,5% administrative buildings.

Table 53: Buildings owned by state and self-governments[62]

Use of buildings	Number of buildings	Share of the total number	Volume of buildings (m^3)	Share of the total volume (%)
Schools	6,943	45,0	58,382,303	50.9
Shops and services	156	1,0	680,090	0.6
Health care facilities	1,293	8,4	15,197,903	13.2
Cultural facilities	525	3,4	3,071,713	2.7
Administrative buildings	2,556	16,6	14,365,517	12.5
Accommodation	1,317	8,5	11,814,638	10.3
Sport facilities	126	0,8	810,218	0.7
Railway stations and airports	7	0,0	92,991	0.1
Post offices	440	2,9	966,192	0.8
Others	2,072	13,4	9,322,087	8.1
Total	**15,435**	**100,0**	**114,703,652**	**100**
of which primary schools	**2,513**	**16,3**	**26,549,348**	**23.1**

Source: MDVRR [45]

Energy consumption has been rising in public buildings in the period 1994-2003[63] [43]. **Within this period there was no significant decrease of total energy consumption** even though the EE type of reconstruction has started.

Table 54: Energy consumption in public buildings by type

Purpose of use of buildings	Consumption of energy kWh/(m^2)										Average consumption in 1994-2003
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
Schools	51.2	51.8	53.7	52.7	51.4	50.9	46.8	51.1	49.5	50.7	51.0
Shops and services	54.5	54.3	62.6	60.4	57.3	50.2	51.5	53.0	48.4	62.9	55.5
Health care facilities	59.7	59.5	79.0	75.9	71.2	71.9	68.1	70.6	65.1	61.7	68.3
Cultural facilities	47.3	45.8	46.3	46.6	45.4	43.7	37.7	41.1	33.3	39.6	42.7
Administrative buildings	56.7	59.3	61.6	60.1	58.2	57.8	53.0	56.7	54.7	57.8	57.6
Accommodation	57.4	59.7	62.2	60.6	59.4	60.0	57.9	62.0	57.4	58.7	59.5
Sport facilities	48.8	46.8	49.1	47.8	44.0	46.3	42.5	42.9	37.5	37.0	44.3

[62] In the period 1994-2003, no newer data are available.

[63] In contrast to the residential building sector, there are no current data available that would enable to properly estimate the needs for such renovation in the sector of public buildings – at present no study or evaluation has been prepared by any of the responsible ministries that would provide more detailed data on the numbers, structure, state of public buildings or information on the renovations and energy savings achieved so far. Nor the total energy saving potential in the sector of public buildings has been mapped.

Railway stations and airports									46.2		46.2
Post offices								62.9	63.2	65.4	63.9
Others	53.7	53.8	61.4	58.8	57.5	58.0	55.4	58.3	57.5	56.3	57.1
Total	52.8	54.0	58.3	56.9	55.2	54.9	51.1	55.4	54.7	58.3	55.2
of which primary schools	49.4	49.5	50.9	50.3	48.4	47.7	42.6	46.9	47.3	58.3	49.1

Source: MDVRR [45]

3.2.5.1 Demand characteristics – EE in buildings

Residential buildings

According to the JESSICA evaluation study – *implementing JESSICA instruments in Slovakia* **(2010)** [43]**, the number of flats which should be renovated is over 521,000, which represents an investment of almost EUR 9.3 billion**. Within the study, an estimation of the share of the housing refurbishment market was made based on the extrapolation of past trends.

The refurbishment investments meant to be supported by the State Housing Development Fund, commercial financial institutions and private persons. The overview of the projection to 2020 is presented in Table 55. Clearly, according to the projection, there is a need for large investments in the area of flats refurbishment [43].

Table 55: Annual number of refurbished flats according to JESSICA evaluation study – *implementing JESSICA instruments in Slovakia* [43]

	2010	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Balance of not reconstructed flats (thousands)	521	524	509	493	478	462	447	431	416	400	385
Financial amount of the remaining share (price level 2009) (bil. EUR)	9.3	9.0	8.7	8.4	8.2	7.9	7.6	7.4	7.1	6.8	6.6

Source: EIB [43]

Currently, in the case of residential buildings, only 28% of entire buildings are completely thermally insulated and 13% of entire buildings are partially insulated (see Table 56). According to the Census 2011, thermal insulation of both residential buildings and family houses in the Slovak regions still has gaps and also reflects regional differences. In the case of residential buildings, in Košický, Nitriansky, Trnavsky and Trenčiansky kraj over 60% of buildings have not been thermally insulated, not even partially.

Table 56: Overview of thermally insulated residential buildings in the Slovak regions according to Census 2011

Area	Thermal insulation – residential buildings				Total
	Yes	Partially	No	Not identified	
Slovak Republic	18,416 28%	8,196 13%	36,280 56%	1,954 3%	64,846
Bratislavský kraj	4,070	1,280	4,745	551	10,646
Trnavský kraj	1,619	586	3,949	189	6,343
Trenčiansky kraj	1,912	1,043	5,263	222	8,440
Nitriansky kraj	1,662	859	5,097	248	7,866
Žilinský kraj	2,763	1,102	3,238	171	7,274
Banskobystrický kraj	2,964	1,338	4,155	239	8,696
Prešovský kraj	1,804	1,111	4,500	159	7,574
Košický kraj	1,622	877	5,333	175	8,007

Source: MDVRR [45]

The situation is slightly worse in the case of family houses, where only 15 % are completely thermally insulated and 12 % of family houses are partially insulated. However, the statistic is influenced by the high number of unidentified cases, as a large share of family houses are temporarily unoccupied and serve as seasonal accommodation.

Table 57: Overview of thermally insulated family houses in Slovak regions according to Census 2011

Area	Thermal insulation – family houses				Total
	Yes	Partially	No	Not identified	
Slovak Republic	145,470 15%	116,273 12%	509,548 53%	198,069 20%	969,360
Bratislavský kraj	20,009	8,132	25,014	14,068	67,223
Trnavský kraj	21,197	15,122	62,713	20,907	119,939
Trenčiansky kraj	15,656	12,759	57,882	26,205	112,502
Nitriansky kraj	20,329	16,573	91,478	32,239	160,619
Žilinský kraj	25,698	18,491	61,233	28,170	133,592
Banskobystrický kraj	11,710	13,085	70,253	31,751	126,799
Prešovský kraj	17,337	17,032	72,881	22,222	129,472
Košický kraj	13,534	15,079	68,094	22,507	119,214

Source: MDVRR [45]

As shown in Table 58, as of 31 December 2013, the share of renewed dwellings within residential buildings (mainly panel buildings) reached 50% and for family houses reached 33%. **All together 41.52% have been renovated to some extent** (some of these dwellings were renewed only partially and not following high EE technical standards). Nevertheless, taking into consideration the 40-year cycle of renovation, more than two-thirds of the buildings should have already been renewed (all buildings built before 1983). According to the SIEA up to 40-60% of the energy can be saved through complete renovation, which is dependent (among others) on the technical measures used. Owners of buildings currently have to take into account the fact that except for the minimum requirements, the current legislation imposes strict technical requirements, which should be met in buildings renovated from 2016 [46].

Table 58: Share of renewal in dwellings in residential buildings and family houses

	Dwellings in residential buildings (mainly panel buildings)	Dwelling in family houses	Total
Renewed dwellings as of 31 December 2013	469 ,319	336,415	805,734
Share of renewal (%)	**50.3**	**33.3**	**41.5**
Not renewed	**462,286**	**672,380**	1,134,666

Source: MDVRR [45]

The Slovak National Energy Efficiency Action Plan 2011-2013 (NEEAP) has been highly criticised by the Energy Efficiency Watch (EEW)[64] - supported by Intelligent Energy Europe and tasked with assessing the EE action plans and policies in EU member states- since Slovakia's current National EE Action Plan (NEEAP) has been found "of rather low quality" with "neither long-term targets and strategies nor mechanisms for the overall coordination and financing of EE measures in place." More than 90% of the domestic experts surveyed by EEW "see no progress or only a few additional policies since the last NEEAP was developed."

More than 40% of the experts surveyed by EEW "believe...that an inadequate funding of EE investments or a lack of legislation and its implementation is the most important policy gap."

The Slovak Government took some necessary actions in 2013, following the Energy Efficiency Directive (EED, 2012/27/EU) to set the cumulative target of energy of 130,690 TJ for the 2014-2020 period, which represents a 20% reduction in the consumption of primary energy sources, which was also included in the third NEEAP for 2014-2016 (built on the lessons learnt for the previous NEEAP).

In the sphere of the residential buildings, according to the data from the Partnership Agreement (PA) research, 32% of the stock of residential buildings constructed after 1992 have benefited from EE improvement measures. It is expected that by 2020, about half of the existing buildings will have been renovated, with a further increase towards 2030.

In the renovation of residential buildings – as also highlighted in the supply analysis - the SFRB plays a key role, according to an estimation up to 80% of residential buildings, which were renewed in 2012, were financed using soft loans provided by SFRB. Nevertheless, **the demand is much higher than what SFRB can serve**. **In the period 2007-2012 the demand for support was 40% higher than SFRB could provide.**

Public buildings

Resources have thus far been mainly invested in the renewal of the housing stock and much less emphasis has been placed on non-residential buildings, which were not renewed with a concerted effort. Partial renewal of these buildings has been performed under the support of EU Structural funds and private resources, but still represents a rather minor part of overall renewal [31].

The following table shows that the average total consumption of all type of buildings (no matter

[64] Energy Efficiency in Europe: Assessment of Energy Efficiency Action Plans and Policies in EU Member States, 2013, Country Report Slovakia, Energy Efficiency Watch, available at http://www.energy-efficiency-watch.org/fileadmin/eew_documents/Documents/EEW2/Slovakia.pdf

when the building was constructed) recorded significant increases in energy consumption over time. This also indicates that public buildings have a low rate of energy efficiency.

Table 59: Energy consumption of public buildings by year of inspection

Year of final inspection of building	Consumption of energy in kWh/(m².a)										Average consumption in 1994-2003
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
Not identified	66.0	65.1	69.6	69.0	70.4	74.5	65.0	73.6	59.6	73.3	68.6
Before 1951	49.2	50.8	56.1	55.2	53.3	53.7	50.0	53.6	52.5	55.6	53.0
1951-1970	54.0	54.8	59.3	57.5	55.0	54.2	51.0	55.9	56.1	60.0	55.8
1971-1983	54.7	55.5	59.1	57.5	56.0	54.9	50.8	55.4	55.1	58.6	55.8
1984-1992	49.7	52.1	55.8	53.9	52.2	52.9	49.5	52.5	52.7	56.3	52.8
After 1992	47.9	50.6	57.7	56.6	55.3	54.6	51.5	55.0	55.0	56.0	54.0
Average for all buildings	**52.8**	**54.0**	**58.3**	**56.9**	**55.2**	**54.9**	**51.1**	**55.4**	**54.7**	**58.3**	**55.2**

Source: MDVRR [45]

Within this period, **average energy consumption of public buildings was almost double than the EU standards**. The potential for savings was identified to be around 40% of the total consumption [43].

Average potential of energy savings in the case of the Slovak public administration buildings could reach up to 60-70%. Another important segment of potential savings in the public sector is the renovation of lighting in public buildings (especially schools and administrative buildings) [43].

Support for the renewal and thermal insulation of public buildings was not lead by a clear strategy behind. In 2004-2006 Programming Period the OP Basic Infrastructure (priority no. 3) supported the renewal of public buildings, but was not renewed under the 2007-2013 Programming Period and was not mentioned in the OPs[65].

In 2008 a programme was launched by the Ministry of Economy, EBRD and SIEA, called "Energy efficiency in public buildings" (further details have been provided under the supply side analysis in Section 3.1)[66] [47]. At the same time, due to increasing demand, a private fund 'Ekofond' (also see supply side analysis Section 3.1) was founded to invest in the renewal of public buildings, predominantly schools[67]).

According to the National Energy Efficiency Plan, approximately 1000 public buildings have been supported for energy efficiency improvements since 2008 [48]. An overview of energy certificates, which were awarded to significantly renewed buildings, is presented in the table below.

[65] In total EUR 62.1 million was spent for the renewal of 178 buildings, of which 86 were school buildings, 28 health, 26 social and 38 cultural buildings and facilities.

[66] Within this pilot investment in 57 buildings with a budget of EUR 10 million were renewed, of which 16 were schools, 4 municipal offices, 5 cultural houses, 4 health centres and 28 multifunctional public buildings.

[67] Improvement of energy efficiency was adopted in 61 school buildings and facilities, 21 publicly beneficial buildings using EUR 4 million.

Table 60: Number of energy certificates according to energy efficiency classes in 2013

Categories of buildings	Energy efficiency class							Total
	A	B	C	D	E	F	G	
Administrative buildings	2	50	68	24	7	4	2	**157**
School buildings and facilities	1	26	43	17	2	4	2	**95**
Hospitals	1	12	6	3	1	0	0	**23**

Source: MDVRR [45]

The following table shows that EIB estimated in 2010 that about **EUR 3,844 million** is needed in order to refurbish the public buildings in Slovakia[68]**.**

Table 61: Reconstruction of public buildings, in million EUR

	2010	2011	2012	2013	2014	2015	2016
Financial amount	3,844	3,604	3,363	3,122	2,881	2,640	2,399

Source: EIB [43]

At present, unemployment in the Slovak Republic exceeds 10% (in the eastern part of the country, unemployment reaches 19% in some areas) and the construction sector has been shrinking continuously in the past years. Hence, EE can be positioned as a strategic goal to achieve a reduction in greenhouse gas emissions in the Slovak Republic, to continue fulfilling the EED and EU 2020 targets, and also to stimulate job-creation and economic growth. Based on an analysis of energy efficiency from the Czech Republic [49], investments in public building renovations for a total of EUR 100 million could create employment for 2,000 employees (conservative estimation), a net income to the state budget of EUR 30 million and an induced GDP growth of EUR 85 million.

By far the most ambitious project in this area is the proposed relocation of central government functions, currently dispersed around the City of Bratislava and surrounding regions, into a new complex dubbed GovCity. This project could be potentially eligible under EE in public buildings and brownfields, or both, depending on the implementation (see box below).

GovCity administrative relocation project

The administrative offices of the federal government are widely distributed throughout the City of Bratislava and the surrounding region in a number of official buildings. Many of these structures are of older stock, and as such have a number of limitations in respect to the needs of Slovak citizens, the aspirations of the government, and the requirements of the EU.

Among these are a lack of accessibility, insufficient energy efficiency profiles, inadequate IT infrastructure, and high operational costs.

To addresses these issues, the Slovak government is considering to relocate the Ministries of Interior, Finance and Economy to a new structure to be called Government City or "GovCity." The

[68] With a total cubature of 106,788,291 m^3

new federal government complex would be located on the far side of the Danube from the city proper and connected to the urban core by road and public transit infrastructure.

As staff and equipment are relocated to the new facility, newly vacated buildings will be either sold, or refurbished to be rented out for residential and commercial use. The GovCity facility will also feature commercial space for rent. These sources of revenue will be crucial to financing the construction and transition phases.

The benefits of the project are several. Cost savings to the government will arise from the consolidation of back office services into a shared support centre, efficiencies of scale in procurement, and reduced operational and maintenance costs of the building itself. Because the new buildings will be built to achieve Energy class A, the consumption profile and energy costs of the federal government will sink substantially. In total, operation and maintenance costs could be reduced by as much as 70%. Newly vacated buildings will also be updated to improve their energy efficiency profile.

The government has completed feasibility studies for the project, but given the scale and complexity of the project, significant obstacles remain. Chief among them is the lack of an independent asset management authority. Under the government's current asset management scheme, buildings are the property of the Ministry that resides in them, legally indistinguishable from the state as a whole. As such, any loans used to finance the project would be added as general government liabilities in calculations of the national debt, which given the debt brake law in effect would put substantial pressure on the budget.

The alternative is to create a legally independent asset management entity to which ownership of the properties to be vacated can be transferred. The asset management entity can then seek financing for the project using the value of those specific properties as collateral rather than the assets of the government as a whole. Because the government is not under any legal obligation to cover losses in the case of default, such an arrangement should not add to the overall liabilities of the Slovak government, and thus should not impact calculations of the public debt.

Given the considerable legal, logistical and financial complexity of the project, it may be prudent to undertake it in stages. Estimates from 2014 indicate that a pilot programme covering just three buildings currently being utilised by the Ministry of Interior could be undertaken at a cost of EUR 22.8 million. In light of the planned renovation of several large, historical buildings in the urban core, GovCity could potentially qualify for ESI funding as a brownfield regeneration project.

Table 62 shows the identified energy-efficiency type of projects gathered from the consultation with the 50 largest cities. The table shows that the indicative investment needs for five cities is approximately **EUR 29 million**. These projects' investment sizes vary significantly, due to the engagement of the municipalities taking into account some external factors, such as the debt break law in Slovakia, which highly affects municipalities in their future investment decision making.

Table 62: List of identified energy efficiency projects to be potentially supported by financial instruments

Organisation	Code	Project Title	Description	Cost in EUR	Project start
City of Šaľa	E.7	Reconstruction of kindergarten Družstevná & Budovateľská, Šaľa	Thermal insulation, roof, old aluminum wiring, heating and sanitary equipment. Budovateľská kindergarten - only reconstruction of roof and thermal insulation.	430,000	2016
City of Šaľa	E.8	Reconstruction and modernisation of nursery in Šaľa	Reconstruction and thermal insulation of roof and facade, reconstruction of sewage, sanitary equipment. The building was built in 1968, since then nothing except for the replacement of windows has been made.	200,000	2016
City of Šaľa	E.9	Energy consumption decrease in public buildings - building of cultural house	Decrease of energy intensity of cultural house building in Šaľa.	1.4 mil.	2017
City of Šaľa	E.10	Energy consumption decrease in public buildings - building of Municipal office, Šaľa	Decrease of energy intensity of administrative building of Municipal office in Šaľa.	900,000	2016
City of Šaľa	E.11	Decrease of energy intensity of school facilities, Šaľa	Measures which were not implemented during previous programming period.	4 mil.	2015
City of Šaľa	E.12	Decrease of energy intensity of sports hall, Šaľa	Replacement of windows, thermal insulation of roof, renovation of facade, inner seating and sanitary facilities.	1.5 mil.	2017
City of Šaľa	E.13	Decrease of energy intensity of social house in Veča	Replacement of windows, thermal insulation of roof, renovation of facade, inner seating and sanitary facilities.	500,000	2018
City of Šaľa	E.14	Reconstruction and modernisation of public lightning - 2 stage	Decrease of energy intensity and emissions	1.5 mil.	2016
City of Trnava	E.15	Primary school A. Kubinu in Trnava insulation	Improvement of energy efficiency of the primary school through thermal insulation and replacement of windows.	750,000	2015
City of Trnava	E.16	Primary school Atómová in Trnava insulation	Improvement of energy efficiency of the primary school through thermal insulation and replacement of windows.	900,000	2015
City of Trnava	E.17	Primary school J. Bottu in Trnava insulation	Improvement of energy efficiency of the primary school through thermal insulation and replacement of windows.	750,000	2015
City of Trnava	E.18	Primary school of K. Mahr in Trnava insulation	Improvement of energy efficiency of the primary school through thermal insulation and replacement of windows.	750,000	2015
City of Snina	W.7	Snina energy and waste infrastructure	Combined activities in energy efficiency, infrastructure and waste	> 5mil.	2015

			management.		
City of Malacky	U.13	Bernolakova street kindergarten expansion/modernisation, Malacky	Capacity expansion and modernisation of kindergarten building and equipment, including energy efficiency measures.	1 mil.	2016
City of Malacky	U.14	Štúrová street kindergarten expansion/modernisation, Malacky	Capacity expansion and modernisation of kindergarten building and equipment, including energy efficiency measures.	1 mil.	2016
City of Malacky	U.15	Rakárenská street kindergarten expansion/modernisation, Malacky	Capacity expansion and modernisation of kindergarten building and equipment, including energy efficiency measures.	1 mil.	2016
City of Malacky	U.16	Ján Kollár street kindergarten expansion/modernisation, Malacky	Capacity expansion and modernisation of kindergarten building and equipment, including energy efficiency measures.	1 mil.	2016
City of Malacky	U.17	Hviezdoslavova street kindergarten expansion/modernisation, Malacky	Capacity expansion and modernisation of kindergarten building and equipment, including energy efficiency measures.	1 mil.	2016
City Stará Ľubovňa	E.23	Reconstruction of elementary school Levocska, Stará Ľubovňa	Complex reconstruction, including thermal insulation, replacement of heating (use of alternative energy sources), barrier-free access, inside equipment of the school etc.	5 mil.	2016
City Stará Ľubovňa	E.20	Reconstruction of sports hall in Stará Ľubovňa	Reconstruction of existing part of the hall, adjustment of exterior spaces, construction of access roads, pavements, parking and purchase of interior equipment.	300,000	2015
City Stará Ľubovňa	U.25	Completion of the ice rink, Stará Ľubovňa	Completion of the ice stadium, reconstruction of existing part of the stadium, adjustment of exterior spaces, construction of access roads, pavements and parking.	580,000	2017
HB Reavis	U.18	Malinovského Barracks,Košice	Conversion of the old Malinovského barracks in Košice into apartment buildings and a commercial area. In addition the project will improve flood defence of the local area.	110 mil.	2016
UNITED INDUSTRIES a.s. Brownfields	U.19	Sládkovičovo sugar plant	Regeneration of a former sugar works that ceased production in 1999. The area will be converted into storage and administrative premises.	33 mil.	2018
	U.20	Šurany sugar plant	Regeneration of a former sugar works and conversion into storage premises.	50 mil.	2017
	U.21	Trnava sugar plant	Regeneration of a former sugar works in the centre of town to build 4 to 6-story building for housing or public buildings.	180 mil.	2018

3.2.5.2 Key challenges and needs of the sector - EE in buildings

Until now, approximately half of the residential buildings have been to some extent renewed so far, nevertheless more than two thirds of these buildings should have been already renewed. **The speed and the quality of the process of retrofitting residential buildings has been criticised by EEW for several reasons,** such as the "granting financial support not dependent on the targeted energy performance standard" and for "no adequate monitoring put in place to review whether certain energy performance standards have been attained." With regard to the "governance sector, EEW's recommendation is "to increase involvement of non-governmental and market actors into efforts and an overall mechanism for the coordination and funding of energy efficiency."

In the segment of **non-residential public buildings**, support for renewal and thermal insulation of public buildings **has not even reached the level achieved for the housing stock**. There are over **15,000 of non-residential public buildings** in Slovakia; nevertheless according to the National Energy Efficiency Plan, only approximately 1000 public buildings have been supported for energy efficiency improvements since 2008 [48]. The need for financial support in this segment is crucial, where the key player was the EBRD until now.

The renewal of the housing stock, according to the NEEAP, should ensure a 72.15% of renewal in residential buildings and 48.61% in family houses until 2020. All residential buildings could be renewed by 2029 and family houses by 2043, nevertheless in the course of time already renewed buildings will inevitably need improvements again. An estimation of the future renewal of housing stock is presented below.

Table 63: Estimation of the renewal of housing stock after 2013

	Dwellings in residential buildings	Dwellings in family houses
Number of renewed dwellings as of 31 December 2013	469,319	336,415
Share of renewed dwellings as of 31 December 2013	50.3%	33.3%
Number of expected renewed dwellings in the period 2014-2020	203,000	154,000
Number of expected renewed dwellings as of 31 December 2020	672,319	490,415
Share of expected renewed dwellings as of 31 December 2020	72.1%	48.6%
Balance of dwellings for the period 2021-2030	259,286	518,380

Source: MDVRR [45]

During the previous Programming Period, projects have progressed **in the absence of additional targeted public-sector support.** So far, the SFRB and the EBRD have played a key role as providers of soft loans; nevertheless the demand is much higher than these two institutions can serve. The realisation of renewal/thermal insulation is to some extent dependent on the provision of soft loans, when insufficient amount of financial resources for soft loans negatively influences the pace of renewal of the housing stock. The unsuccessful applicants went ahead with the planned renovation only in exceptional cases, according to the interviews carried out with the SFRB (in more than half of the cases, they postponed the renovation until a successful application for a soft loan was secured). **Hence, it can be anticipated that explicit support from FIs could spearhead a growing number of projects in this area.**

Slovak Investment Holding (SIH) has already started to negotiate with the existing funds to engage them with the establishment of FIs and revolving funds. SIH is showing interest toward establishing a fund specifically targeted towards the energy efficiency of buildings, and for complex refurbishment with longer payback periods. The availability of such funds — in case those can be used by ESCOs — could have a positive influence on the ESCO market as well.

3.2.5.3 Summary of key findings – EE in buildings

Market overview and key players of the sector	Residential buildings	• In Slovakia, buildings typically need to be renewed if they are more than 20 years old, whether it is by enhancing their thermal insulation and/or by removing static defects
	Public buildings	• In Slovakia, such buildings will need to be designed in a way that eliminates operational costs and technical failures, namely: the reconstruction of roofs; thermal insulation; thermostatisation; the adjustment of the heating system; reconstruction of electrical installations; and reconstruction of heat resources
Demand characteristics	Residential buildings	• In Slovakia, only 28% of these buildings are fully thermally insulated and 13% of them are partially insulated
	Public buildings	• In Slovakia, the average energy consumption of public buildings was almost double the value defined in the technical standards
Number of identified projects		• 22 projects have been identified by five cities (for approximately EUR 30 million).
Key challenges and needs of the sector		• Granting financial support is not dependent on the targeted energy performance standard and no adequate monitoring is in place to review whether certain energy performance standards have been attained - according to EEW • The slow pace of renovation has *inter alia* been influenced by the scarcity of FIs • The pace of renewal of housing stock should continue, and could accelerate to ensure a 72.15% of renewal in residential buildings and 48.61% in family houses by 2020. • Absence of additional targeted public-sector support

Other investment needs under the municipal and urban development

The information on potential investment received during the consultation with the main cities also covered some other critical aspects[69] (besides increasing attention on EE in buildings), which should be addressed by the Slovak government, are briefly described in following paragraphs.

Brownfield projects: Slovakia has yet failed to implement all the necessary measures to remove old environmental burdens and related permanent risk of their adverse impacts on human health and the environment. In Slovakia, **663 brownfields were identified, covering an area of 1763 hectares**. Brownfields are mainly under private ownership (45.8 %), municipalities own approximately 26.9 % of them, autonomous regions 8.8 % and collectively owned places cover 4.2 %; the rest is unknown.

More than one third of these brownfield sites are industrial sites (35.8 %) and a smaller share belong

[69] These are main challenges, as listed in EIB (2013), which are further supplemented by other critical areas and discussed on the basis of expert documents.

to agriculture (24.2 %). The following box shows two examples of brownfield projects, which could be an opportunity for using FIs:

Examples of brownfields regeneration in Slovakia[70]

Eurovea is a new international trading centre in Pribinova Street on the left bank of the Danube River, between the Apollo bridge and the Old bridge in Bratislava, in the vicinity of the new Slovak National Theatre building and office building Tower 115. An oil refinery was originally located in this place, which was founded in 1885 and produced gasoline, kerosene, paraffin, candles, mineral jelly and asphalt. In 1944, during World War II the refinery was bombed and 80% of the factory was destroyed and continuously caused contamination of soil. All refinery activities were finally shut down in 1963 when the plant moved to other location in the outskirts of the city.

The regeneration investment was implemented by an Irish developer group. In July 2006, the execution of the first phase of the project began. "Eurovea" (phase I) was opened in spring 2010 in an area of 230,000 m^2 which offers shopping spaces, leisure facilities and entertainment as well as office spaces, hotel facilities and apartments.

Rozadol is a new modern housing complex slightly outside the centre of Bratislava in the city quarter known as Ružová dolina (Rose Valley). The residential development is well connected to the city transport network and forms an individual block unit within the urban structure of the city.

Rozadol is located on the site which belongs to a formal state-owned company Milex (processing and producing dairy products). The company was bought by foreign investors, who decided to move to another location within Bratislava. An unexploited area remained on the original site, which, however, thanks to a convenient location within the city, in the heart of residential housing neighbourhood, has become a magnet for developers. The development started in 2003, and the site was transformed into a new, modern multifunctional complex with the predominant character of real estate investment (consisting of apartments, offices and public services).

Cultural activities: Cultural activities are an important part of the city development. Municipal governments around the globe increasingly support museums, performing arts centres, arts districts, and cultural cities. With cultural activities the municipalities are able to promote and revitalise their cities and to bolster cities' image; attract tourism and foster economic development has become widespread not only in the traditional cultural capitals. Cultural development strategies have acquired significance in the economic development plans of the cities, because cultural activities are considered as significant factor not only for tourism, but how individuals choose where to live and work.

In 2010, there were about 17,000 people employed in selected main cultural sectors of economic activity in the Slovak Republic (total employment of women was almost 50%). This accounts for 1.5% of total employment in Slovakia[71]. Furthermore, there were more than 24,000 historical/ cultural

[70] *Petríková, D., Vojvodíková, B. (2012): Brownfields – Handbook. BROWNTRANS. VŠB – Technical University of Ostrava.*

[71] Cultural statistics – Eurostat; Integrated Regional Operational Programme

monuments[72] and around 120 museums etc.[73]. The highest share of selected historic monuments is in Prešov (20.28%), Banská Bystrica (15.38%) and Košice (15.16%)[74].

Table 64: Cultural development strategies and types of projects realised

Strategy Type	Goals	Types of Cultural projects and Programs	Geographic Focus	Target Audiences
Entrepreneurial	Economic growth through tourism, city image Catalyse private sector investments	Flagship cultural projects Spectacular events Promotional activities	Downtown, "prime city areas"	Tourists and Conventioneers Affluent residents and suburbanites
Creative class	Economic growth through quality of life amenities Attract new residents/ employees in the "creative economy"	Arts and entertainment districts Collaboration between arts and private sector	Central city and historic urban neighbourhoods	Prospective and existing residents Young urban professionals and "knowledge based" Workers
Social development	Community development Arts education and access Local cultural production	Community arts centres Arts education programs	Inner-city neighbourhoods Underserved neighbourhoods	Underserved residential populations

For cultural projects, the existing grants only supported short-term investments, the beneficiaries could receive support only for 1 year. If the applicant needed more support, they would have to apply for the financial resources repeatedly. Hence, multi-annual investments could face the risk of obtaining financial support only for one year and not being completed as needed.

Access to financial resources is not the only barrier to the realisation of projects in the area of cultural industry. The lack of competencies and experience of the cultural agents and individuals in the areas of economy, finance, business, marketing and commercial skills, legal requirements, business plan preparation and human resources is considered at least equally important. The sector also needs specific help to access effective and expanded protection for intellectual property rights.

The capacity to provide assistance and services for cultural activities at local and/or regional level in Slovakia are rather limited and all these activities are relatively new – both in terms of financial capacity and of limited operational capacity. Culture has been linked so far to traditional cultural industries, culture heritage and renovation of key cultural monuments and buildings rather than part of regional and local economic development.

As a result, the capacities to meet increasing demand of support for more progressive cultural activities at local and regional level are limited.

As for the municipal and regional context, the Bratislava region has a significant potential in culture and creative industries. In the region, cultural and creative enterprises and organisations are

[72] Palaces, castles, mansions, manor houses, technical monument facilities, historical parks, libraries etc.
[73] Report on the state of play and potential of creative industry in Slovakia
[74] Culture and the Structural Funds in Slovakia.

concentrated and could form creative clusters. Another example of such city development is the second largest city in Slovakia, Košice. It is also an example of an investment in the area of cultural development linked to municipal and urban development as described in the box below.

European Capital of Culture – Košice 2013

The Regional OP under measure 7.1 strives "to create conditions to increase the number and quality of cultural services in Košice and surrounding areas through reconstruction, completion and modernisation and strengthening cultural infrastructure facilities of public spaces in relation to implementation of the European Capital of Culture, Kosice 2013".

The government has defined priorities at the national level for this project, which has a significant importance in terms of multiplier effects for tourism development.

The project (with 20 sub-investments) was financed 95% by grants from the SF funds (EUR 59.7 million) and the city of Kosice and the self-governing region needed to co-finance the remaining 5%. **The project is planned to continue in the Programming Period 2014-2020 and to be financed through the IROP 2014-2020, however there are no details currently available. As the project might include other income generating activities (cultural events) the possible use of FIs is envisaged.**

The table below identifies potential projects collected during the consultation with major cities. These projects include a relatively wide range of diverse projects such as the reconstruction and modernisation of schools/hospitals, building park-and-ride facilities and cycleways.

Table 65: List of identified urban development projects, other than EE in buildings to be potentially supported by financial instruments

Organisation	Code	Project Title	Description	Cost in EUR	Project start
City of Šaľa	E.21	Šaľa crisis intervention centre	Reconstruction of integrated centre including refuge, lodging house, personal hygiene station, social field work office, and related material-technical equipment.	290,000	2017
City of Malacky	E.19	Malacky social services building	Modernisation of social services building through the reconstruction and merger of existing buildings.	500,000	2015
City of Šaľa	E.22	Building reconstruction on Dolna street, Šaľa	Redevelopment of a former town service building (currently rented as an administrative building) suitable for a business incubator including equipment for start-up entrepreneurs.	500,000	2017
City of Šaľa	U.22	Public multifunctional centre in the compound of a former swimming pool, Šaľa	Unused swimming pool suitable for redevelopment into a multifunctional sport-relax-congressional centre. Such services are missing in the town of Šaľa and are desired by inhabitants.	10 mil.	2019
City of Hlohovec	U.24	Hlohovec Castle reconstruction	Renewal of unused space to broaden and improve services provided by cultural institutions. Maintenance and presentation of cultural heritage on both local and national level.	5 mil.	2017

City of Trnava	U.29	Revitalisation of the Kamenný mlyn compound in Trnava	Revitalisation of compound as a relaxing zone Kamenný mlyn.	3 mil.	2015
City of Trnava	U.30	Renewal of Trnava city fortifications	Renewal of the NE bastion of the city's fortification comprising the completion of the tower on the original grounds and outbuilding of a liege cottage.	400,000	2015
City of Trnava	E.3	Stands and adjacent spaces of FC Lokomotíva Trnava compound	Improvement of conditions for activities of sport clubs of all age categories through construction of stands and social and administrative facilities in sport compound Lokomotíva in Trnava.	2 mil.	2016
City of Topoľčany	U.28	Topoľčany landmark reconstruction	Reconstruction and renewal of a national historic landmark to protect and preserve cultural heritage and ensure its use for cultural-social purposes.	5 mil.	2014
City of Levice	E.4	Public lighting improvements, Levice	Reconstruction of public lightning to reduce energy intensity and improve public lightning efficiency;	200,000	2015
City of Šaľa	U.12	Natural science classrooms, Šaľa	Modernisation of physics, chemistry, biology and technical classrooms in 6 primary schools in the city	1,230,000	2016
City of Piešťany	U.23	Piešťany swimming centre	Rehabilitation of currently unused (brownfield) site for construction of outdoor and indoor swimming pools for recreation, cultural and sport activities.	6,272,000	2015
City of Malacky	U.26	Historical mansion reconstruction, Malacky	Aim of the project is to create a space for artists in the historical mansion for exchange, experimental and creative works, seminars, festivals, equipment testing, etc.	500,000	2016
City of Malacky	U.27	Malacky Synagogue reconstruction	Aim of the project is to create a space for artists in the historical synagogue to support young talented people, to provide them with a base for their growth and development with the use of modern and innovative technologies and methods.	500,000	2016
City Stará Ľubovňa	U.31	Provincial house n. 12 – Art house, Stará Ľubovňa	Complex reconstruction of this national historic landmark, into a multifunctional cultural, presentational and educational centre	1,627,628	2015
City of Šaľa	U.7	Šaľa park and drive	Construction of park-and-drive infrastructure at a railway and bus station	600,000	2016

The following section of the study covers the gap assessment, in order to match supply with the demand analysis and to demonstrate the investment gaps for the potential use for FIs.

3.3 Gap assessment

As a next step after identifying the supply and demand within the investment areas where FIs could have a major role, the study estimates the financial gap taking into account both quantitative and qualitative aspects. The gap assessment shows the balance between supply and demand of funding for the priority investment areas identified by the TOs and OPs and demonstrate the need for FIs.

As identified under the supply side analysis there is a lack of supply of financial products for

municipalities from the commercial banks. Municipalities are also hindered by their elevated level of indebtedness. Instead, the supply comes for the most part from IFIs and specialised funds also with national contribution, such as the SFRB and the EBRD in particular have heavily invested in energy efficiency in buildings.

In the demand side analysis, the study shows that significant financial support is needed in all investment areas. A number of projects have been identified in order to assess the potential public and private investment needs.

Since the Slovak Government announced that a minimum contribution of 3% of ESI funding would be earmarked from each OP (with an exception of one OP) and invested into the SIH in the 2014-2020 period with the initial contribution of EUR 412.55 million, the gap assessment clearly points out the high potential for FIs in Slovakia. Furthermore, the viability to set up the investment structure where the SIH could be co-financed by the IFIs and the commercial banks with private investors could support the individual sub-funds to reach higher leverage effect.

Table 66: Summary table for demand and supply analysis and gap assessment

	DEMAND	SUPPLY	GAP ASSESSMENT
Energy	**Energy infrastructure and resources** Slovakia is a vulnerable country to changes in energy supply, as nearly all of Slovakia's three major energy sources (oil, natural gas and nuclear fuel) are imported from Russia. A widening of the portfolio is crucial, giving pressure on investments in this area, where financing from CEF could play a significant role. **Renewable energy** Estimation of expected rise of new installations of small RES in the period 2014-2020 is[75]: • 67,600 new 2kW installations • 2,800 new 10kW installations In financial terms, approximately **EUR 270 million are needed.** Nevertheless to reach the target of 14% of RES on the total consumption of energy, approximately 300 MW of new renewable energy sources has to be built, while above mentioned planned small RES represents only 163.2 MW. **Projects identified** • 6 energy infrastructure projects have been identified for financing under FIs (estimated amount over EUR 62 million) • 13 RES projects have been identified for financing under FIs (estimated amount over EUR 224 million)	**Publicly co-funded financial sources** SlovSEFF III : 2014+ • **Total allocation: EUR 40 million** • of which approximately 45% will be allocated to renewable energy, representing EUR 18 million Environmental fund: 2014-2020[76]: • **Expected total allocation: EUR 269.5 million (coming from subsidies)** **Commercial sources, especially for RES** • Even though the previous Programming Period had a relatively open approach to financing investments in the area of RES due to the favourable regulatory setting, this has been followed by a rather cautious approach from the commercial banks. • Investments in the RES segment are perceived as highly risky. • The analysis of the supply-side in Slovakia has shown that particularly long-term financing is missing. Financial institutions prefer short-term investments and higher rotation of their funds. **Grants from the Operational Programmes of 2014-2020 Programming Period (the estimated amount for the priority investment areas within the segment is covered in section 2.2.)**	An important barrier for energy projects lies in the broader regulatory framework and the existing schemes aimed at supporting energy production from RES. Slovakia has been characterised by relatively fast and significant changes in the last few years, making this segment more unpredictable and unstable, hence lengthening the payback period and increasing the risk of such projects. On the other hand the analysis has shown that there are segments of the RES (photovoltaic, micro-wind type of installation, solar collectors, biomass boilers and heat pumps installations) where projects are still economically viable and as such the projects can be supported through FIs. Any existing programme of financial assistance (in addition to the FIs providing capital for the project) must remain stable for some time, and a combination of policies is likely to be far more effective than any single renewables policy. In the Programming Period 2007-2013, within the OP Environment demand for financial support in this sector was almost three times larger than the allocation and actual amount of financial resources provided. The factors for the low share of successful applications can be attributed to the fact that:

[75] Based on the Conception of the renewable energy sources in the Slovak Republic.

[76] Based on the average allocation in the period 2009-2012. Yearly approximately EUR 38.5 million is expected to be allocated.

			• the quality of project applications did not meet the set requirements and/or • the parameters of the Priority Axis were not set in line with the needs of the applicants Such a demand reflects the existing financial needs in the sector.
Infrastructure	**Transport infrastructure** Both the quantity and quality of transport infrastructure in Slovakia is substandard. Overall financial needs for the period 2014-2020 are estimated as follows[77]: • Railway infrastructure: EUR 2,370.0 million • Road infrastructure EUR 5,766.0 million • Public passenger transport: EUR 966.7 million • Airport infrastructure: EUR 157.4 million • Water transport infrastructure: EUR 478.2 million **Water and sewage infrastructure** In 2012 only 87% of the resident population were connected to a water supply system with public access, which represents a substandard value compared to the EU average. The coverage of public sewage systems in Slovakia is at an even lower level with high regional disparities. In 2012 only 62.4% of the population was connected to the public sewage systems. Both segments represent areas with large scope for investments.	**Commercial sources** • There are no specialised funds supporting infrastructure until now. • Transport infrastructure in Slovakia has so far almost exclusively been financed through grants. • The only exception is a recent experience with PPP projects –PR1BINA. The total cost of the project including planning, construction, provision and maintenance of the R1 expressway is over EUR 1.2 billion **Grants from the Operational Programmes of 2014-2020 Programming Period (the estimated amount for the priority investment areas within the segment is covered in section 2.2.)**	When comparing the financial needs identified in the Strategic Development Plan of Transport infrastructure of the Slovak Republic by 2020 and the planned financial allocations within the Priority Axis of OP II for the period 2014-2020, the financial gap is as follows: • Railway infrastructure: EUR 1,362.6 • Road infrastructure: EUR 4,138.8 • Public passenger transport: EUR 644.4 • Airport infrastructure: EUR 157.4 million (not supported by EU funds) • Water transport infrastructure: EUR 361.8 million However, these information concerns only transport infrastructure development. In addition to this, there are financial needs for maintenance and repairs of the infrastructure, where financial needs for the period 2014-2020 for the whole transport sector (except for public passenger transport) reach EUR 1,181.92 million. In the Programming Period 2007-2013 in the case of Priority Axis Railway, Road and Intermodal transport infrastructure the amount of financial resources requested exceeded the initial allocation; therefore

[77] According to the Strategic Development Plan of Transport Infrastructure of the Slovak Republic by 2020. Overview of major investment investments in transport infrastructure for the period 2014-2020 is presented in Appendix 8 and 9.

	Projects identified • 72 major projects have been identified (Appendix 14), with a separate list of high priority projects (26 railway and 46 road infrastructure) (estimated amount is still under discussion) • 6 infrastructure projects have been identified from the private sector (estimated amount over EUR 256 million) • 17 infrastructure projects have been identified from the cities and from the national government (estimated amount over EUR 321 million).		only part of the projects was supported. Moreover in the case of railway and road infrastructure, as well as in the case of energy, not all financial resources initially planned to be allocated within this Priority Axis were finally used, which can be attributed to several factors, such as: • the inadequate state of preparedness of projects, environmental issues and/or • the parameters of the PA not set in line with the demand-side. This is quite surprising, considering the demand for financial support in this segment.
Waste	**Waste management** The share of the total amount of waste recovered or recycled is critically low in Slovakia and investments in this segment are necessary, as data from 2011shows: • only 4.4% of the total amount of waste was recycled • 74.7% of the waste produced was deposited onto or into land In the Programming Period 2007-2013 as of 31 December 2012 almost 1 500 project applications were registered for support in the area of waste management, while only less than one-quarter of them were successful, which indicates a high demand in this sector. **Projects identified** • 8 projects have been identified promoted by the private sector, 6 of which have an estimated investment size is approximately EUR 50 million (the last two projects have no information on the	**Publicly co-funded financial sources** Environmental fund: 2014-2020[78]: • **Expected total allocation: EUR 269.5 million (coming from subsidies)** **Commercial resources** • The experience of commercial financial institutions with financing investments in the area of waste recovery and recycling is relatively limited, yet in general the interviewed financial institutions stated that as far as the investments show reasonable financial indicators (ROI, payback period etc.) they do not perceive any barriers in financing. • The barriers can be seen in limited expertise to assess such investments and help the potential beneficiaries to prepare and realise them so that they prove the necessary economic indicators. **Grants from the Operational Programmes of 2014-**	**Non-financial gap** Due to the low level of recovery and recycling of waste in Slovakia together with restrictions concerning landfilling, large investment needs have been identified within the sector of waste management. Demand for support in this segment more than four times exceeded the supply provided within OP Environment. There is a clear interest shown from the private sector within this sector. On the other hand, during the last Programming Period, a very low number of projects were approved, which can be attribute to: • the low quality of the projects proposed and/or • a mismatch between the needs of the applicants and the conditions of the OPs. The market segment of re-use, recycling and, for non-recyclable materials, and recovery of waste is still underdeveloped in Slovakia and the above mentioned

[78] Based on the average allocation in the period 2009-2012. Yearly approximately EUR 38.5 million is expected to be allocated.

	investment size). • 5 city projects have been identified: an integrated project from Snina and a waste management project	**2020 Programming Period (the estimated amount for the priority investment areas within the segment is covered in section 2.2.)**	measures and projects need to be linked to a broader approach to improve the waste production, collection and separation, where a significant amount of private companies are planning investments.
Urban and municipal development	**Energy efficiency in buildings** To comply with the natural renovation cycles, the number of renovations in the 2014-2020 period should be: • around 29,000 flats in multi-family residential buildings per annum; • around 31,000 flats in single-family houses per annum; • around 143,200 m^2 in public buildings owned by the central governments organisations per annum; • around 746,700 m^2 in public buildings owned by the self-government and other state organisations per annum. In financial terms, this would mean: • EUR 155.98 million per annum[79] / EUR 1,098.83 million for the 2014-2020 period for multi-family residential buildings • EUR 767.46 million per annum / EUR 5,372.22 million for the 2014-2020 period single-family houses • EUR 907.69 million per annum / EUR 6,353.88 million for the 2014-2020 period for public buildings	**Publicly co-funded financial sources** SlovSEFF III – 2014+ • Total allocation: EUR 40 million • Allocation for residential buildings approximately EUR 12 million[80] MunSEFF II • Total allocation for 2014: EUR 35 million JESSICA and SFRB • Total allocation of JESSICA: EUR 11.5 million • SFRB: EUR 154.93 million for loans and EUR 0.07 million for grants (in 2013) – the programme has started in 1996[81] **Commercial resources** • despite the interviews with key supply-side stakeholders, data on potential future financial resource available for investment in the area of urban and municipal development is very limited • banks mainly focus on the retail segment, and the micro-SME sector • municipalities struggle with high indebtedness, which indicates the high-risk that commercial banks taken on these large projects	**Energy efficiency in buildings** • The financial gap for projects in energy efficiency measures on both residential and public buildings was identified by analysing the available data • The total gap can be only estimated, since there is no official data available on potential future projects • The estimate can be put at EUR 3,500 million, excluding the use of purely private resources **Other urban and municipal developments** The interviews as well as the data reveal marked financial and non-financial needs, such as institutional and Technical Assistance for project preparation of large and complex projects. Furthermore, the need for tailored support during the implementation and operation phase is also identified, which would help to achieve better results and project objectives. Many of the expressed needs are of structural and administrative nature – administrative burden and low flexibility of the instruments are probably the most often cited.

[79] Based on current prices, nevertheless requirements on energy efficiency will increase in 2016, therefore the final amount of financial resources demanded will rise.

[80] Estimate based on the interview with EBRD.

[81] http://www.sfrb.sk/node/139

	Projects identified Projects are still indicative. However the need for this type of projects in all the cities is tangible and will be analysed throughout the next phase of the assignment) • 22 projects have been identified by five cities in the area of EE in buildings • 14 projects have been identified, which cover a wide spectrum of investment needs from the municipalities	**Grants from the Operational Programmes of 2014-2020 Programming Period (the estimated amount for the priority investment areas within the segment is covered in section 2.2.)**	The range of possible future instruments is hardly known by the stakeholders. Accordingly, support to identify the appropriate funding instruments for specific investments is also crucial.

4 Review of the lessons learnt from the past and from similar existing funds

This section addresses the lessons learnt from past and current FIs in the Slovak Republic. The analysis of lessons learnt aims to capture any knowledge learnt in the course of activities (both past and current) as part of a continuous improvement process. It is also a necessary requirement as per Article 37 (2) (d) of the CPR, which stipulates that the following should be included:

- Lessons learnt from similar instruments and ex-ante assessments done in the past;
- How they can be applied in the future.

As such, the objective is to be able to provide an overview of the most relevant examples of best practice through the:

- Identification of relevant past experiences;
- Identification of success factors and pitfalls of past experiences;
- Use of lessons learnt as a tool for risk assessment and timeline.

There are a certain number of past experiences to take into account in order to cover the main and most relevant aspects of FIs for the sectors in question in this assignment. In order to identify these past experiences, first, FIs that were implemented in other countries in Europe were reviewed, with a focus on the relevant sectors. Second, FIs that were already implemented in the previous Programming Period (2007-2013) in Slovakia were analysed. This information was primarily gathered through desk research and complemented through the selected stakeholders interviews.

This chapter of the Final Report is divided into two sections. Section 4.1 presents a summary of the findings of lessons learnt from JESSICA and Section 4.2 summarises the examples of best practice for similar type of instruments within the Slovak context.

4.1 EIB supported financial instruments

Historically throughout Europe, **public intervention to promote housing stock renewal was done through the use of strongly interlinked subsidies or funding systems**, often coming directly from the government. There were three main approaches for this support:

- Provision of revenue subsidies to reduce the annual cost of provision and therefore rents;
- Upfront capital grants that would help reduce the need to borrow or otherwise fund capital costs of investment, and therefore reducing outgoings and rents;
- Provision of subsidy in kind, often in the form of free or cheap land, reducing the need for funding and therefore lower rents.

In addition to national funding towards housing programmes the CP programmes 2007-2013 [50] supported interventions in housing in the field of energy efficiency and renewable energy. With 4% of 2007-2013 ERDF allocations to be dedicated towards energy efficiency and renewable energy

projects for the development of existing housing [51]. In Slovakia this amounted to some EUR 248 million[82] over the last Programming Period. Few MS used up all of their allocated funding as there was a change in the regulatory framework after the OPs were finalised.

In Slovakia, the swiftness of resource allocation within the **JESSICA** initiative, which was implemented in 2013, reflects the demand for soft loans in the housing stock renewal sector. The JESSICA evaluation study [43] revealed a market gap of more than EUR 13 billion[83]. Soft loans were provided under very favourable conditions and targeted sectors where this type of support is highly needed[84]. JESSICA instruments need to be tailored according to the ownership structure and financial practices of the Member State. Potential for these instruments is best in countries like Slovakia, **where the social sector has an important role in the housing market and where there are simple government financing arrangements**.

The instrument has focused solely on the **energy efficiency of apartment buildings, with EUR 11.5 million.** Within 4 months of the first call, registered applications covered more than 75% of the funds allocated for the JESSICA instrument. As of 31 December 2013, this share raised up to 95%[85]. One of the main critics of this set-up of JESSICA – which was also pointed out by the JESSICA evaluation study in 2010 – is that through SFRB the financial instrument was not be able to leverage on other private capital (inclusion of existing financial institutions or other private investors), not taking into account the 25% own co-financing. On the other hand the instrument had several positive effects, reflecting the desire to use financial resources effectively in a repayable form. Support through loans is provided to citizens, whose combined incomes do not exceed three and a half times the subsistence minimum, thus targeting the neediest of wide range of potential recipients. **JESSICA has seen success in this area because it helps to provide a source of funding at below-market rates.**

Until 2013 in Slovakia this type of support was primarily given through the *State Housing Development Fund/ SFRB*[86] (*Štátný fond rozvoja bývania*), which was providing loans at discounted interest rates (in combination with the recipients' own funding). In June 2013, the call for recipients was opened and at the end of October 2013, SFRB registered applications covering more than 75% of the funds allocated for the JESSICA instrument (MF SR, 2013a). As of 31 December 2013, this share raised up to 95% [52].

---

[82] Housing JESSICA

[83] Of which EUR 9.3 billion represented investments needed for renovation of flats.

[84] According to the JESSICA evaluation study, as regards financing of housing refurbishment, a market gap in the amount of EUR 9.3 billion is estimated. In addition, a gap of EUR 2.3 billion was identified in terms of financing projects of refurbishment of public buildings. The potential need for investments in complex revitalisation of urban areas and integrated energy projects is theoretically without limitations. The study estimated total EUR 13.2 billion in 2010.

[85] SFRB (2014a): Výročná správa o postupe implementácie iniciatívy JESSICA. Štátný fond rozvoje bývania.

[86] The State Housing Development Fund (SFRB) was established by the Law of the National Council of Slovak Republic no.124/1996 Collection of Laws, which improved its position and created conditions for providing state support for housing development. It was amended by Law No. 536/2004 Coll, which came into force 1.1.2004. The Slovak Government has issued Government Regulation No. 637/2004 Collection of Laws, which provides: details on the types and amounts of subsidies provided by SFRB. Further implementing legislation is the Decree of the Ministry of Construction and Regional Development No. 161/2004 Collection of Laws, as amended by Decree No. MVRR SR. 663/2004 Collection of Laws, which provides details on the contents of the request for aid from the SFRB, the technical conditions and the length of time for completion of construction, for which provides support.

Table 67: Basic parameters of the Jessica instruments in Slovakia

Financial instrument		**JESSICA**
Administrator		State Housing Development Fund (Štátny fond rozvoja bývania - SFRB[87])
Type of support through 2013 (the parameters has changed in 2014)		Soft loans (0% rate), with maturity of 15 years, amount covering 80% of the eligible costs.
Size of the fund		EUR 11.5 million (period from 3 June 2013 till 31 December 2013)
Eligible beneficiaries		• owners of apartments and residential premises represented by administrator • associations of owners of apartments and residential premises in urban areas in all self-governing regions
Establishment		2011
Aim of the support		• reduction of energy intensity of housing infrastructure through construction/technical interventions • support of energy efficiency of thermal insulation of existing apartment houses
Parameters of the support	**Height of the support**	Calculation based on the equivalent of cash subsidies (grants) needed to support (saved interest rate compared to market conditions) will not exceed EUR 200,000 (*de minimis* regime)
	Maturity	15 years. Applicants who receive financial resources have to realise the project within 24 months.

The parameters within the JESSICA initiative have slightly changed during the past years as follows[88]:

- the maximum amount of credit granted represents 75% of the eligible costs of a residential building construction;
- interest rate accounts to 1.5%;
- the repayment period of the loan is 20 years; and
- from the day of opening the loan account, the beneficiary has 24 months to carry out the construction [52].

One of the critical appraisals of the existing instruments is that JESSICA/SFRB provides credit with no private capital leveraged (not taking into account the 25% own co-financing). On the other hand the instrument had several positive effects, **reflecting the desire to use financial resources effectively in a repayable form**. Support through loans is provided to citizens, whose combined incomes do not exceed three and a half times the subsistence minimum, thus targeting the neediest of wide range of potential recipients.

One of the reasons behind the swift implementation of both the JESSICA and national instruments is a **very good knowledge of the market.** The SFRB has a very good overview of the market's needs and failures thanks to its close co-operation with (potential) beneficiaries and so they easily **targeted the segments that are lacking sufficient support and access to FIs**.

The instruments succeeded even without an intensive promotion campaign. The SFRB has, thanks to its history, a fairly dense **network of potential beneficiaries** and so was able to use informal links and communication to ensure necessary investment flow.

[87] http://www.sfrb.sk/jessica/jessica.
[88] http://www.sfrb.sk/sites/default/files/Informácia%20o%20JESSICE_2014_0.pdf

Thanks to previous experiences, they were also able to make valuable recommendations when setting the conditions of the instrument so that they create **favourable conditions of provision of the financial resources under which the beneficiaries find the instrument attractive**.

The aim to **minimise the administrative burden** was also important for the Fund. However efforts to reduce the administrative burden were limited due to the national administrative burden and as well as the rules and regulations related to EU funds. The Fund was also able to **support the potential beneficiaries and flexibly help them with the administration** of the application as well as with investment realisation. Although they did not provide any direct technical support along with the investment, the employees of the fund were able to help the beneficiaries within their competencies.

The Fund also strictly defined the beneficiaries and projects for which the repayable support was determined so that there were no overlaps in support from grants and supports through repayable forms.

It is important to mention that the possibilities offered by the new Programming Period are much wider, since housing will be eligible for energy efficiency and for community development. One of the direct constraints are State aid rules which stipulate that to receive public support social housing mission, the funding must be used to tackle a demonstrable market failure, along with tight budget control. According to the EIB, FIs will face some opportunities and challenges in the 2014-2020 Programming Period. These include:

- Challenges for the mixed use of funds for urban development, and mixed tenure for rental housing;
- Opportunities for cities in multi-dimensional and cross-sectorial interventions e.g. mixed development projects may allow JESSICA to support housing investments indirectly within regulations;
- Investments need to be included in the investment strategy of the fund manager, preferably also in OP of MAs;
- More possibilities from changes in regulations, allowing for a wider scope.

4.2 Other instruments

As all these different funds were already described in detail under the supply side analysis (Section 3.1), this part of the chapter focuses on the lessons learnt from these instruments.

One of the key success factors of the **MunSEFF** programme was the **combination of soft loans for municipal projects with grants**. These have been used for:

(i) **A technical cooperation programme for implementation support**, including for sub-investment development and validation, liaising with suppliers and service providers and, finally, information dissemination activities;

(ii) **Investment incentives for municipal and residential sub-borrowers** designed to encourage the prioritisation of energy efficiency projects, to reward the most energy

efficient projects and to improve the financial viability of such projects; and

(iii) **Incentive payments for SLS**[89] **designed to compensate for the additional administrative and reporting requirements** set forth by the Facility and the EU and also as an incentive to roll-out the Facility.

Grants were used as **a tool to provide Technical Assistance free of charge, helping potential sub-borrowers prepare loan applications and familiarises local bank officers with sustainable energy investment opportunities and credit appraisal methods**. Without the grant support for Technical Assistance, there would have not been as much demand for these services, and as a result it helped deal with the barrier at the supply-side, strengthening the expertise of financial institutions.

The **SlovSEFF**, which targets EE/RE projects in housing along with the property of private enterprises, where the majority of the projects have been implemented in the residential sector. As with MunSEFF, an important success factor of this programme has been the **combination of loans with grant support and Technical Assistance**. The **Technical assistance** included within the initiative is funded by grants, and is therefore free of charge for borrowers. This includes consultancy services and also incentive payments. Sub-borrowers are eligible to receive incentive payments calculated as a percentage of the sub-loan amount, based on independent verification consultant assessment. The incentive payment methodology has been changed in SLOVSEFF III for renewable energy and industrial energy efficiency projects and rewards investments that reduce greenhouse gas emissions, by introducing a link between the level of incentive payment and the amount of emission reductions that can be achieved through project implementation. The SLOVSEFF model is designed as **a one-stop-shop for the sub-borrowers providing a fully integrated package of loans, grants and Technical Assistance**.

Another fund within the energy efficiency investment area is the **Ekofond,** which stands out as an example of good practice not only because it is financed purely from private sources, but also because it enabled support of **economic and efficient projects**, has **helped motivate beneficiaries to achieve expected energy savings and incentivised the uptake of modern, innovative technologies** in the Slovak market. So far, grants have constituted only half of the fund's investment expenditures.

In designing the Ekofond, a focus was placed on **reducing the administrative burden as much as possible**. An advantage of the Ekofond was that, as a private fund, it was not bound by EU funds regulations, allowing it the freedom to craft criteria that are detailed enough to ensure that only high quality projects would be eligible for investment. These selection criteria included requirements for projects to present:

- Ex-ante criteria – savings per m^2, number of affected persons, and price permWh saved.
- Ex-post evaluation whether the project met the approved results, if not it could be excluded from the support.

The fund also provided **Technical Assistance** for the potential beneficiaries (though in a different form that for instance MunSEFF programme). The fund created an advisory board for each of its

[89] Slovenská sporiteľňa

programmes which provided important technical consultations for each project application, providing capacity building and skills which the majority of the beneficiaries lacked. The fund´s consultants also worked closely with the beneficiaries and helped them to prepare projects so that they met the criteria for support but also so as to ensure project proposals were **realistic and of socioeconomic benefit**. Nevertheless, the number of supported projects (85 projects) and the amount of financial resources allocated (EUR 5.8 million) to them was very limited.

The success of the **Environmental fund** was due to the high demand of loans for favourable conditions in other areas as well besides renewable energy, such as waste management, protection and use of water and other environmental issues without excessive financial burdens. The fund was able to originate fees for air pollution, fees for groundwater consumption, revenue from payments for mined minerals, without any financial support from the EU or national budget. Nevertheless, guarantees are required at the level of 130% of the value of the requested loan.

Table 68: Overview of selected Slovak financial instruments and best practices in their implementation

Financial instruments	Sector				Type of instrument	Best practices
	Energy efficiency	Water	Waste	Culture		
State Housing Development Fund and Jessica instrument	X				Loans, grants	• Good knowledge of the market – targeting segment that is lacking sufficient support. • Network of potential beneficiaries – generation of necessary investment flow. • Favourable conditions, under which resources are provided, that attractive for the beneficiaries. • Use of non-refundable grants only for citizens with severe disabilities. • Targeting persons whose income together does not exceed three and a half times the subsistence minimum.
Environmental Fund	X	X	X		Loans, Grants	• Resources originating from fees for air pollution, groundwater consumption, revenue from payments for mined minerals etc. • Support for R&D activities.
MunSEFF	X				Loans	• Grant element of the facility used for technical cooperation and investment Incentives for Municipal and Residential Sub-borrowers • Incentive payments for SLSP[90] to cope with the administrative burden • Free-of-charge Technical Assistance for (potential) beneficiaries
SlovSEFF	X				Loans	• Free Technical Assistance, incentive payments. • One-stop-shop for the sub-borrowers providing a fully integrated package of loans, grants and Technical Assistance
Ekofond	X				Grants	• Privately funded • Lowering administrative barrier for beneficiaries • Clear criteria for assessment of the quality of the projects: ex-ante and ex-post criteria ○ ex-ante criteria: savings per m^2, number of affected persons, price per MWh saved ○ ex-post evaluation whether the project met the approved results, if not it could be excluded from the support of the support could be lowered • Advisory board for each programme provided Technical Assistance for projects • Individual co-operation with project applicants (particularly from public sphere) • Requirement for expert technical review that sets logical steps of the project and assess their benefits for the overall savings – help to achieve most economical and efficient solutions • Special programme scheme aimed at use of modern technologies – cogeneration, trigeneration and microgeneration – support of innovative technologies for Slovak market • Awareness raising activities, promotion of energy efficiency and consumption issues

[90] Slovenská sporiteľňa

4.3 Summary of lessons learnt

The main lesson learned through Slovakia's previous experience with FIs is that they are needed and also viable in the Slovakian economy. Funds that have been operating in country are already well-recognised by the market as experienced and effective – particularly in energy efficiency – and they are demonstrably meeting previously unmet demand for financing. And yet, despite their efforts, substantial gaps persist between the country's public investment needs and available financing.

As the use of FIs expands during the 2014-2020 Programming Period, the following lessons should be incorporated into the approach.

Support the project pipeline

FIs (see Table 7, in section 3.1) were introduced to the Slovakian market as a means to address a perceived lack of both public and private project financing, but one of the biggest obstacles they encountered was a poorly developed project pipeline. The absence of financing weakened the incentive to prepare projects as the likelihood of getting the necessary funding was low. So as funding moved in, it was quickly absorbed by those projects of sufficient maturity and found little or not enough matured pipeline for subsequent projects.

As such, in order to ensure a more successful long-term strategy, introduction of FIs to a new market sector should be accompanied by measures to promote the development of an adequate pipeline of mature, feasible projects. The catalyst effect of dangling a funding in front of hungry developers is not sufficient.

Project applicants (or project beneficiaries) would benefit enormously from such services, particularly during the pre-development phase when crucial project documentation is being prepared, such as feasibility studies, cost-benefit analyses and other technical documentation on which the merits of their projects will be judged. Doing so would help increase the number of feasible projects and develop the pipeline of investment-ready projects. Therefore, project developers should also change their mind-set towards understanding the EU jargon and criteria with all the related EU regulations and eligibility criteria, which these types of projects certainly have to meet.

In order to develop an adequate project pipeline for FI, financial institutions (such as commercial banks and specialised funds), should also provide so called "smart money". Certainly, IFIs active in Slovakia (such as EIB/EIF and EBRD) are following this smart money approach by not only providing the funding but also taking an active managerial role during the project development phase (e.g. knowledge on CBAs etc.) and also later on to meet the reporting and monitoring requirements from the EC.

Increase private capital involvement

An important lesson learnt from the 2007-2013 Programming Period was that the management and distribution of funds is generally best done by actors closest to the market such as banks and other financial institutions. The aim is to attract more private capital and hence increase the leverage effect of the FIs in order to be able to maximise the benefits from the use of FIs. The selection of the financial intermediaries should be carried out with full impartiality, and on the basis of a thorough assessment that includes technical expertise and know-how.

While higher level public entities might be aware of policy objectives, they are not always aware of the needs of the market itself. Involving these actors early on in the rollout of FIs, particularly during the design phase, is considered an example of best practice. This is because actors with good knowledge of the market would normally already have an established network of partners or beneficiaries in place which would help reduce the need for awareness-raising and would make the investment process via FIs more efficient.

Build capacity in the financial sector

There is also demand on behalf of financial institutions for more Technical Assistance, in particular for capacity building services, in order to improve their ability to correctly and effectively evaluate projects. There is a lack of knowledge within these entities of the applicable rules and regulations governing the use of revolving instruments as set out by the EC.

Expand diversity of financial products

Another key priority for the coming Programming Period will be to expand the variety of financial products offered. Greater diversity in products (equity, mezzanine, hybrid) can make a better fit to specific needs of projects, can have higher leverage and lower financing costs. Until now in Slovakia, the financial institutions and specialised funds mainly provided loan and guarantee type of products. FIs allow multiple forms of financing (equity, loans, and financial guarantees) in order to respond to the financing needs of the beneficiaries during the various stages of their life cycle.

Providing smart money is highly relevant for these types of projects, where this greater diversity of products is needed. This would also increase the appetite for project developers to be able to present suitable and matured projects.

Get the word out

General awareness-raising and market-enabling activities are also necessary for MAs as many of the potential market participants' lack adequate understanding of the use and potential benefits of financial instruments, including the institutional set-up, administrative procedures, funding requirements etc. This lack of understanding is a significant barrier to the implementation of FIs.

In order to address this barrier, MAs should support information campaigns, including seminars and consultations with local stakeholders to better familiarise them with FIs. These local stakeholders could include banks and other financial institutions, regional and municipal governments, along with industry groups such as chambers of commerce. Such outreach programmes could be augmented by the publication of guidebooks to be made available to interested investors in print and online. In this capacity, the kinds of actors with a good knowledge of the local market could be deployed to organise and educate. Increasing such of contacts can also serve as a valuable opportunity to develop projects that could potentially be compatible with FIs.

Cut the red tape

Another important lesson learnt through Slovakia's experience is the need to reduce the administrative and bureaucratic burden involved in applying for funding. The time, effort and costs associated with fulfilling the administrative requirements to benefit from EU funds are the most cited obstacle in Slovakia.

To be able to reduce the administration and bureaucratic burden is not only the responsibility of the central government and the Managing Authorities, but also the responsibility of the financial institutions to make it more informative and clear what needs to be done in order to meet their requirements to develop the project to the bankable stage and at the same time meet EU requirements.

Align incentives

In addition to actively anticipating the potential impact of the investment, it is also important to evaluate FI performance particularly when it offers the possibility of financing based on good performance. This is particularly relevant for energy efficiency projects. The provision of performance-based funding will help incentivise projects to ensure that they are well designed and managed. Overall, this kind of targeted support (both technical and financial) can help ensure that the overall objectives of the funds are achieved.

5 Proposed investment strategy and potential value added of Financial Instruments

Section 5 presents the potential for FIs to address the market failures and sub-optimal investment situations identified in Section 3. In order to do so, the first half of this section organises the investment areas identified in this report into four potential sub-funds and defines what the potential envelope for each should be. The second part of the chapter identifies the ways in which FIs can bring quantifiable value added to the sectors in question.

Rationale

Before moving on to the discussion of investment strategy it is helpful to summarise the rationale for incorporating FIs into Slovakia's 2014-2020 budgetary planning process. The Europe 2020 strategy establishes the goal of EU funding to be to promote smart, sustainable and inclusive growth, while promoting harmonious development of the Union and reducing regional disparities. The Slovak Republic is in the process of finalising their OPs to achieve those goals, but the needs are great and resources are limited.

Section 3 above lays out in detail the country's investment needs, and how market failures and suboptimal investment situations have created a significant funding gap in the areas of energy production, infrastructure, waste management and urban development. In order to pursue the goals laid out in the Europe 2020 strategy, intervention will be required on a scale that exceeds available financial resources.

FIs have the capacity to fill that gap by leveraging additional public and private financing, increasing the total amount of funds available for investment. And because FI support is repayable, as investment returns come in, they become available to be reinvested in new projects, further expanding the impact of a given amount of ESI Funds. Finally, by entering into market segments where investment activity is currently weak, intervention can have a catalyst effect by revamping competition among project promoters for limited funds not previously available. Preliminary estimates of the macroeconomic impact of these additional invested funds are as high as 3% of GDP [8].

Promoting a shift from a grants-only model to one that makes use of FIs has other benefits as well, by encouraging MAs to adopt a more business-oriented attitude in the administration of public funds. The increased involvement of private sector financers can also improve public policy outcomes by incentivising higher quality financial discipline on their projects. Finally, more active use of FIs will help reduce the Slovak Government's dependency on EU funds in the future, a key political goal.

From the analysis of the needs of the Slovak economy, it is clear that the broad range of investment areas considered here are too diverse to be handled in a single fund. Furthermore, as discussed in greater detail in Section 6 to follow, MAs and the management of the FI have a number of priorities to consider when deciding how to organise multiple funds, including the needs of public sector stakeholders, the capacities that need to be included in the investment board and management structure, priorities of possible investors, type of intermediation required and targeted recipients, and the administrative burden involved in creating and managing multiple funds.

In this instance, the best structure is to establish a number of sub-funds under the umbrella of a Fund of Funds or Holding Fund (HF). Options and recommendations pertaining to the Fund of Funds level are discussed below. In section 5.1 to follow, the focus is on how to implement FIs in the investment areas identified so far as a limited set of distinct sub-funds.

In the following section, an examination of the risks associated with State aid regulations, eligibility criteria and other restrictions placed by the CPR and Delegates acts is made.

5.1 Proposed sub-fund strategy

The following organisation represents one viable option available to organise the various investment priorities of the Slovak government when allocating ESI Funds to a FI. It consists of six primarily thematic sub-funds covering the following priorities: SMEs and social enterprise, transport infrastructure and energy production, waste and water management, energy efficiency in residential and public buildings, and municipal and urban development.

Table 69 below lays out the composition of the proposed sub-funds by investment area, and which OP and Priority Axis the funding is to come from. Column 6 displays the funding allocations for each investment area according to the most recent OP planning documents supplied by the Slovak government in September 2014. In cases where specific priorities are shared between different sub-funds, the allocation reflects only the budget of the specific priority relevant to that sub-fund.

Column 7 displays the estimated value of the project pipelines identified through stakeholder analysis, and spelled out in the demand side analysis (Section 3.2). Projects have been reorganised according to the OP and Priority Axis under which they could potentially qualify for ESI financial support. This arrangement is meant to be indicative only. Projects eligibility will be decided by the relevant authorities. The organisation of projects, including reference codes that can be used to track them throughout this study, can be found in Appendix 17. Projects are grouped by the sub-fund to which they have been provisionally assigned.

Please note two specific cases in which the numbers below are unlikely to reflect actual demand. First, in the area of residential energy efficiency improvements, demand has definitively outstripped supply in recent years. Second In the case of brownfield regeneration, the Slovak government recently identified 663 sites in need of remediation nationwide, but has not estimated the cost of regenerating them.

The final column presents the report's recommendation for contributions to the FI. The case for each of these recommendations is spelled out in the sections to follow.

Table 69: Proposed sub-fund structure

Investment Area	OP	Fund	Priority Axis	Description	OP Allocation EU Funds (EUR)	Identified Project Pipeline (EUR)	Proposed FI Contribution (EUR)
Transport Infrastructure and Energy Production Fund							
Road infrastructure	OP II	CF	2 & 6	Improve quality and safety of Roads	1,627,257,228	7,592,124,076	500,000,000
Rail infrastructure	OP II	CF	1 & 5	Improve quality and safety of Railways	1,008,071,393	2,221,711,669	
Water transport	OP II	CF	4	Development of water transport infrastructure	116,450,000	226,058,823	
Energy production	OP QE	ERDF	4	Renewable energy production	352,671,788	297,300,000	100,000,000
Sub-fund total					**3,104,450,409**	**10,337,194,568**	**600,000,000**
Energy Efficiency in Buildings Fund							
Residential buildings	IROP	ERDF	4	Enhancing efficiency of residential buildings	111,388,554	N/A	111,388,554
Public buildings	OP QE	ERDF	4	Enhancing efficiency of public buildings	474,886,480	24,370,000	6,000,000
Sub-fund total					**586,275,034**	**24,370,000**	**117,388,554**
Waste and Water Management Fund							
Water management	IROP	ERDF	4	Improve access to drinking water	55,000,000	63,949,587	20,000,000
Water management	OP QE	CF	1	Improve quality of the water supply	497,836,034	119,000,000	30,000,000
Waste management	OP QE	CF	1	Environmentally friendly waste management	402,882,766	63,251,233	20,000,000
Waste management	OP QE	CF	2	Climate change preparation & flood management	419,346,261	925,788	5,000,000
Sub-fund total					**1,375,065,061**	**247,126,608**	**75,000,000**
Municipal and Urban Development Fund							
Urban public transport	IROP	ERDF	1	Enviro-friendly transport in regions	123,000,000	28,252,157	8,000,000
Public passenger transport	OP II	CF	3	Attractiveness and accessibility of public transport	322,350,000	286,000,000	142,000,000
Education infrastructure	IROP	ERDF	2	Education & training infrastructure	263,000,000	6,230,000	5,000,000
Brownfields	OP QE	CF	1	Remediation of environmental burdens	180,858,298	394,852,000	108,000,000
Culture	IROP	ERDF	3	Promoting creative and cultural jobs	215,860,548	11,027,628	5,000,000
Sub-fund total					**1,105,068,846**	**726,361,785**	**268,000,000**
				Fund of funds total:	***6,170,859,350***	***11,335,052,961***	***1,060,388,554***

Having organized those investment areas where FIs could potentially be used to address market failures and suboptimal investment situations, the question remains how much the relevant MAs can and should contribute to the FI. This kind of consideration may take one of two forms. In the less frequent case where the project pipeline exceeds available resources, 100% of budgetary resources could potentially be absorbed by projects using FIs. In this case, the primary constraint is how much of the budget can be made available, and how much must be set aside for other priorities.

In the more frequent case, the extent and maturity of the identified project pipeline dictate that only a fraction of the budget could potentially be disbursed to final recipients via FIs. In this case, rough estimates of potential co-investment and leverage effects must be used to approximate the corresponding contribution envelope.

5.1.1 Transportation infrastructure and energy production

Eligible projects

The first proposed sub-fund would be used to include large scale transportation infrastructure and energy production projects, including major highway and rail project as well as large and small scale RES generation and co-generation projects. Potential projects would have to comply with the eligibility criteria under OP II Priority Axis 1, or one of three specific priorities under OP QE Priority Axis 4 (see Table 70).

Table 70: Programme and financing info for proposed infrastructure and energy production sub-fund

Sectors and sub-sector	OP	PA	Specific objective	Financial instruments for 2014-2020	
				Products offered by existing Financial Instruments (which can be further adopted)	Products that need to be offered by future Financial Instruments
Transport Infrastructure and Energy Production					
Transport Infrastructure	**OP II**	**1**	**Railway infrastructure (TEN-T CORE) and renewal of rolling stock** 1.1.1: Creation of conditions for growth of performances in railway passenger and freight transport 1.2.2: Increasing the environment-friendliness and energy efficiency of the transport system of the Slovak Republic 1.3.3: Increasing the quality of railway transport infrastructure **Beneficiaries:** Railways of the Slovak Republic, MDVRR SR, central government authorities and bodies, which support the implementation of OP II	N/A	Soft loans Quasi equity / mezzanine finance Guarantees
	OP II	**2**	**Road infrastructure (TEN-T CORE)** 2.1.1: Provision of quality road connection and homogenisation of the TEN-T network 2.1.2: Increasing the road transport	N/A	Soft loans Quasi equity / mezzanine finance Guarantees

			safety **Beneficiaries:** National Motorway Company, Inc., MDVRR, central government authorities and bodies, which support the implementation of OP II		
	OP II	**4**	**Waterway transport infrastructure (TEN-T CORE)** 4.1.1: Creation of conditions for growth of performances in water transport through investments in the infrastructure **Beneficiaries:** - Water Transport Development Agency, Public Ports, MDVRR, central government authorities and bodies, which support the implementation of OP II	N/A	Soft loans Quasi equity / mezzanine finance Guarantees
	OP II	**5**	**Railway infrastructure (other than TEN-T CORE)** 5.1.1: Creation of conditions for growth of performances in railway passenger and freight transport 5.2.2: Increasing the environment-friendliness and energy efficiency of the transport system of the Slovak Republic 5.3.3: Increasing the quality of railway transport infrastructure **Beneficiaries:** Railways of the Slovak Republic, MDVRR SR, central government authorities and bodies, which support the implementation of OP II	N/A	Soft loans Quasi equity / mezzanine finance Guarantees
	OP II	**6**	**Road infrastructure (other than TEN-T CORE)** 6.1.1: Provision of quality road connection between regions 6.2.2: Increasing the traffic safety and continuity on first-class roads **Beneficiaries:** National Motorway Company, Inc., Slovak Road Administration, MDVRR SR, central government authorities and bodies, which support the implementation of OP II	N/A	Soft loans Quasi equity / mezzanine finance Guarantees
Energy Production	**OP QE**	**4**	4.1.1 Increasing the share of RES in gross final energy consumption 4.1.2 Installation of small-scale plants for use of RES in the Bratislava self-governing region 4.5.1 Construction, renovation and modernisation of heat distributions systems. **Beneficiaries:** physical or legal entities and associations authorised to do	**Environmental fund** - credit under 1% interest rate on the loan p.a., loan maturity is between 5 and 15 years **SlovSEFF** - advanced interest rate loan through commercial banks - a grant of up to 20% of the loan provided upon	Guarantees or soft loans Quasi equity / mezzanine finance

			business; central and territorial administration entities, non-profit organisations; owners, administrators and associations of apartment and non-residential premises owners.	completion of the investment and meeting certain energy efficiency criteria	

Intervention specification

Investments in the transport infrastructure area can be quite complex due to their high price tag and very long project life cycle. Soft loans and guarantees during the construction phase are one potential way for FIs to reduce some of the uncertainty associated with investment projects. Under the PPP model, depending on a project's business plan, guarantees or junior tranches of equity could be exchanged directly with the promoter or SPV.

The following solution is proposed for financing infrastructure projects:

- Infrastructure fund to provide equity investment in established SPV / PPP schemes.
- Loans
- Guarantees
    - Provision of guarantees to lower the risk of the projects and provide a surety to financiers in case a developer should prove unable to meet his obligations and to help attract additional private capital.

In energy production, the possible combination of financial support includes (i) **a financial instrument that gives an interest-free loan with a conditional maturity in the pre-investment stage** and (ii) **a preferential loan for the investment stage**. If the project turns out not to be viable for realisation, the initiative is not obliged to repay the loan, which transforms into a grant. In the event of a positive feasibility study, the FI gives the initiative a special loan for the investment stage and the initiative also repays the sources provided in the pre-investment stage.

In addition, experience from abroad as well as from Slovakian projects indicates that **Technical Assistance** will play an integral role in the support of local and regional authorities and public sector bodies **in sustainable energy projects**.

The following solution is proposed for financing energy production projects:

- Soft-loans for the development and preparation of projects
    - Financing the pre-investment phase of the initiative from the development of project proposal, analysing the potential and applicability of technologies to the execution of technical and financial feasibility studies and project documentation necessary to start the investment stage and access other financial sources.
- Credit financing with preferential terms combined with the grants:
    - Loans with reduced interest rates and longer maturity (best for supporting the financing for the whole project cycle).
    - Combination with grants for the Technical Assistance of the project (including energy audits).

- Equity or quasi-equity investments, for the construction or expansion of new facilities.

Combination with subsidies for the Technical Assistance and pre-development phase of the project.

Estimated envelope

Table 6970 above details the funding levels for the Priority Axes and Specific Priorities proposed to be financed via this sub-fund, as well as the total value of the project pipelines identified in Sections 3.2.1 for energy and 3.2.2 for infrastructure.

The energy production pipeline is dominated by large, private sector projects, and is of relatively advanced maturity such that one could assume a success rate of 50% or higher for a realistic final investment of EUR 85 million. There is also a strong interest in RES among IFIs and other members of the financing community, meaning that the co-investment rate could realistically reach 2:1 As such, the MA could potentially fund some EUR 85 million in projects with a contribution envelope of EUR 24 million or less depending on the leverage rate. This is just over 10% of the currently projected RES budget.

In addition to large RES projects, the Slovak government has signalled a shift away from large RES production toward smaller facilities of 2-10kW capacity, with a capacity expansion goal that would cost upwards of EUR 250 million to achieve. Assuming they prefer to rely on grants to finance some minimum portion of this goal – e.g. EUR 50 million to promote the technology or to target economically disadvantaged communities – using the same co-investment and leverage rate assumptions as above the remaining EUR 200 million could be financed with a contribution of EUR 55 million. As such, the recommended envelope for RES energy production is EUR 100 million.

Heat and cogeneration resemble the large RES projects in the maturity and private sector support of the pipeline. In fact, this category includes several projects totalling some EUR 55 million in value that are quite advanced (permitting stage). Assuming a 50% success rate on the remaining projects results in a target investment level of roughly EUR 71 million. With a co-investment rate of 2:1, this level of investment could be financed with a contribution of as little as EUR 20 million, depending on the leverage rate.

In infrastructure, the project pipeline exceeds the budget by a ratio of nearly 4:1, and co-investment possibilities are restrained. If financed via grants, as has historically been the practice, or even via soft loans, the bulk of these projects would not be able to break ground during the 2014-2020 Programming Period. This is why PPPs, which enable relatively high leverage rates without ballooning municipal debt levels, are such an attractive option. Acknowledging that some projects, particularly those with high costs (EUR 400+ million) and complexity may not be appropriate for the PPP model, a contribution of EUR 500 million, or less than 50% of the relevant OP II total budget should be considered.

As a result, the total proposed contribution envelope for the infrastructure and energy production sub-fund is EUR 600 million.

Typology of intermediation

For RES projects, co-investment will likely take place at the sub-fund level, as many IFIs and international organisations are limited to investment specifically in support of RES products. In terms of management, the sub-fund board should take advantage of the experience gained in this

area by the Environmental Fund and Ekofond. For larger projects, soft loans and guarantees can be made directly to the promoter or SPV, and thus details will depend on the financing scheme of each individual project. Intermediation may be useful in the case of smaller scale projects, and may make use of commercial banks.

In terms of infrastructure projects, leverage is achieved at the project level. Soft loans to municipalities and regions will be intermediated by commercial banks. Under the PPP model presented above, whatever combination of debt and equity is used to finance the project, the public contracting authority works directly with a PPP company, public entity or SPV, without need for intermediation. While the fund may facilitate the process, in theory the PPP company is responsible for securing financing via a combination of debt, equity and other instruments as part of the overall procurement contract negotiated with the contracting authority.

Expected Results

The following results indicators could be used to assess the performance of FIs in transport infrastructure in the context of the OP II Priority Axes 1, 2, 4, 5, 6:

- Number of vehicle hours lost to traffic congestion;
- Average shipping costs;
- Number of persons killed in road accidents;
- Share of railway transport in passenger transport performances;
- Share of railway transport in freight transport performances;
- Share of water transport on freight transport performances;
- Length of newly built or upgraded roads;
- Length of upgraded railway lines;
- Savings in production of PM10, CO_2 and NO_x emissions.

And in energy production under OP QE Priority Axis 4:

- Share of RES in gross final energy consumption;
- Share of energy produced from imported sources;
- CO2 generation relative to GDP;
- Installed electric performance of small RES plants in households in the region of Bratislava;
- Share of supplied heat produced by cogeneration of electricity and heat.

5.1.2 Energy efficiency in buildings

Eligible projects

The third proposed sub-fund would be dedicated to construction and refurbishing of residential and public buildings for the purpose of increasing energy efficiency. This includes specific work such as installing insulation, replacing roofs and windows, and updating lighting systems. Because more than half of all public buildings are schools, many of the projects on this side of the fund will target them. Residential buildings will have to comply with IROP Priority Axis 4 eligibility criteria, while

public buildings will come in under OP QE Priority Axis 4 (see Table 71).

FIs need to be tailored to individual ownership structures and financing practices if Slovakia is planning to support additional housing and mixed-use investments (such as it was under JESSICA). It is important to ensure that the relative cost of FI funding is competitive when compared to borrowing secured against capital assets taking account of the additional complexities.

For the new Programming Period, there is one identified Priority Axis within IROP which supports energy efficiency, smart energy management and renewable use also in housing.

Table 71: Programme and financing info for proposed energy efficiency in buildings sub-fund

	OP	PA	Specific objective	Financial instruments for 2014-2020	
				Products offered by existing Financial Instruments (which can be further adopted)	**Products that need to be offered by future Financial Instruments**
Energy Efficiency in Buildings					
Residential Buildings	IROP	**PA 4**	**Investment priority No. 4.1: Supporting energy efficiency, smart energy management and renewable energy use in public infrastructure including in public buildings and in the housing sector** The properties of buildings which contribute to energy efficiency for housing will be ensured within the investment priority through the following measures: • improving the thermal and technical properties of structures; • modernising heating or air-conditioning systems, hot water heating systems, lighting, lifts • installation of RES for local consumption • installation of measuring and management systems. **Beneficiaries:** Organisations fully funded from the State Budget and organisations receiving contributions from the State Budget, non-profit organisations, natural persons (via associations of flat owners and owners of non-residential spaces, residential buildings managers).	**SFRB programmes** - preferential loans (preferential interest rates) **JESSICA**[91] - preferential loans (preferential interest rates) up to 75% of the total investment **SlovSEFF** - advanced interest rate loan through commercial banks - a grant of up to 20% of the loan provided upon completion of the investment and meeting certain energy efficiency criteria	Soft loans Guarantees Contracting approach (ESCO, energy agency with soft loans)
Public Buildings	OP QE	**PA 4**	**Energy efficiency renovation of public infrastructure, demonstration projects and supporting measures** • improving the thermal and technical properties of structures; • modernising heating or air-conditioning systems, hot water heating systems, lighting, lifts • installation of RES for local		Soft loans Guarantees Contracting approach (ESCO, energy agency with soft loans)

91 JESSICA has been fully allocated by 2014 started with preferential loans up to 80% of the total investment. From 2014 are preferential loans up to 75%.

			consumption • installation of measuring and management systems. **Beneficiaries:** public authorities (the public buildings owned or administered by a public authority in terms of Energy Efficiency Act)		

Intervention specification

Residential housing refurbishment should continue to be financed via soft loans of sufficiently long duration that the monthly payments approximate realised energy savings, with an energy audit of the building as a prerequisite to issuance. As the Slovak ESCO market develops, it may be possible to transition to greater use of guarantees, and even equity shares of ESCOs which allow a greater leverage effect for ESI Funds.

The following solution is proposed for financing energy efficiency projects:

Soft loans with preferential terms combined with the grant:

- Providing loans with better terms and/or reduced interest rates, longer maturity etc. for improving building energy efficiency.
- If and where possible, combined with grants for Technical Assistance in the pre-development phase of the project.
- If and where possible, providing grants based on performance to incentivise achieving higher savings and other energy efficiency criteria (e.g. including the realisation of a more complex project).

Estimated envelope

As detailed in Section 3.2.5 above, the demand for energy efficiency financing far exceeds available demand for funding, or in fact, 2014-2020 Programming Period budgeting. At the same time, there is considerable interest among both the IFIs active in Slovakia and local commercial banks to support these kinds of projects, i.e. through co-investment at the sub-fund level.

In terms of public buildings, the EIB estimated in 2010 a gap of EUR 2.3 billion needed for refurbishment of Slovakia's stock [43], an amount roughly six times larger than the total corresponding budget (OP QE Priority Axis 4). Because municipalities are tightly constrained in how much borrowing they can do and the project pipeline remains relatively shallow, the share of this need that can be funded through financial instruments is limited. Assuming a 50% success rate for the existing pipeline gives a total investment target of just EUR 11 million. Assuming a co-investment rate of close to 2:1 on preferential loans, this project pipeline could be funded with an OP contribution of EUR 6 million. Evidence from the previous Programming Period indicates the presence of underlying need in excess of the current pipeline. Should the introduction of FIs to this area succeed in catalysing further pipeline development, this contribution should be reconsidered.

In terms of residential housing, although the assembled project pipeline is limited, the JESSICA evaluation study [43] revealed a market gap of more than EUR 13 billion. In addition, the experience

of existing funds such as the SFRB indicates that demand exceeds the current supply of approximately EUR 200 million per annum, although issues with the quality of applications, and thus the absorption capacity of such funding, persist.

The MA has indicated their intention to allocate 100% of the IROP Priority Axis 4 energy efficiency budget to the proposed FI. An envelope contribution of the full EUR 111.4 million would involve a substantial increase in lending activity compared to the 2013 baseline, including those activities financed under the JESSICA pilot program. Assuming a conservative co-investment rate of 1:1, as well as the revolving funds effect of FIs, annual investment levels will be able to increase substantially in the course of the Programming Period.

In all, OP QE and IROP could contribute an envelope of EUR 117.4 million for the FI for energy efficiency in buildings[92].

Typology of intermediation

As indicated by the presence of several existing funds dedicated to financing energy efficiency improvements in Slovakia already, there is the potential to attract considerable outside capital to support this fund. Several of the IFIs currently investing in the area have expressed a conditional interest in co-investing in energy efficiency programs at the sub-fund level, including EBRD and IIB.

In other countries, ESCOs often act as promoters for these types of projects, including by providing Technical Assistance to potential applicants, arranging installation contractors, guaranteeing energy savings and conducting audits. Slovakia currently lacks sufficient ESCO infrastructure to perform such tasks, and as such, some portion of funding could potentially be set aside for grants for Technical Assistance, or potentially equity capital to help develop this capacity.

In the meantime, intermediation to provide loans to small projects could be carried out by commercial banks, by one of the existing funds such as the Slovak Housing Development Fund, or a combination thereof. Ultimately, EU regulation requires that financial intermediaries be selected according to an open procurement process.

Loans to municipalities for energy efficiency projects would be administered via a financial intermediary, such as local commercial banks - which are showing increasing interest in such projects - or currently active funds.

Expected Results

The following results indicators could be used to assess the performance of FIs in Energy Efficiency in the context of the OPs:

- Average Property value;
- Number of jobs created;
- Persons connected to drinking public water supply;
- Persons connected to public sewer system with urban wastewater treatment;
- Share of recovered waste on the total amount of waste produced;

[92] Furthermore, energy efficiency in buildings will also be supported by the Rural Development Programme of the SR 2014-2020 (which is not part of the scope of this study).

- Revenues generated by waste treatment industry;
- Share of closed or abandoned landfills re-cultivated.

5.1.3 Waste and water management

Eligible projects

The second proposed sub-fund should support waste and water management projects including construction of waste collection, separation and processing facilities and equipment, gasification projects, sewer system expansions and water purification plant construction. Potential projects would have to comply with the eligibility criteria under OP QE Priority Axes 1 or 2, or under IROP Priority Axis 4 (see Table 72).

Table 72: Programme and financing info for proposed waste and water management sub-fund

Sectors and sub-sector	OP	PA	Specific objective	Financial instruments for 2014-2020	
				Products offered by existing Financial Instruments (which can be further adopted)	**Products that need to be offered by future Financial Instruments**
Waste Management and Water Management					
Waste management	**OP QE**	**1.1**	**1.1 Ensuring waste management is in compliance with the waste framework directive in order to meet the environmental acquis requirements.** **Supporting activities targeting the following areas:** • Promotional tools to reduce the amount of waste, and promote recycling; • Waste reuse and recovery mechanisms, e.g. separate collection, composting of bio-waste; • Re-use and recycling of hazardous waste; • Environmental monitoring and information systems for waste management. **Beneficiaries:** Slovak Environmental Agency (professional organisation of the Ministry of the Environment of the Slovak Republic (MoE)), central administration bodies, municipalities and self-governing regions, non-profit organisation, foundation and associations in field of environment	Environmental fund **- credit under 1% interest rate on the loan p.a., loan maturity is between 5 and 15 years**	Soft loans Quasi equity / mezzanine finance
	OP QE	**1.2**	**1.2.1 Support the fulfilment of pre-accession commitments to the EU in the field of treatment and discharge of municipal wastewaters** **Beneficiaries:** municipalities, associations of municipalities, owners of the public sewage systems under the Act on drinking public water supplies and public sewage systems, legal entities authorised to do business in the field of public sewage systems, defined in the Act on drinking public water supplies and public sewage systems.	**Environmental fund** - credit under 1% interest rate on the loan p.a., loan maturity is between 5 and 15 years	Soft loans Guarantees
Water treatment	**OP QE**	**1.2**	**1.2.2 Providing the population with drinking water in compliance with Slovak Republic and EU legislation**	**Environmental fund** - credit under 1% interest rate on the loan p.a., loan	Soft loans Guarantees

			1.2.3 Achievement of the necessary degree of tracking and monitoring of the water and water bodies to ensure the creation and set up of conditions for measures leading to the achievement of good ecological status and potential of ground and surface waters and water bodies **Beneficiaries:** municipalities, associations of municipalities, owners of the drinking public water supplies under the Act on drinking public water supplies and public sewage systems; legal entities authorised to do business in the field of drinking public water supplies, defined in the Act on drinking public water supplies and public sewage systems.	maturity is between 5 and 15 years	
	IROP	**4**	**4.2.2 Ensuring a correct supply of quality drinking water and the efficient liquidation of waste waters free of any negative impacts on the environment** The SO will be aimed at the following activities: • reconstruction of water feeds, supply systems and facilities in municipalities, • reconstruction of sewage systems and facilities in municipalities, • building of public water supply systems, **Beneficiaries:** public sector (municipalities/towns, associations of towns and communities), public water supply system owners, legal entities eligible for doing business in the area of public water supply systems.	**Environmental fund** - credit under 1% interest rate on the loan p.a., loan maturity is between 5 and 15 years	Soft loans Guarantees

Intervention specification

The market in the area of waste and water management has demonstrated that companies operating in these sectors have delivered strong performance over the past few years and that this sector and its technologies are economically viable. Recycling and recovery sectors can be considered sustainable, and experiences in other European countries indicate that these investments can also deliver growth in local employment along with long-term financial and environmental benefits. As such, these projects are suitable for the use of and support through financial instruments.

In many cases, waste and water management projects are typically carried out by regional utility companies, which are financially and legally independent from the municipalities they serve. Unlike municipalities, they are financially constrained not by debt limits, but by a lack of capital. As such, direct purchases of equity, particularly junior equity, are called for. Capitalising the utilities should allow them to obtain loans and other funds on private financial markets. In some cases, guarantees to individual investors to cover the construction period may be necessary as well.

In the case where the utility is not independent of the municipality, loans with a grace period covering the construction phase can be used to offset high start-up costs. Alternatively, guarantees could be offered to entice third party investors with concerns about repayment risk.

The following solution is proposed for financing waste and water management projects:

- Equity or quasi-equity investments, for the construction or expansion of new facilities.

- Combination with subsidies for the Technical Assistance and pre-development phase of the project.

- Credit financing with preferential terms combined with the grant:
  - Possibility of a grace period, longer maturity, and lower interest rates (subordinated loans); and
  - Combine with subsidies for the Technical Assistance and pre-development phase of the project.

Estimated envelope

The project list for the waste management piece of OP QE Priority Axis 1 is EUR 63 million, plus two projects without an estimated cost. Given the strong involvement of the private sector, a conservative success rate of 50% can be assumed, giving a target investment level of around EUR 45 million. Co-investment opportunities are relatively limited in this area, and thus the co-investment rate will be low. As such, a contribution of at least EUR 20 million should be made.

Given the paucity of projects eligible under OP QE Priority Axis 2, a modest contribution of EUR 5 million could be contributed to demonstrate the viability of the model to regions and municipalities.

In both categories of water management projects, the project pipeline is underdeveloped, and opportunities for co-investment are modest. Assuming an absorption rate below 50% and co-investment rate below 1:1 for preferential loans, the contribution from IROP Priority Axis 4 should not exceed EUR 20 million, and from OP QE 1 EUR 30 million.

As such, the total envelope contribution for the waste and water management sub-fund would equal EUR 75 million.

Typology of intermediation

Waste and water management projects are typically carried out by regional utilities, which are financially and legally independent from the municipalities they serve. Unlike municipalities, they are financially constrained not by debt limits, but by a lack of capital. As such, direct purchases of equity, particularly junior equity, should be used to capitalising the utilities, allowing them to obtain loans and other funds on private financial markets. In some cases, guarantees to individual investors to cover the construction period may be necessary as well.

In the case where the utility is not independent of the municipality, loans with a grace period covering the construction phase can be used to offset high start-up costs. Alternatively, guarantees could be offered to entice third party investors with concerns about repayment risk.

Expected Results

The following results indicators could be used to assess the performance of FIs in waste management in the context of the OP QE Priority Axes 1 and 2, and water management under OP QE Priority Axis 1 and IROP Priority Axis 4:

- Average Property value;
- Number of jobs created;
- Persons connected to drinking public water supply;
- Persons connected to public sewer system with urban wastewater treatment;

- Share of recovered waste on the total amount of waste produced;
- Revenues generated by waste treatment industry;
- Share of closed or abandoned landfills re-cultivated;

5.1.4 Municipal and urban development

Eligible projects

The final proposed sub-fund would be a kind of catch-all for municipal and urban development projects, including brownfield and cultural heritage site regeneration, public transit infrastructure projects, and educational and training projects. Potential projects would have to comply with the eligibility criteria under IROP Priority Axes 1-3, or under OP QE Priority Axis 1.

Table 73: Programme and financing info for proposed energy efficiency in buildings sub-fund

	OP	PA	Specific objective	Financial instruments for 2014-2020	
				Products offered by existing Financial Instruments (which can be further adopted)	**Products that need to be offered by future Financial Instruments**
Municipal and Urban Development					
Public transport	**IROP**	**1**	Reduction of environmental burden of urban and suburban areas by promoting and development of integrated transport systems and increasing the attractiveness of public transport. The support of this SO is aimed at, among other, the following activities: • reconstruction, modernisation and construction of transfer terminals, integrated stops, terminus areas of public passenger transport, • reconstruction, modernisation and construction of parking lots Park & Ride (P+R), Kiss & Ride (K + R) and Bike & Ride (B+R). **Beneficiaries:** towns, municipalities, associations of municipalities, higher territorial units, entities providing regular public transport.	N/A	Soft loans Quasi equity/ mezzanine finance
Public transit	**OP II**	**3**	Increasing the attractiveness of public passenger transport through modernisation and reconstruction of urban transport. **Beneficiaries:** Transport Company Bratislava, Transport Company Košice, Transport Company Prešov, Transport Company Žilina, MDVRR SR, Central government authorities and bodies which, by their activities contribute to the implementation and fulfilment of the objectives of OP II.	N/A	Soft loans Quasi equity/ mezzanine finance
Education Facilities	**IROP**	**2**	Increase the quality of education and lifelong learning by promoting secondary vocational schools, dealing with their spatial and technical conditions. School facilities and equipment investments	N/A	Soft loans Guarantees

			Beneficiaries: municipalities, higher territorial units or budget, allowance and non-profit non-governmental organisations established by them		
Brownfield Regeneration	**OP QE**	**1**	**1.4.2 Ensure remediation of environmental burdens in urban environment as well as in abandoned industrial sites (including conversion areas)** This specific objective aims to support the survey, remediation and monitoring of environmental burdens in urban environment as well as in abandoned industrial sites **Beneficiaries:** entities to which the obligation of eliminating the environmental burden passes in case the originator of the environmental burden ceased to exist or died and it is not possible to determine the obliged person in compliance with the "polluter pays" principle; organisations mandated to perform national monitoring of geological environmental factors according to the Geological Act.	N/A	Soft loans Guarantees Quasi equity/ mezzanine finance
Culture	**IROP**	**3**	Supporting sustainable employment and job creation in the cultural and creative sector by creating an environment favorable for the development of creative talent and non-technological innovation. **Beneficiaries:** municipalities or budget or allowance organisations established by them, higher territorial units or budget, allowance and non-profit non-governmental organisations established by them, associations with the participation of municipalities, citizens´ associations.	N/A	Soft loans Guarantees

In the case of brownfield regeneration projects under OP QE, it may be possible to significantly expand the number of eligible projects by adding natural and legal persons to the list of eligible beneficiaries. Currently, just under half of all identified brownfield sites are in private hands, and given the suggested paring of regeneration projects with commercial enterprises, private actors may be an important and appropriate potential source of project promoters that are excluded under current regulations.

Intervention specification

Given the diversity of project types included in this fund, there are a broad range of financial interventions involved in this sub-fund. For brownfield remediation, guarantees and preferential lending terms would be paired with grants for Technical Assistance. In cultural, public transit and education projects soft loans will be more prevalent, but guarantees and grants for Technical Assistance will play a role as well.

The following solution is proposed for financing municipal and urban development projects:

- Guarantee:
  - Provision of guarantees that could act as a surety to financiers in case a developer should prove unable to meet his obligations[93].
- Soft loan/equity/quasi-equity:
  - Preferential loans with low interest rates and longer term maturity
- Combination of FIs with grant support:
  - Combination with grants for the Technical Assistance and pre-development phase of the project.

Combination with grants for the site assessment and regeneration

Estimated envelope

Public transit infrastructure needs are substantial in this area, as demonstrated by the rather long and well-developed project pipeline dominated by the EUR 286 million Košice tram fleet renewal project. Assuming 50% of these projects are genuinely feasible, some EUR 270 million in financing will be needed. Co-investment opportunities are limited, and the leverage rate for soft loans to municipalities is low. As such, the recommended contribution from OP II Priority Axis 3 is EUR 142 million, with an additional EUR 8 million from IROP Priority Axis 1.

The education and training infrastructure aspect of this sub-fund contains a much less well developed project pipeline, and as such would likely have a much lower initial absorption rate. In this case, a contribution of roughly EUR 5 million should be made to demonstrate the viability of the process, and catalyse increased development.

The cultural infrastructure projects envelope displays much the same dynamics, but with a somewhat more developed project pipeline. Here as well, a contribution of EUR 5 million would be sufficient to finance the project pipeline, and to draw other projects forward.

Brownfield projects differ from the others in this category in several respects. For example, they have the potential to involve private sector, and thus revenue-generating elements. Also, the greater use of guarantees as compared with loans enables higher leverage rates. Stakeholder consultations identified several major and minor projects, with a total projected value of nearly EUR 400 million. Given the vast extent of brownfields located throughout Slovakia (see Section 3.2) the potential for additional projects is substantial. As such, a minimum contribution of EUR 108 million is proposed, or just over half the OP QE Priority Axis 1 brownfield budget.

As a result, the total proposed envelope contribution for the municipal and urban development sub-fund is EUR 268 million.

[93] Example: The European Agricultural Guidance and Guarantee Fund.

Typology of intermediation

The prevalence of soft loans to municipalities from this fund will require the intermediation of third party financial institutions. Given the modest involvement of commercial banks compared with special purpose funds, those funds may be best equipped to handle such a role. That said, a concentrated promotional effort to build the capacity of private sector actors could be beneficial to promoting the long-term sustainability of this market segment.

In the case of brownfields projects, commercial banks make a better fit for administering loans to project promoters than funds because such projects are proposed to include real estate development and commercial elements that are both close to commercial banks' core lending activities.

Expected Results

The following results indicators could be used to assess the performance of a sub-fund covering urban public transport projects in the context of the IROP Priority Axis 1 and OP II Priority Axis 3:

- Reduction of pollution in cities due to traffic exhaust;
- Number of vehicle hours lost to traffic congestion;
- Share of cycling in the overall division of transport work;
- Share of individuals transported by Integrated Transport.

In education infrastructure under IROP Priority Axis 2:

- Increase of gross school readiness of children in kindergartens;
- Raising PISA success in science;
- Productivity rates for recent graduates;

In brownfield remediation under OP QE Priority Axis 1:

- Average property values;
- Share of remediated sites on the total number of sites with registered environmental burdens in the Slovak Republic;
- Growth of number of services provided for general public.

In cultural promotion under IROP Priority Axis 3:

- Number of newly created jobs in supported enterprises/facilities;
- Increase in added value rate (share of added value in receipts) in supported sectors.

5.2 Identification of State aid implications

State aid is defined as the use of public resources to provide assistance to one or more companies/institutions in preference to others. In order to ensure that such assistance does not distort competition in the internal market, the EU has enacted strict regulations restricting the

conditions under which State aid can be provided[94]. The legislative framework stipulates that EU funding that is centrally managed, i.e. by the Commission or Executive Agencies of the EU, is exempted from State aid rules. However, EU funding that has been allocated to the MS, and is thus under the direct financial management of MS public authorities, is subject to State aid rules.

According to Article 107 of the Treaty on the Functioning of the European Union (TFEU) "any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall, in so far as it affects trade between Member States, be incompatible with the internal market".[95]

The proposed Slovakian FI is also subject to State aid rules. As such, its limitations need to be taken into account during design and implementation phases. State aid rules cover some of the fundamental parameters of the FI, including eligible projects, maximum amount of financing per beneficiary, the terms of financing, and the governance structure of the fund. In order to be consistent with State aid rules, FI intervention must be proportional to the market failure it is designed to address, and should be limited to the minimum required to achieve the desired objective.[96]

Any intervention that entails State aid within the meaning of Article 107(1) TFEU, and are not expressly exempted from notification as being potentially compatible with the common market under Article 107(2) or (3) TFEU, must be notified to the Commission.

Exemption from notification requirements can be granted under certain conditions, including:

1) **By *de minimis* regulation**
   - Small amount of State aid (EUR 200,000 over a 3-year period) which can be given to a single undertaking and that does not require EC approval;
   - Records of de minimis aid are kept by the MoF through the information system of the Slovak Aid Monitoring Authority (IS SAMA)
2) **By the General Block Exemption Regulation (GBER)**[97] –
   - Specific categories of State aid are compatible with the Treaty if they fulfil certain conditions, i.e. a range of pre-approved State aid areas that do not require individual approval from the EC in advance;
   - The most relevant areas are - Risk Capital Aid, SME Aid, Aid for Environmental Protection, Aid for Research, Development and Innovation, Aid to Disadvantaged and Disabled Workers, Regional Aid, Training and Employment Aid, etc.
3) **Through the provision of Services of General Economic Interest (SGEI)**
   - SGEI are activities that public authorities identify as being of particular importance to

[94] State aid measures can only be implemented after approval by the EC. The Commission's Directorate-General for Competition (DG COMP), is in charge of State aid matters. In addition, the Commission has the power to recover illegal State aid. It is also necessary to keep in mind that a programme that does not follow the State aid rules could face financial penalties or be forced to close.

[95] http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:12008E107

[96] Ex-ante assessment methodology for financial instruments in the 2014-2020 programming period (Volume I)

[97] Commission Regulation no. 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty

citizens and that would not be supplied by the free market at a socially-acceptable level, i.e. either at all, or at the same quality, quantity or under the same conditions;

- Threshold of EUR 500,000 over three fiscal years

It is of note that:

- According to the **Risk Finance Guidelines**[98] (paragraph 20), "risk finance aid measures have to be deployed through financial intermediaries or alternative trade platform, except for fiscal incentives on direct investments in eligible undertakings. Therefore, a measure whereby the Member State or a public entity makes direct investments in companies without the involvement of such intermediary vehicles does not fall under the scope of the risk finance State aid rule of the GBER and these Guidelines[99]"
- In contrast, the common EU regulation on ESI Funds stipulates in Article 38(4)(c) that a "Managing Authority may undertake implementation tasks directly, in the case of financial instruments consisting solely of loans or guarantees".

The above mentioned might raise a question of whether or not FIs can only be implemented (based on Risk Finance Guidelines) via intermediaries; for instance, whether or not an MA may use loans and guarantees directly without breaking State aid rules. In order to avoid this potential pitfall, the public authority or MA should either avoid making direct loans to companies, or adjust them so that they are not considered to be State aid e.g. under the *de minimis* provision.

In order to establish that the FI is indeed exempt from notification requirements, a self-assessment by the MA is required. This high-level assessment[100] of the State aid implications consists of three parts[101]:

- **Assessment of whether the measure constitutes State aid** within the meaning of Article 107(1) of the Treaty on the Functioning of the European Union (TFEU); e.g. State aid can be excluded if the FI respects the market economy investor principle;
- **If the measures constitutes State aid**, assessment whether it can be found compatible without notifying it to the Commission, e.g. because it fulfils the requirements of *de minimis* regulation, the General Block Exemption Regulation (GBER)[102], Services of General Economic Interest (SGEI);
- **If the measures constitutes State aid**, and does not fulfil all the conditions of the rules that exempt it from notification, it has to be notified to the Commission which carries out a compatibility assessment of the aid measure with the internal market according to the provisions of Article 107(3) TFEU and its implementing rules, prior to the implementation of the FI.

---

[98] The EC Risk Finance Guidelines (RFG) entered into force on 1 July 2014, replacing the previous guidelines from 2006. RFG are the guidelines that set out the framework under which the EC can provide aid to support access to finance by SMEs and companies with a medium capitalisation level ("midcaps"). The guidelines focus on the conditions under which a risk capital measure can be accepted, and will be applied to existing risk capital schemes within 6 months.

[99] http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52014XC0122(04)

[100] This section and the following aim to explain the basic ideas and the general procedure of the control system. They should not be understood as exhaustive. The main documents about the rules are mentioned above. The rules are supposed to change in the direction described in the document as of 1 July 2014. Further changes in the MFF until 2020 are not excluded.

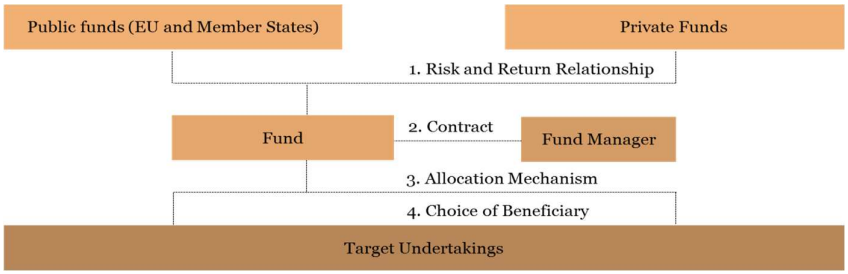
[101] Ex-ante assessment methodology for financial instruments in the 2014-2020 programming period (Volume I)

[102] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:214:0003:0047:EN:PDF

Assessment whether the measures constitute State aid includes three stages:

To begin with, MAs should determine whether the envisaged FI constitutes State aid at any level. If the MA is not sure, it can always notify the planned measure for legal certainty to the Commission (DG Competition), which can provide assurance in that regard ultimately in the form of a decision. Since the FI will be controlled by the MA (shared management, with or without national budget resources) and as the private undertakings involved might operate in competitive cross-border markets[103], the assessment will focus on the existence of a **selective economic advantage** within the meaning of Article 107 (1) TFEU. Such an advantage can be granted at different levels, as described in Figure 10 below.[104]

Figure 10: Assessment of whether the measure constitutes State aid



First level: Private investors (Risk and Return Relationship of the Contributions)

The first step of this analysis aims to determine whether MS are granting State aid to private investors when making their contributions. State aid could be excluded at this level if there is a *pari passu* and pro rata distribution of risk and rewards between the public and private investors and the contribution of the private operators is economically significant.

According to the Risk Finance Guidelines[105], the Commission will consider the investment to be effected *pari passu* between public and private investors, and thus not to constitute State aid, where its terms would be acceptable to a normal economic operator in a market economy in the absence of any State intervention. This is assumed to be the case only if public and private investors share exactly the same upside and downside risks and rewards and hold the same level of subordination, and normally where a significant proportion of the funding of the measure is provided by private investors, which are independent from the companies in which they invest. The Commission considers that, in the case of risk finance measures, 30% independent private investment can be considered economically significant.

In order to attract private investors where situations of market failure exist, FIs may need to provide preferential remuneration, i.e. grant sub-commercial terms for private investors. For instance, the public investor may accept to assume the first loss, invest on less advantageous terms than private investors (i.e. non *pari passu* investment), or the private investor may receive more from the returns. It is to be noted that in the case of certain types of FIs, e.g. typically loan or guarantee

[103] This does not mean that the FI will necessary invest cross border or outside the respective region.

[104] Another labelling of the four levels of the so-called market operator test are (i) aid to investors, (ii) aid to financial intermediaries, (iii) aid to managers of financial intermediaries, (iv) aid to the undertaking in which the investment is made (see draft of Union guidelines to promote risk finance investments, paper of the services of DG Competition, 2013).

[105] Guidelines on State aid to promote risk finance investments 2014/C 19/04.

measures, the financial intermediary, usually a bank, is the private investor at the same time. In other measures, such as equity measures, the private investors are different from the financial intermediary.

Second level: Financial intermediary and its management

The second step will analyse whether the terms of the contract between the MA and the financial intermediary on the one hand, and the manager/management and the financial intermediary on the other hand, reflect normal market conditions. MAs should carry out this analysis under the 'market economy operator principle'.

It will also be examined whether all ESI Funds contributed are passed through to the target undertakings. The question is whether the fund is a mere clearing mechanism or an intermediary vehicle for the transfer of aid as opposed to an entity which profits from Member States' contributions. State aid could be excluded at this level if it becomes clear that all funds are forwarded to the selected final recipients.

In many cases in the past, not all funds were transferred to the final recipients. In most of these cases, management costs and fees were paid by the programmes. In such cases, market-conform remuneration, including for the administrative costs, is not considered as State aid, if the intervention is otherwise *pari passu* or market conform.

Third level: Target Undertakings (final recipients)

For final recipients, State aid can be excluded if the FI respects the market economy investor principle. If not, the eligibility criteria and the maximum amounts play an important role. State aid for them is not subject to notification if it is covered by a block exemption regulation or does not exceed the *de minimis* threshold. Therefore, the design of the FI including maximum amounts of support will play a crucial role in determining whether the final recipient will be considered as aid recipient or not, and whether the FI will require a notification.

Table 74 presents an overview of potential State aid within the programming architecture. The table is based on the identified solutions for FIs associated with relevant OPs. Since allocations for some OPs are missing and a very general description in this issue exists, the presented forms of State aid are only indicative**.**

Table 74: Overview of potential State aid within the programming architecture

Operational Programme	Specific objective	Segment	Financial instruments financed by ERDF or CF	Relevance and potential form of State aid
OP QE	Ensuring waste management in compliance with the waste hierarchy in order to meet the environmental *acquis* require-ments.	**Waste management**	Subsidised / preferential loans Equity or equity-type investments	GBER, SGEI
	Supporting fulfilment of pre-accession commitments of the Slovak Republic towards EU in the field of collection and treatment of urban wastewater	**Water treatment**	Subsidised / preferential loans Guarantees for loans provided by commercial banks	GBER, SGEI

	Providing population with drinking water in compliance with Slovak Republic and EU legislation			
	Ensure remediation of environmental burdens in urban environment as well as in abandoned industrial sites (including conversion areas)	**Brownfield regeneration**	Subsidised / preferential loans Guarantees for loans provided by commercial banks FIs might be applicable if the reconstruction is linked to the following commercial use of the terminals. Income comes from the commercial activities located in the terminals.	GBER, SGEI
	Mitigating adverse climate change effects by carrying out adaptation measures, especially flood prevention measures	**Water treatment**	Subsidised / preferential loans Guarantees for loans provided by commercial banks	SGEI
	Increasing the share of renewable energy sources in gross final energy consumption	**Renewable energy resources**	Subsidised / preferential loans Equity or equity-type investments	GBER, de minimis
	Installation of small equipment to use RES in the Bratislava region		Subsidised / preferential loans Equity or equity-type investments	GBER, de minimis
	Reduction of energy consumption in the operation of public buildings	**Energy efficiency in public buildings**	Subsidised / preferential loans Guarantees for loans provided by commercial banks	SGEI
	Development of more efficient district heating systems, based on demand for usable heat	**Renewable energy resources**	Subsidised / preferential loans Guarantees for loans provided by commercial banks Equity or equity-type investments	SGEI
IROP	Reduction of environmental burden of urban and suburban areas by promoting and developing integrated transport systems and increasing the attractiveness of public transport.	**Urban public transport**	Subsidised / preferential loans Equity or equity-type investments Guarantees FIs might be applicable if the reconstruction is linked to following commercial use of the terminals. Income comes from the commercial activities located in the terminals.	"notification"
	Increase of gross school readiness of children by increasing quality and availability of pre-primary education (energy efficiency measures)	**Energy efficiency in public buildings**	Subsidised / preferential loans	SGEI
	An increase in the quality of education and lifelong learning by promoting secondary vocational schools by dealing with their spatial and technical conditions. (energy efficiency		Subsidised / preferential loans	SGEI, de minimis

	measures)			
	Stimulating support of sustainable employment and job creation in the cultural and creative sector through the creation of an environment favourable for the development of creative talent and non-technological innovation.	**Cultural sector**	Microloans combined with grant support Loans combined with grant support Guarantees for loans	GBER
	Enhancing energy efficiency of residential buildings	**Energy efficiency in residential buildings**	Subsidised / preferential loans Guarantees for loans provided by commercial banks	SGEI De minimis
	Ensuring inhabitants with a trouble-free supply of quality drinking water and the efficient liquidation of waste waters free of any negative impacts on the environment.	**Water treatment**	Subsidised / preferential loans Guarantees for loans provided by commercial banks	SGEI
OP II	PA 1: Railway infrastructure (TEN-T Core)	**Railway infrastructure**	Subsidised / preferential loans Equity or equity-type investments Guarantees for loans provided by commercial banks	Do not constitute State aid according to Article 107 TFE
	PA 2: Road infrastructure (TEN-T Core)	**Road infrastructure**	Subsidised / preferential loans Equity or equity-type investments Guarantees for loans provided by commercial banks	Do not constitute State aid according to Article 107 TFE
	PA 4: Water transport infrastructure (TEN-T Core)	**Water transport infrastructure**	Subsidised / preferential loans Equity or equity-type investments Guarantees for loans provided by commercial banks	Do not constitute State aid according to Article 107 TFE
	PA 5: Railway infrastructure (not included in TEN-T Core)	**Railway infrastructure**	Subsidised / preferential loans Equity or equity-type investments Guarantees for loans provided by commercial banks	Do not constitute State aid according to Article 107 TFE
	PA 6: Road infrastructure (not included in TEN-T Core)	**Road infrastructure**	Subsidised / preferential loans Equity or equity-type investments Guarantees for loans provided by commercial banks	Do not constitute State aid according to Article 107 TFE

5.3 Technical assistance

The next part of the report highlights the relevance of the Technical Assistance services and needs during the life-cycle of the FI, which can be provided for different stakeholders, such as for the MAs MA/the Fund of Funds, the Financial Intermediaries and at project level.

5.3.1 Managing Authority/Fund of Funds level Technical Assistance

General awareness raising activities on the benefits of financial instruments

Within the promotion of a broader cultural change away from the use of traditional grant financing, and in order to be able to make better use of FIs in the 2014-2020 programme, a series of concerted activities are required to raise awareness of the opportunities presented by the use of revolving funds.

Effective marketing and communication to reach new audiences, right from the start of the 2014-2020 period is vital to generate sufficient interest and understanding that leads to a greater level of FI implementation. After the initial launch of the Programming Period, marketing and communication activities will be required to raise the general awareness levels on the advantages offered by FIs.

It would help provide the MS/MAs/HF with a springboard to understand benefits/regulatory changes/new opportunities for the deployment of FIs in 2014-2020, and to promote FIs vis-à-vis partners in their respective constituencies.

This also needs to reach beyond attracting new partners, investors, bodies implementing Fund of Funds/financial intermediaries and project developers to increase the amount of areas and to scale up the level of projects that can potentially attract FI-backed investments in the future.

Maximising the impact of financial instruments

Technical assistance can help provide MAs/HF with advice on maximising the impact of FIs including calculating revolving effects, leverage and mobilising national additional resources.

One of the expected benefits of FIs is to attract private investment, notably thanks to risk-sharing provisions as well as other public funding. This is particularly relevant in the context of budgetary constraints or when private investors show restrictions on their risk appetite, their risk bearing capacity or are not fully confident in the market and would like to share risks.

The use of FIs can therefore benefit from co-investment by public and private capital, obtaining a multiplication of initial resources in order to maximise the impact of the intervention. This implies the joint participation of different players with an appropriate allocation of roles and responsibilities as well as of the risks of the operations, which may affect the level of private contributions. In addition to calculating the expected leverage of the FI (the calculation of the estimated additional public and private resources raised divided by the nominal amount of the ESI Funds expenditure), MAs also need to consider the revolving character of the FI.

Legal requirements and State aid implications for financial instruments

The legal framework for the 2014-2020 Programming Period has been adapted to further expand and strengthen the use of FIs as an efficient and sustainable way to complement traditional grant-based financing. Indeed, to encourage and to increase the use of FIs, the CPR foresees the possibility to generate synergies – FIs delivered through ESIF should take account of and work together when justified with ESIF grants, other EU instruments (FIs and grants) and national public programmes. Furthermore there is increased scope for combination of different Programme contributions and different ESI Funds in one FI.

Technical assistance can be provided to MAs in the form of advice on the advantages and challenges related to exploiting synergies and combining support when implementing ESI Funds and FIs in the

2014-2020 Programming Period. The advice should be based on the existing Commission technical guidance.

Technical assistance services may be required to provide stakeholders with advice on State aid implications when implementing FIs in the 2014-2020 Programming Period. This would addresses the identified need for Managing Authorities to ensure that FIs, whatever implementation option, sector context or financial products area chosen, are compliant with the relevant European State aid rules/provisions.

It is important to assess the State aid implications of the planned FI upfront, i.e. at the very beginning of the design phase. This is because the applicable State aid compatibility legal base will determine the main parameters of the design of the FI, in particular as regards eligible undertakings, maximum amounts per beneficiary, the financial conditions attached to them, and the governance structure. Therefore, the design of the entire FI has to follow the detailed rules set out in the applicable State aid legal base.

EU Funds under shared management are considered part of the national or regional budgets and as such are subject to State aid rules and potentially, to notification to DG Competition before its implementation can start. Union funding centrally managed by the institutions, agencies, joint undertakings or other bodies of the Union, which is not directly or indirectly under the control of the Member States, does not constitute State aid. Where such Union funding is combined with State aid, only the latter will be considered for determining whether notification thresholds and maximum aid amounts are respected, provided that the total amount of public funding granted in relation to the same eligible costs does not exceed the most favourable funding rate laid down in the applicable rules of European law.

Development of a business plan

The development of a business plan is one of the fundamental building blocks underpinning the development of an FI. Past experience suggests that there is demand for clear advice covering the definition of the scale and focus of the FI and its planned operations.

A financial instrument's business plan will need to build on the proposed investment strategy defined in the ex-ante assessment and be compliant with the priorities laid down in the relevant ESIF Programme. It needs to define the FI's goals, areas of action, implementation period and the range of investment options to be pursued.

Ideally, the purpose of Technical Assistance services in this area would be to provide a step by step approach, allowing for variations within scope, focus and circumstances, to give MAs the tools to develop the FI's business plan.

Preparing and negotiating funding agreements

Technical Assistance could also support the preparation and negotiation of the funding agreement. Provide support in the finer detail of how to write and conduct negotiations on funding agreements between ESIF Managing Authorities and the beneficiary in the meaning of the CPR (i.e. the body implementing the Fund of Funds or the financial intermediary, as appropriate). Funding agreements are necessary to define the terms and conditions under which the beneficiary implements the financial instruments and shall include at least the elements stipulated in Annex IV to the CPR. As

part of the requirements, the funding agreement for example determines the amount and the terms of payment of the management fees to the bodies implementing Fund of Funds/financial intermediaries.

This Technical Assistance would ideally involve the provision of advice, templates and examples to MS/MAs in order to support them formulating and implementing funding agreements. Such assistance could further promote a well-functioning FI and a performance-driven approach to management costs and fees.

Advice on financial instrument products

A service that could be expected is the provision of a clearer understanding of the precise specificities of financial products that can be used within the ESIF approach to FIs in the 2014-2020 Programming Period to MAs.

To support projects which are expected to be financially viable and do not give rise to sufficient funding from market sources, FIs can deliver ESI Fund Programme resources. In delivering ESI Fund objectives and addressing prevalent financing needs, FIs often target projects on the edge of viability and therefore need to deploy tailored financial products.

The Stocktaking Phase 1-bis Survey found considerable interest among MAs for most of these financial products. Nevertheless many stakeholders may have little experience in the use of FIs and broader market-oriented approaches, having primarily used grants. Therefore clear and concise advice is required on the options for developing market oriented financial products which can be implemented effectively through FIs.

A good level of understanding of the implications of using the above mentioned financial products is required to assist in the definition of the FI investment strategy as referred to under the relevant funding agreement, for example in terms of conducting ex-ante risk assessment for the definition of multiplier ratios for guarantees, leverage potential, types of beneficiaries or projects, and State aid implications and so on.

Financial management (e.g. disbursement, repayments)

Issues exist to ensure conformity of disbursements with national as well as ESIF regulations and the agreed investment strategy, the management of disbursement flows and the proper recording of relevant back office data of FIs.

As such, there will be possible demand to provide MAs with advice on how to achieve a good practice approach to financial management in accordance with the relevant Regulation.

Calculations related to capitalised interest rates and guarantee fee subsidies

MAs may require advice on how to apply Article 42 of the CPR with relation to capitalised interest rates and guarantee fee subsidies. Technical support may be required when considering the use of interest rate subsidies and guarantee subsidies product.

FIs may be combined with interest rate subsidies and guarantee fee subsidies as set out in Article 37 (7); however the provisions applicable to FIs shall apply to all forms of support within that operation. There is therefore a need to assist MAs with the interpretation of Article 42 of the CPR

and delegated acts which outline the eligibility criteria for capitalised interest rate subsidies and guarantee fee subsidies.

Monitoring and reporting

There are two different ways Technical Assistance could be requested within the Slovak context once the FI is up and running with regards to monitoring and reporting:

(1) The provision of MS/MAs with advice on monitoring provisions allowing for reporting compliant with article 46 of the CPR, to be included in the funding agreements/strategic document;

(2) The provision of MS/MAs and bodies implementing FIs with advice on the reporting compliant with Article 46 of the CPR.

The new legal basis for monitoring and reporting of FIs has three main objectives:

- To enhance the transparency regarding the implementation of FIs;
- To allow the EC to better assess the overall performance of FIs; and
- To regularly provide the MS, Commission services, European Parliament (EP), Council, European Court of Auditors and public with the data on the progress made in financing and implementing the FIs.

According to Annex IV to the CPR (Article 1(d) and Article 2(d)) provisions for monitoring of the implementation of investments and of deal flows including reporting by the FI to the Fund of Funds and/or the MA, are the compulsory parts of each funding agreement and strategic document. The monitoring provisions should also be compliant and help MAs to meet their reporting requirements defined in Article 46.

Article 46 of the CPR also sets out the requirements for the MA when reporting on operations comprising FIs to the Commission. The required information should be included in the specific report on FIs to be annexed to the annual report on implementation of programmes.

To ensure that all categories of the information required under Article 46 of the CPR are reported in a consistent and comparable way and can, where necessary be consolidated and aggregated, MAs should use a standard model for the reporting included in the relevant Implementing Act.

The standard reporting model contains already some indications of the format of the information required, but detailed technical characteristics of the requested information (as for example: input method, format and length of each field and links to the other information already available, like Priority Axes/measures, indicators) will be further developed in the Commission electronic reporting system (SFC2014) and explained in the specific guidance.

Reuse of resources reinvested, exit and winding up financial instruments

It is anticipated that there will be demand for the provision of advice on how stakeholders implementing FIs can efficiently and effectively re-use the support from the ESI Funds until the end of the eligibility period and after the end of eligibility period.

The revolving nature of FIs means that stakeholders will need to consider how to re-use the resources attributable to the support from the ESI Funds until the end of the eligibility period and

after the end of eligibility.

This type of service would involve drawing upon EC guidance on the management of resources reinvested, exit and the winding up of FIs – focusing primarily on the requirements of Articles 44 and 45 of the CPR.

Technical assistance can be provided also for the Financial Intermediaries or at the project level

5.3.2 Financial intermediary level Technical Assistance

Financial intermediaries, such as commercial banks, also seek Technical Assistance, as they tend to have little in-house technical expertise, especially on topics requiring high level SF regulatory skills. Technical assistance at the financial intermediary level may be needed to establish a strategy, develop a project pipeline and assess project selection criteria. At the same time financial intermediaries are required to demonstrate the necessary governance, processes, skills, track record and deal sourcing/appraisal capabilities relating to the advisory services, financing, execution, monitoring and audit, whilst also knowing the new EU rules and procedures.

Under the current Programming Period there is no specific Technical Assistance financing envisaged for financial intermediaries.

5.3.3 Project level Technical Assistance

Technical assistance can also be required at the individual project level. This can help improve project quality, facilitating the investment process at the Specialised Investment Vehicle level. Activities can include:

- Consultation on the conceptual development and structuring of a project;
- Assistance with project preparation (e.g. cost-benefit analysis, financial analysis, environmental issues, procurement planning);
- Provision of an independent review of project documentation: feasibility studies, technical design, grant application;
- Guidance on ensuring compliance with EU law (environmental, competition and others);
- Assistance in ensuring conformity with EU policies.

6 Potential value added

The following section looks at how FIs can bring added value by addressing market failures, attracting additional public and private resources to the sector, and otherwise furthering EU policy goals.

It is important to highlight that the objective to be pursued by the envisaged FI could be achieved in several ways, therefore the value added estimation can differ, in particular as different types of support are concerned. In light of the proposed approach involving the SIH, it is probable that ESI Funds will represent one of the possible sources of funding and consequently the mobilisation of additional funding from other public and/or private institutions must also be considered.

One of the key dimensions of the value added of a FI in each of these areas will be the amount of additional public and private resources it can attract, or the leverage effect. In the following, the leverage effect will be taken to mean the total amount of project financing divided by the FI contribution. It is important to note that the specified ratios are very rough estimates. The final leverage effect will depend on the total amount of co-investment raised at the FoF and sub-fund levels, the terms of the operational agreements with intermediaries, the terms of specific project financing schemes, and the composition of each fund's investment portfolio. Therefore, estimated leverage effects are calculated based on the interviews with the IFIs and different financial institutions and on the analysis of the already existing instruments in Slovakia.

Finally, this section also looks at the value added of the FI from the qualitative dimension, which is particularly important in an economic downturn.

In terms of quantifying the potential value added as the net present value of projects compared to their financing costs, none of the consultations conducted in the course of this study produced sufficiently detailed information on any of the projects in the pipeline to calculate NPV, and thus this approach will not be included.

Value added of all FIs

The following four sections will examine the value added of FIs in each of the proposed investment areas. In order to avoid repetition, a discussion of those aspects of value added that apply to all the FIs under discussion.

Because the great majority of public investment in Slovakia is currently funded via grants, the value added of FIs should be considered either against a baseline of grant funding, or no investment at all, as appropriate.

In this sense, one of the key ways that FIs add value over grants is through the revolving effect. Unlike grants, which are the primary alternative to FIs in Slovakia, loans and equity dispensed by the sub-funds are repayable forms of support. As these monies are repaid to the fund over the life of the project, they become available to finance additional projects. This is particularly the case with guarantees, which typically cover only the short, high risk construction phase of a project, and thus have a shorter duration than loans or equity. In addition, because the FI fund is constantly being replenished, they lessen the Slovak government's dependence on EU support to fund projects.

FIs are also a less intense form of subsidy than grants, and thus have a less distortionary effect on the private market. A non-repayable grant conveys substantially higher subsidy than a loan with

even the most favourable terms simply by virtue of being repayable. This means that as the existing market failure recedes, it will be easier to transition from a FI subsidy to purely market-based financing than from a grant financed market.

In addition to these benefits, there are a number of ways in which FIs add value that are specific to the sector they function in. These are discussed individually below.

6.1 Energy production and transport infrastructure

The two components that make up the energy production and transportation infrastructure sub-fund are both important enough and sufficiently different to be considered separately.

6.1.1 Energy Production

Achieving the "Europe 2020" targets in order to transition towards a more sustainable energy mix and promote the production of energy from renewable and less GHG-emitting sources requires investing in the development of the energy system in the Slovak Republic. Given the identified market failures, it is unlikely that these policy objectives can be achieved if left to market forces alone. FIs will have to play an important role in investing into new energy generation for Slovakia and encouraging the participation of private sector investment. The use of FI will help to overcome the financial barriers now existing between potential investors and investments' decisions.

Value added of FIs

As discussed above, interest in financing renewable energy production among IFIs is strong, and the creation of a large, well-managed funding with the support of both the EU and Slovak governments should attract substantial outside investment at the Fund of Funds, and particularly the sub-fund level. Depending on the terms negotiated with the intermediaries, the leverage effect on the contribution envelope could be as high as 3:1.

Another way in which the proposed FIs add value has to do with how they interact with outer forms of intervention. Energy producers who provide electricity to the grid are compensated on a per unit basis at a set price called a feed-in tariff. One of the reasons Slovak end electricity prices are so high is that the feed-in tariffs offered to early adopters and guaranteed for 15 years, increasing per unit costs. By offering loans at preferential rates or extended durations, FIs lower new producers recurring financing costs, and thus decrease the need for higher feed-in tariffs to make a project economically viable.

Finally, FIs can add value to the energy production sector by creating a catalyst effect. Lack of available financing is a substantial barrier for potential energy production projects, and creates a disincentive for developing new projects. The existence of a large and self-regenerating pool of capital for this type of project creates an opportunity and an incentive for potential project promoters to develop their plans. Those projects that do not secure funding will then be better positioned to turn to the private sector or other source for funds, setting the stage for a sustainable market to emerge.

Qualitative dimensions of the added-value of FIs

With the market failures previously mentioned justifying public intervention. The investment in the energy sector through FIs will help achieve policy objectives. These can be used to demonstrate the

qualitative added-value of FIs:

- **Offsetting or reduction of GHG emissions:** By investing in energy projects and generating power for consumption from less-emitting technologies such as natural gas, or from RES such as hydro, wind, solar, or geothermal, it is possible to help offset the emissions of GHG or even reduce them. If an increase in energy capacity is required, meeting this demand through the use of natural gas has a lower GHG emitting potential than generating the same energy through coal-fired power plants. This offset in GHG emissions carries with it a monetary and socio-economic value, which is important in demonstrating the added-value of FIs.
- **Foreign direct investment:** The development of energy projects, particularly through a PPP structure, can require sizeable investments from a foreign industrial partner. This influx of investment from outside the region into it as FDI is a measurable indicator of benefit as a result of investment via a FI.

Job creation: Energy projects will often require the creation of new jobs to help, build, operate or decommission the installations. Obviously the creation of employment carries with it a tangible socio-economic benefit from savings made by the state on public funds that would otherwise be spent on unemployment benefits had the new jobs not been created.

6.1.2 Transportation infrastructure

Good quality infrastructure is a key requirement for sustainable development in any country. This includes a transport system that is efficient and serves the great majority of the population. If a country is to provide a good standard of living to its citizens as well as generate economic growth, investing in infrastructure is key. Slovakia's infrastructure needs are substantial, both in terms of its ability to compete with its regional neighbours, and by common EU standards. Investment needs include the motorways included in TEN-T network and those that feed into them. It also includes passenger and freight rail infrastructure, river ports and waterways, and green infrastructure projects such as floodwater protections.

Value added of FIs

In the transportation sector, the co-investment effect is expected to be limited to a handful of IFIs active in this area, and will likely not reach 1:1. That being said, the potential leverage effect is large, particularly under the PPP model.

Transport projects are characterised by large up-front construction costs, modest on-going maintenance costs and long project lifecycles. Managing a project through an SPV allows contracting authorities the possibility to spread the cost of construction across the life of the project without a significant increase in their debt load[106]. FIs can add value by making the terms of that arrangement even more favourable by providing guarantees to investors during the high risk construction period. In this way, they can achieve a high leverage rate and relatively short turnover period for major,

[106] EIB: Eurostat Treatment of Public-Private Partnerships, Purposes, Methodology and Recent Trends
Eurostat http://epp.eurostat.ec.europa.eu/portal/page/portal/government_finance_statistics/intr
The ESA 95 Manual on Long term contracts between government units and nongovernment partners (Public-Private Partnerships) is available from the Eurostat website at:
http://epp.eurostat.ec.europa.eu/portal/page/portal/product_details/publication?p_product_code=KS-BE-04-004

long-term projects.

Qualitative dimensions of the added-value of FIs

The FIs will play an important role in overcoming the market failures mentioned earlier in this study. Without the implementation of FIs, it is unlikely that policy objectives will be met.

In line with the Ex-ante assessment methodology, the achievement of policy objectives through investments via FIs that would otherwise not be possible can be considered indicators of the added-value of FIs from a qualitative aspect. Indicators of the fulfilment of policy objectives in infrastructure include:

- **Offsetting or reduction of GHG emissions:** New transport solutions brought about by project investments can increase the amount of transportation of goods and persons in a less carbon-emitting way. For example, increasing ridership of public transportation can alleviate traffic and congestion on roads servicing the same area which in turn can reduce the total amount of GHG emissions from the road system. Better management of wastewater can also prevent organic waste entering the water system, causing eutrophication of water bodies and potentially resulting in the release of methane, an important GHG.
- **Job creation:** The construction, operation and decommissioning of transport or water and wastewater infrastructure can result in the creation of new jobs. This has a tangible socio-economic benefit.
- **Public health benefits: project**s in infrastructure can result in a reduction in noxious gasses from traffic congestion, or wastewater mixing with drinking water to list a few examples. This can provide health benefits to the general public, which has a tangible monetary benefit as it results in a reduction in public health spending to deal with conditions associated with pollution from transport or wastewater.
- **Foreign direct investment:** The development of important infrastructure projects can help encourage FDI, bringing funding from outside the region into it.
- **Positive real estate impact:** Investment in important public infrastructure like transport network or water and waste infrastructure, can have a positive impact of the value of real-estate within the local area. As it becomes easier to access an area, it will become more attractive to build and develop on it, and thus drive up the price of real-estate.
- **Time savings:** Investments in new transport infrastructure can help generate time savings to get goods or persons from the point of origin to their destination quicker than before. This obviously has benefits to businesses transporting goods in such a manner, and it benefits passengers as these benefit from being more productive as a result of being in transit for less time.
- **Reduction in operating costs:** Investment in existing infrastructure can help reduce the current operating costs that are incurred by the state for running a public service. This saving can be used as an indicator of socio-economic benefit.
- **Environmental impact reduction:** Investment in infrastructure can bring with it benefits to the environment by reducing the impact on the local environment. For example, investment in water and wastewater treatment can help reduce the amount of wastewater discharged

into water systems. Preventing or alleviating the impact of pollutants on the natural environment is a demonstrable indicator of the added-value of FIs.

- **Safety improvements:** This is an indicator that is particularly relevant for projects in the transport sector. By investing in transport infrastructure projects, it can be possible to reduce the number of accidents that occur on the network. This can help reduce costs incurred for repairs and the impact of accidents (e.g. congestion of traffic held up by blockages caused by car crashes), along with the human costs associated with physical rehabilitation, lost productivity and the impact of trauma.

6.2 Energy efficiency in buildings

Improving the energy efficiency of buildings is a shared interest for both public and private, which raises living standards and increases the value of a building. However, implementing energy efficiency measures generally requires substantial investments. Many MS cannot afford to make such investments without EU co-investment, therefore ESIF plays a particularly important role in Slovakia, since energy-efficiency improvements are one of the key priority areas of the country. Still, without the involvement of the private sector no long-term change in energy efficiency can be achieved.

Value added of FIs

Interest among large international financing organisations in investing in energy efficiency projects is strong, so the use of FIs in this area should bring a strong co-investment effect. Inevitably, it is likely that some portion of this effect will involve shifting resources away from other investment vehicles targeting the same goal. To the extent that this occurs, it should not be considered as added value.

The leverage effect of the soft loans that are most prominent in this field is modest, but the preferential terms offered can have a big impact on their appeal to potential participants, and thus to the absorption rate. In theory, energy efficiency projects are based on a straightforward economic case: the moderate upfront cost is recovered over time through lower energy costs which continue even after the original cost is recuperated. Debt financing make the terms even more appealing by spreading that upfront cost out over time so that it more closely matches the realised savings.

Unfortunately, the buildings that are in greatest need of updating tend to be occupied by those least able to cover the initial cost to achieve deferred gains. As such, loans with longer repayment periods and below market rates can allow the policy of subsidising energy efficiency improvements to reach individuals that might not otherwise consider participating.

Another way in which FIs can add value to the field is by making financing conditional on compliance with rigorous KPI. Compared with grants, which are paid up-front, there is a greater opportunity for recipients of soft loans to be incentivised to achieve the policy outcome of the programme by making the terms of the loan conditional on complying with standards such as energy audits or regular maintenance.

In addition, FI resources can be used to fund Technical Assistance via grants. This can help to overcome the substantial regulatory burdens involved in the sector, as well as for awareness raising

campaigns among potential recipients, and among those in the industry to promote the latest technology and best practices.

Finally, by providing grant support or even equity to the developing ESCO industry, FIs can significantly enhance efficiency in this sector for future rounds of investments (via the revolving fund). ESCOs can reduce the uncertainty involved in energy efficiency projects thereby reducing their cost of financing. Ultimately, they are a potentially crucial link to establishing a sustainable market that has so far been very slow to develop in the absence of FIs.

Qualitative dimension of the value added of the FIs

- **Cost savings:** Participants in these programs will benefit from concrete, long-term economic benefits. Lower energy costs increase their effective earnings as well as the resale value of their property, and can protect residents from the impact of future increases in energy costs.
- **Energy savings:** By increasing the energy efficiency of the country as a whole, these projects will reduce the amount of energy consumed per person, a difference form a realistic baseline that can be measured in MWh.
- **Environmental impact reduction:** Decreased energy consumption will also mean less GHG emitted into the atmosphere over the coming years, measurable in tonnes of CO_2 equivalent.
- **Job creation:** The manufacturing, construction, installation and maintenance work involved in a major programme of housing stock renewal will result in hundreds if not thousands of full time equivalent jobs being created over the coming years.

6.3 Waste and water management

Slovakia's waste and water management needs are substantial, as detailed in Section 3.2.4 above. The municipal waste infrastructure and capacity to re-use, recycle and recover value are dramatically underdeveloped. In terms of water management, some two thirds of the population located outside the Bratislava region are without any connection to a public sewer system. In addition, EU regulations place additional pressures on the Slovak government to increase the quality of waste and water management systems.

Under the current Programming Period, significant OP resources have been dedicated to making much needed investments. Given the revenue creating nature of both waste and water treatment facilities and infrastructure, FIs could play a crucial role in achieving the greatest return on investment.

Market failures and sub-optimal investment situations

The development of the **waste treatment infrastructure** in Slovakia is faced with several typical barriers. The first, being that there is a lack of access to long-term financing to support the development of further solid waste and wastewater treatment solutions. This is true broadly of public investment programs in Slovakia, and applies particularly to the waste management.

The second obstacle facing waste management projects is the misalignment of incentives to separate and recycle among individuals. Under current conditions, **the market fails to price in the**

social cost of landfilling, burning or illegally dumping trash. Public awareness of the need for good waste management policies is low, and fees for collection and landfilling are inadequate. The lack of proper incentives and infrastructure for waste separation creates repayment risk for waste management projects. High uncertainty results in elevated investment development costs in what are already capital-intensive projects.

As a result, recycling and energy conversion projects may not be economically viable without government intervention. Furthermore, there is a high potential for this sector to incorporate significant private sector involvement, but there is lack of capacity and expertise necessary to develop and deliver projects due to lack of experience of these type of projects in Slovakia.

Water-related infrastructure and services have an important public-good dimension, because of which it may be reasonable to rely in part on public money to finance them. Costs may be too high for the person or body having to implement the projects, or the individual return on investment may be too low compared to the social benefits. On the other hand, there is a high potential for project bankability, depending on the pricing and regulatory system set up, and hence a good opportunity to combine grant financing and FI support.

Value added of FIs

The co-investment effect is restrained in these areas by a lack of interest among large, public and private financing bodies in the investment area. That being said, waste and water management projects all have a substantial revenue generating element, and as such, may be compatible with forms of financing that bring relatively high leverage rates. For example, junior equity tranches in a water utility serve to both capitalise the utility and reduce the riskiness of other equity shares, reducing the riskiness of other tranches, and sending an important signal to possible investors. These investments may also attract in-kind contributions of land from municipalities served. As such, this sub-fund could be expected to achieve a total leverage ratio of 1:3.

Because waste and water use levels and fees are relatively predictable, the riskiness of these projects, and thus the need for intervention, decreases precipitously after the construction phase ends. As such, there is the potential to recuperate equity costs and guarantees in less time than the repayment period of the project, freeing up those funds to be used on other projects faster than commercial loans would do.

Given how underdeveloped the market is in waste and water treatment, stepping into the market with FIs could add value by providing proof of concept to other potential project promoters and investors, especially in the less-developed regions outside of Bratislava where investment is needed most. And by green-lighting projects that would not otherwise be funded, FIs can build capacity among those who participate that can later be shared and applied to other projects.

Also, by closing the investment gap in these more disadvantaged regions, FIs will contribute to reducing regional disparities and improving social cohesion in the country.

It is important to keep in mind that water pricing is an essential element in water efficiency and productivity investment decisions and as such the use of FIs in this area cannot be considered without the broader context of the market and regulatory environment. A well-designed policy package should encourage projects in water efficiency in all sectors, while ensuring access for the basic needs of the weakest members of society.

Qualitative dimensions of the added-value of FIs

- **Offsetting of GHG emissions**: Investment in waste management solutions that can reduce the amount of waste sent to landfills will contribute to the offsetting of GHG emissions. Landfills are an important source of these emissions, and so reducing the amount of waste sent to them for e.g. recycling or anaerobic digestion, is a measurable added value from the amount of GHG emissions that are offset.
- **Job creation:** The construction, operation and decommissioning of waste/water management projects will inherently create employment opportunities which can be used as a demonstrable indicator of the added-value of investment into projects via FIs.
- **Public health benefits:** Investment into the development of the waste/water management capacity in Slovakia will bring with it positive health benefits as the general public is less exposed to solid waste.
- **Foreign direct investment:** Investment in novel waste management technologies, like biogas extraction and combustion using organic waste in anaerobic digesters, can attract specialised foreign companies. This influx of foreign capital can be used as an indicator to demonstrate the added value of FIs.
- **Energy recovery:** Following from the previous example, of biogas generation from organic waste, the energy recovered and put back into the grid carries with it a positive socio-economic benefit and can be monetised.
- **Environmental impact reduction:** Investment in waste/water management should reduce the impact of waste on the environment, from landfilling or polluting the rivers for example. This beneficial impact on the natural environment (e.g. through the preservation of an aesthetically pleasing area) can be used as an indicator of the benefit of investment in these projects.

6.4 Municipal and Urban Development

The proposed municipal and urban development sub-fund includes several investment areas vital to promoting sustainable economic growth and social cohesion, such as public transit, public building refurbishment, brownfield projects and upgrading Slovakia's cultural heritage. Often, these projects have a strong all-inclusive character able to bring together strategies of industrial restructuring, transport and mobility, housing and energy efficiency.

This part of the value added study will focus on the economic development of brownfield sites within Slovakia, which is a high-strategic priority area for the country under the Europe 2020 strategy.

Value added of FIs

The barriers and disadvantages of brownfield sites often make regeneration projects costlier and more time-consuming compared to green-field projects with which they must compete for financing. By making available **direct financial assistance in the form of grants and soft loans, FIs can help to make these projects competitive with greenfields**, attracting private developers to a market where they are currently lacking. Adding private persons to the list of eligible beneficiaries would further enhance their attractiveness.

FIs also have a substantial value added to offer in terms of the uncertainty of clean-up costs. By offering guarantees against unforeseen costs of rehabilitating the environmental conditions of the site during the pre-construction phase, FIs can significantly reduce the cost of capital.

FI involvement in projects may also serve to catalyse public investment in the form of in-kind contribution of land and potentially private contribution from banks, i.e. of additional resources at the project level in addition to the more typical sub-fund level leverage effect. This kind of contribution can be used to avoid land acquisition costs, or as collateral for private sector borrowing by the project company.

Successful projects can also serve as a proof of concept to other developers, creating a catalyst effect. By creating the right intervention policy to make these projects economically viable, FIs can generate greater interest among other developers in similar projects.

Grant payments and Technical Assistance should be provided in the pre-development phase of the project to cover **project appraisal, site assessment, project preparation and regeneration** to overcome some of the unique issues with brownfields in order to align the costs of the regeneration projects with similar green-field projects (or in new property). In the development phase, repayable loans with preferential rates and or long durations should be provided, potentially backed by guarantees.

Qualitative dimension of the value added of the FIs

There are multiple and varied transactions looking at brownfield projects, which could generate many diverse social and economic benefits, such as taxes, jobs, residential economy, economy, culture and recreation, demographics, housing, history and heritage, landscape, biodiversity, transit, mobility, pathways and networks, etc.

- **Environmental:** Urban development projects have a number of socio-economic benefits linked to the increased energy efficiency of the buildings, the use of materials with low environmental impact, and environmental remediation. Some indicators that illustrate the socio-economic benefits associated with environmental aspects could be energy savings (MWh) and the net impact on greenhouse gas emissions (tonnes of CO_2 equivalent).
- **Job creation:** The clean-up and new construction of brownfield sites will create short-term employment in the construction industry, as well as the typical spill-over effects of such work in suppliers and services. In addition, because economic viability requires such projects to be paired with a commercial revenue stream, business activity on the site may also count toward the impact on employment associated with the project.
- **Property values:** Residential and commercial properties adjacent to urban development projects will see an increase in their market value, a tangible economic benefit that accrues to the local community.
- **Social diversity:** Development of urban centres will ensure social mix of residents, workers and visitors. Monitoring indicators include the number of households affected by the new facilities. Moreover, the quality of life of residents will be improved through social cohesion, enhanced by the interrelation of professionals, students and residents. Indicators related to the concept of territorial enrichment could be used to measure this new urban dynamics: impact of a euro invested in planning compared to the increase in household consumption and local tax revenue.

7 Governance structure of the Financial Instrument

This section provides the outline of a potential investment strategy that could be applied in the Slovak Republic. It includes a discussion of the issues at the management or Fund of Funds level, some options for possible sub-funds, and an overview of the implementation process.

Under the 2014-2020 Programming Period, MAs have the option to implement financial instruments in one of three ways: direct management by the MA; investment of ESI Funds in an existing financial entity such as the EIB, EIF or an IFI; or through a newly created entity designed to implement FIs consistently with the objectives of the ESI Funds.

The Slovak Government opted early on to create a new entity, consistent with Article 38(4)(c), by establishing the **SIH** to act as a Fund of Funds to implement the FI's at the national level. The Fund of Funds will be the direct recipient of ESI Funds and is responsible for selecting and signing funding agreements with financial intermediaries, and for monitoring and controlling FI implementation activities. The FoF model has the advantage of being able to coordinate multiple funds to prevent redundancies among priorities, and can be an important vehicle for attracting co-investment from public and private investors.

As discussed in the proposed investment strategy above (see Section 5.1), involvement of a financial intermediary is not a requirement for implementation of an FI. For example, in the case of large infrastructure projects, it may be preferable for the fund to work with the beneficiary, such as a project promoter, directly.

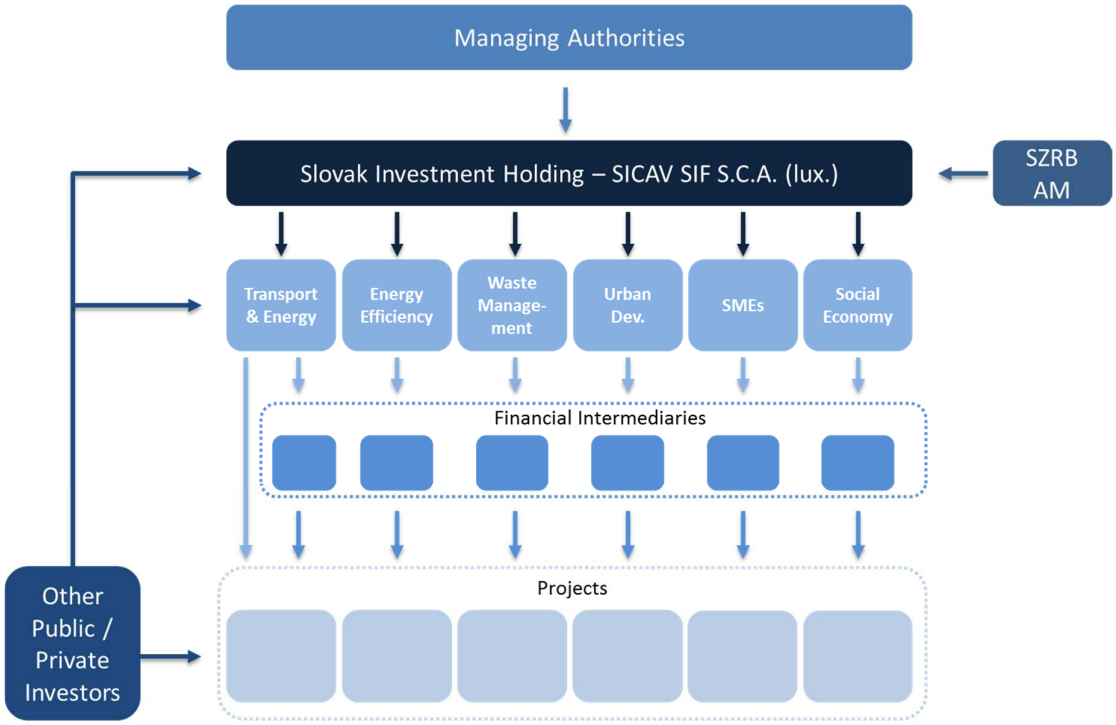
The SIH is a FoF and acts as an umbrella structure under which individual sub-funds are established. A **double-layer structure** has been proposed for the implementation of FIs in the 2014-2020 period. This would consist of:

1. The **SIH**, which would be the FoF in which ESI Funds would be invested by the EU and managed by the SZRB-AM, through which funds would flow into;
2. **Specific funds/sub-funds (SF)** (e.g. for energy, infrastructure, SME's etc.) which would be used to invest in investment areas identified in the OPs.

A provisional possibility for one of these sub-funds or SIH as a whole could be to have them be managed from Luxembourg.

Furthermore, according to the latest discussions with SIH, it is looking at the options to establish an investment company under a Specialised Investment Fund (SIF), structured under the form of a société en commandite par actions (SCA), with variable share capital (SICAV) as an umbrella structure. This SIF could have a regulated, operationally flexible and fiscally efficient multipurpose investment fund regime for an international, institutional and qualified investor base.

Figure 11: Slovak Investment Holding



The rationale behind the legal structuring of the SIH is due to the flexibility[107] of Luxembourg's legal vehicles available, combined with an internationally recognised regulatory framework and favourable tax environment. The SIF is characterised by a flexible investment policy that allows for a wider sphere of investors.

Control and governance of the SIF co-investment

This would allow the SIH to implement an investment strategy that combines all types of investments, including equity, loans and guarantees.

The umbrella structure allows for more flexibility as:

- The SIF is structured by sub-funds corresponding to one investment programme or one investment solution;
- Other sub-funds may be set-up thereafter on an as-needed basis by the sole decision of the Board of Directors of the SIF (e.g. for new eligibility rules);
- The management body of the SIF may determine the features of each sub-fund (investment policy, issue and redemption of shares, and distributions) on an as-needed basis;
- From a regulatory standpoint, procedures to set up a new sub-fund are lighter than those for launching a new fund;

[107] SIFs, governed by the law of 13 February 2007 on Specialised Investment Funds (the "SIF Law"), are the most flexible investment vehicle available in Luxembourg in terms of legal form. The SIF Law does not provide any limitation on the type of assets in which a SIF may invest.

- Unlike separate classes of shares, separate sub-funds offer, by virtue of law, a full segregation between the assets of each sub-fund, which means that each sub-fund is only responsible for its own liabilities and obligations; and
- Umbrella structures are well known and accepted by international investors and the definition of different class of investors could facilitate co-investment.

Current regulations also allow for several options for the management of the Fund of Funds. Implementation of the SIH is currently being handled by SZRB-AM[108] under the supervision of the National Bank of Slovakia. It has been proposed that portfolio management be handled directly by SZRB-AM.

7.1 Management structure of the SIH

The SIH is envisaged to have a **three tier** management structure comprising of 1) a Board of Directors, 2) a Supervisory Board and 3) a General Meeting. The **Supervisory Board** consists of i) representatives from the Managing Authorities of those OPs that contribute to SIH, ii) representatives of the MoF, iii) representatives of the Central Coordinating Body and iv) independent experts and observers in an advisory capacity.

The Supervisory Board is responsible for:

- The approval of the investment strategy and supervision over SIH's implementation;
- The control of SIH operations managed by the fund manager;
- Supervision of Board of Directors activities;
- The review of final accounts prepared by SIH;
- Other matters resulting from the Commercial Code.

The above mentioned governance is structured to be compliant with EU legislation (in particular the CPR and related implementing and delegated acts).

The SIH could have at its disposal funding from different types of investors:

(i) ESI Fund resources within the relevant OPs;

(ii) Contribution from National budget or other national public investors;

(iii) Co-investment from IFI and other national promotional banks;

(iv) Institutional investors and Sovereign funds;

(v) Private Funds investing in equity, infrastructure, renewables, others.

With such a broad range of investor types as potential co-financiers, care must be taken to ensure that the management structure and funding agreements of the FoF reflect the regulatory requirements of the Slovak government and EU regulations (including e.g. reporting requirements by OP) while catering to the needs (regarding e.g. redemption policies) of different classes of

[108] The SIH is set up by the SZRB as a joint-stock company founded in accordance with relevant provisions in the Commercial Code, and will eventually encompass a broad range of activities, leveraging on contributions from both private investors and public institutions. It would be used to channel investments into sub-funds established by financial intermediaries or fund managers and would have their own individual balance sheets.

investors. Direct MA involvement in the governance and implementation process should be codified in the funding agreement to promote compliance with the CPR and the implementing act.

When weighing potential management structures, the Slovak government should consider:

- The advantages, disadvantage and risks associated with a given governance structure
- Open issues, more on which to follow, that have to be solved before implementation of the FoF can proceed;
- The requirements the FoF will have to fulfil before and during the implementation phase.

Here below those three aspects are considered.

7.2 Governance structure optimisation

As mentioned above, MAs have three potential options for managing a FoF. As the Slovak authorities move forward, they must consider which option is best suited to Slovakia's particular needs and circumstances. In addition, while the progress already made in implementing the SIH vision represents a strong advantage for Slovakia, it is not the only factor to be considered when deciding on a final governance structure.

Of the three – using an existing entity, a newly-created entity, or direct MA management – one can conclude that the direct management option is perhaps the least appropriate in this case. Given the large number of MAs involved, and the relative lack of first-hand experience with FIs, direct control is unlikely to result in optimal implementation. That being said, active MA participation in the implementation process will be essential in order to ensure that the FoF deploys the FIs in a way that is consistent with objectives and performance criteria of the OPs. This kind of involvement is perfectly consistent with the remaining two governance options (newly created or existing entity).

The option to appoint an already existing entity in the Slovak context will naturally lead to considering the EIB Group due to their past involvement in the country on the JESSICA and JEREMIE programs. Given the complexity of the project envisaged above, the Slovak FI will require an entity with significant experience in FIs and the managerial and financial capacity to manage and investment vehicle of this complexity. In this context, the EIB Group has demonstrated that it has the necessary competencies, skills, and infrastructure to ensure an efficient, effective and sound management for such a vehicle.

The third option, currently being pursued by the Slovak government in establishing a SIF, carries a number of advantages as well. Among these are:

- Using a well-established structure organised under the auspices of the Central Bank allows it to reflect the will of all the public stakeholders involved while maintaining sufficient independence to resist political or other outside pressure in implementing its duly selected investment strategy.
- Flexibility of the approach. The SIF-type FoF represents one of the most flexibly regulated and supervised investment structures available in any European jurisdiction. This makes it clearly compatible with the requirement of the ESIF's FI governance and implementation needs (e.g. differentiation in class of investors, different investment strategies for each sub-fund, investment decision making structure under a common investment policy strategy, different and segregated reporting lines). In addition, the high degree of transparency is a

clear advantage when it comes to attracting and managing co-investment from other investors.

- Clear reporting structure. Already at the current stage of development, a number of IFIs including ERDB and International Investment Bank have expressed conditional interest in co-investment at the sub-fund level to support energy efficiency projects among other opportunities. It is reasonable to expect that there will be additional investments as the vehicle matures, including from IFIs, public sources, even from private sector investors. The segregated sub-fund structure, each with the ability to stratify different classes of investors, will allow the Slovak authorities to manage and report on ESI Funds separately from other investors, even those targeting the same objectives.

As demonstrated above, both management structures, existing entity and newly created FoF, have advantages. Fortunately, it is possible, and in this case probably preferable, to take an intermediate approach.

Proceeding with the establishment of the SIH as a FoF provides the clearest and most direct path to becoming operational within the target time frame. At the same time, it is recommended that the SIH establishes a partnership with EIB that would allow it to benefit from the experience and capacity of one of Europe's most reputable banks during the crucial set-up phase and even into the implementation and investment strategy activities.

7.2.1 Open issues to be resolved

As mentioned above, the Slovak government has already made substantial progress in establishing the SIH as the vehicle for their FIs. As that process advances, here below are some issues that may still be open that will have to be solved before operations can begin. Among others, these include:

1. **Composition of the Management Board.** While some plans have already been made in this area, the final composition of SIH's management board must be laid out in detail in order to ensure the appropriate level of decision making authority, control, and to avoid conflicts of interest.
2. **Composition of the Investment Committee for each sub-fund.** In addition to the FoF board mentioned above, an investment committee will have to be established for each of the sub-funds as well, including the modalities for nominating new members of the committee, and the relevant criteria in order to achieve the efficient and effective management and avoid conflict of interest.
3. **Resource & competencies map.** Beyond the managing board, those responsible for the FoF will have to make arrangements for the other functions and competencies that will be needed to manage the FI. This may involve developing a competencies map to determine what competencies are already in-house, as well as where necessary an out-sourcing or operational plan to manage them.
4. **Investor stratification.** As indicated above, the envisaged structure has substantial capacity to attract co-investment from multiple sources. In order to maximise that capacity, the structure for stratification among investor classes needs to be operationalised and laid out for potential investors in the funding agreement and other relevant contractual documents.

5. **Financial flow and compliance with the CPR**. Given the complexity of the proposed vehicle, it will be necessary to specifically define how the relevant treasury and cash management flows will be handled to ensure the necessary segregation of risk and compliance with CPR regulations and monitoring requirements.

6. **Treasury management**. In addition to the management of the financial flow and the necessary segregation between different investors, it will be also necessary to define and agree on a treasury management strategy that reflects the characteristics of the different class of investors While far from an exhaustive list, the above points should illustrate some relevant issues that will need to be resolved in the coming weeks in order to finalise the establishment of the Slovakian FI under the 2014-2020 Programming Period.

7.2.1 Further steps to be accomplished

In addition to deciding the open issues that will shape the nature of the Slovakian FI, there also remain a number of task and activities that need to be accomplished regardless no matter what the outcome of the above issues. Based on previous experience, these include the following recommendations and suggestions:

Set-up phase

In order to ensure the sound management of the FI, it is recommended to establish early on an internal **Manual of Procedure** based on a Business Process Management (BPM) approach that provides structure and clarity to all stakeholders. This is important because the existence of such a document will provide all the internal and external stakeholders with a guide to the working modalities of the FI, facilitating the signing of funding agreements with the relevant MAs as well as the investment decisions of potential co-investors.

The process followed by the EIB Group under the JESSICA and JEREMIE initiatives during the previous Programming Period is a relevant example, and could be used to inform this process.

Investment decision phase

The same logic applies to the selection of partner financial intermediaries. Under the CPR, the FI is strictly required to select financial intermediaries under clear, open and competitive procedures. In order for the procurement process to be successful, it will have to be accompanied with the following efforts:

a. Implementing an awareness campaign on the Slovakian financial market about the role of FIs;

b. Define the business criteria for potential intermediaries, including the financial intermediary profile;

c. Establish a preliminary business plan and set up clear evaluation criteria;

d. Establish the tender file for the call for expression of interest (EoI).

Without describing the criteria for the selection of financial intermediaries, it is relevant to note that financial intermediaries have to prepare a business plan translating the Investment Strategy in operational terms indicating the revolving product characteristics, the relevant cash flow simulation and consequently the indication of the characteristic of the portfolio investment.

Following that of course, the evaluation of the EoI and the consequent contract negotiation will need financial and legal support.

Fund management phase

In order to establish a well-functioning FoF management structure, it will be necessary to define the kinds of support the SIH will need to be successful. As mentioned above, the fund will have to lay out which functions will be managed internally and which will be out-sourced. This is of particular importance for the sub-fund management and back office and reporting structure, and will have to be set out before the signing of the funding agreements.

The new regulatory framework clearly presents greater opportunities for the increased use of FIs supporting ESIF objectives and Fund-specific investment areas in the 2014-2020 Programming Period (compared to the previous Programming Period), which highlights the need for Technical Assistance covering the full FI life cycle from awareness raising to design and setup, through to the implementation and winding up phases.

Result based indicators, monitoring and modalities to update the investment strategy

At this stage in the planning process, it is not possible to go too far into detail regarding the result based indicators that must be used to monitor FI performance and inform investment strategy updates, but a brief discussion of the necessary elements is necessary.

Because no formal decisions have been made regarding the specific Priority Axis that will be included in the FI strategy, nor the targeted projects, what follows will be limited to a high level discussion taking as the sole basis the proposals developed in this report. These indicative points can be adjusted and operationalised during the formulation of the funding agreement that will define the target and performance criteria for the FoF and sub-funds. In this context, there are three basic elements that FI's indicators need to include:

a. Indicators required by the underlying OPs contributing to the financial instrument
b. Specific indicators relevant to the objectives of the individual sub-funds
c. Standard financial indicators necessary for asset management and fund performance purposes

First, because the FI is essentially a tool for implementing Priority Axes laid out in the OPs, any indicators required at under the Priority Axes must also be applied to FI investments, and be reported back to the relevant MA.

Once the OPs have been finalised, it will be necessary to determine exactly what contribution will be made via the FIs. Here, there are two possibilities. Under the first, the FI is tasked with achieving a specific target, e.g. number of residential building achieving a more efficient energy utilisation, kWh saving per amount invested, etc. The second option is to assign the FI with a share of the total programme goal to be achieved, e.g. if the programme specifies a target number of apartments to be refurbished, the FI has to cover 35%.

In terms of point b, specific indicators relevant to the objectives of the individual sub-funds, independent of its public policy goals, the FI has a responsibility to its investors to track its financial performance as well. As such, the funding agreement should define sound financial management criteria for the FoF and each sub-fund, including financial performance targets. Some of these targets will derive from the regulatory framework under which the FI will operate (e.g. the reparation of risk for each sub-fund established under the Luxembourgish jurisdiction for the SICAV-SIF). Others will trace back to the FI's responsibilities to the Slovak government and its other public and private investors in terms of their expected return on investment, risk appetite, and redemption policy. Once again, this underlies the importance of defining a clear strategy of investor stratification at the outset of the implementation process.

Based on the proposed structure of the FoF and 6 sub-funds laid out above (the four discussed in this volume and the one dedicated to the SME access to finance), it is possible to identify some of the sector-specific targets that should be used, including the targeted co-investment and catalytic effect of the contribution, and the amount of leverage that each sub-fund will create.

Complementary to the financial metrics, the sub-fund should also track the typology of projects, including number and amount of projects funded, average investment per project, etc.

The definition of indicators is the cornerstone of a feedback system that will allow the fund to adapt over time. The next step is to create a mechanism for these data to filter up to the management process, and ultimately to inform changes to the investment strategy. The funding agreement is required to contain provisions for the monitoring activities and revision of the investment strategy. Typical practice is to establish a biannual monitoring report and accompanying FoF investment board meeting dedicated to considering these indicators and potential changes to the investment strategy.

8 Conclusion and next steps

This report presents the findings of Volume I of the study in support of the Ex-ante Assessment of using Financial Instruments in the Slovak Republic during the 2014-2020 Programming Period. The study analysed supply and demand for financing in a number of policy areas and makes the case that there exist market failures in each resulting in substantial financing gaps, including in transport infrastructure, energy production, energy efficiency in buildings, waste management, water management, and municipal and urban development. The shortfall in available financing methods is a significant barrier to accomplishing the policy goals of the Slovak Republic.

The study goes on to detail how FIs could be used to close, or at least reduce the identified gaps. For each of the policy areas listed above, the proposed investment strategy outlines the type of financial products appropriate to the sector, a proposed contribution from the relevant operational programmes, the expected results. It also lays out the potential added value of using FIs in these areas compared with the alternatives, i.e. non-repayable grant financing, or no financing at all. An examination of relevant Technical Assistance needs and potential State aid implications is included as well.

Taking into account the progress the Slovak Government has already made in setting up a FoF structure, this study proposes the creation of six sub-funds (including two SME sub-funds from Volume II) focusing on the areas where market gaps are identified with the following envelopes:

- Transport infrastructure and energy production (EUR 600 million);
- Energy efficiency in buildings (EUR 117 million);
- Waste and water management (EUR 75 million);
- Municipal and urban development (EUR 268 million);
- SMEs (EUR 210 million);
- Social enterprise (EUR 35 million).

The remainder of the study focuses on issues of management and governance at the FoF level. Management and governance options available to MAs are discussed in light of the ongoing development of SIH into what will ultimately be the FoF, including a description of SIH's current path and some of the alternatives.

Particular attention is given to two sets of considerations remaining to the Slovak government. First, there are a number of open issues that will define the character of the FoF, and which will have to be resolved before operations can begin. A non-exhaustive list of these issues includes:

- Defining a strategy of investor stratification;
- Laying out the financial flow and compliance with the CPR;
- The composition of the Management Board;
- The Composition of the Investment Committee for each sub-fund;
- Treasury management;
- Resource & competencies map.

These issues will need to be resolved in the coming weeks before it is possible to finalise the

establishment of the Slovakian FI for the 2014-2020 Programming Period.

In addition to open issues, the study lay out some of the implementation steps that will be need to be undertaken in order to ensure the fund can be brought up to operational status in an efficient manner. These include:

- Preparation of the Funding Agreements;
- Launching the procurement process to select the financial intermediaries;
- Preparation of the Operational Agreements;
- Preparation of the Procedures Manual ;
- Opening of cash accounts;
- Preparation of the Treasury Guidelines;
- Preparation of the Risk Management and Policy Framework Guidelines;
- Preparation of the Reporting and Monitoring Manual (set-up the KPI monitoring system);
- Preparation of the exit policy and the winding-up provision.

Finally, during the preparation of this study, a number of issues affecting the implementation phase of the FI have been identified. Chief among these is the question of whether FIs are legally able to be used in the context of a PPP. Current regulations include specific provisions for how ESI funds can be implemented through FIs, and how they can be used in a project organised as a PPP, but do not explicitly state that ESI funds implemented through and FI can be used in a PPP context.

In order to ensure their eligibility, and avoid unnecessary delays in the implementation phase, the Slovak Managing Authorities and MoF are encouraged to begin the process of making a formal request to the relevant EC bodies as to the eligibility of using FIs with PPP projects.

Bibliography

The documentation used for the present study on the Slovak Republic is given below. Besides the information referenced throughout the document, the following references have been used as to support the analysis:

[1] *PwC, Ex-ante assessment methodology for FI in 2014-2020 - General Methodology (Volume I).*

[2] *Assessmenet of the 2014 national reform programme and stability programme for SLOVAKIA, European Commission, 02/06/2014, SWD(2014) 426 final.*

[3] *European Commission: "Slovakia – The EU budget in my Country".*

[4] *Eurostat (2014): Statistics Database.*

[5] *NBS (2013): Annual report 2013. National Bank of Slovakia..*

[6] *NBS (2014d): Správa o finančnej stabilite k Máju 2014. National Bank of Slovakia..*

[7] *Moody's (2013): Banking system outlook: Slovakia..*

[8] *MF SR (2013a): Procedure for the implementation of financial instruments through Slovak Investment Holding in the 2014-2020 programming period. Ministry of Finance of the Slovak Republic..*

[9] *SFRB (2014b): Výročná správa Štátného fondu rozvoja bývania za rok 2013. Štátný fond rozvoje bývania..*

[10] *SKGBC (2013a): Finančné nástroje na podporu obnovy budov. Slovak Green Building Council..*

[11] *EF (2013): Výročná správa Environmentálného fondu za rok 2012. Environmentálny fond..*

[12] *ME SR (2013): Výročná správa Environmentálného fondu 2012. Ministry of Economy..*

[13] *EBRD (2013): Supporting the implementation of Slovak Sustainable Energy Financing Facility III. [http://www.ebrd.com/pages/workingwithus/procurement/notices/csu/42183.shtml].*

[14] *EBRD (2014): SLOVSEFF III. [http://www.ebrd.com/pages/project/psd/2014/44221.shtml].*

[15] *MunSEFF (2014) [http://www.munseff.eu/en/index.html].*

[16] *Ekofond (2014): Formy podpory. [http://www.ekofond.sk/formy-podpory].*

[17] *SZRB (2014): Produkty. [http://www.szrb.sk/].*

[18] *MF SR (2013c): National Reform Programme of the Slovak Republic. Ministry of Finance..*

[19] *Statistical Office of the Slovak Republic (2014): Energetická bilancia..*

[20] *Energy analytics (2013): Energetický trh SR 2012..*

[21] *MF SR (2013c): National Reform Programme of the Slovak Republic. Ministry of Finance..*

[22] *ME SR (2011a): Inovacná politika na roky 2011 – 2013 v pôsobnosti Ministerstva hospodárstva SR. Ministry of Economy..*

[23] *OECD (2012): OECD Science, Technology and Industry Outlook – Slovak Republic..*

[24] *Concept of the support of electricity production from the small RES in Slovak Republic (2013) (orig. title: Koncepcia rozvoja výroby elektriny z malých obnoviteľných zdrojov energie v SR).*

[25] *GO SR (2011): Strategy of the Slovak Republic for the Integration of Roma up to 2020. Government Office of the Slovak Republic..*

[26] *MEC SR (2010): National Renewable Energy Action Plan – Slovak Republic. Ministry of Economy and Construction of the Slovak Republic..*

[27] *Masárová J., Šedivá M. (2013): Cestná infraštruktúra v Slovenskej republike, Perner´s Contacts, vol. 8, n. 3, p. 113-124..*

[28] *MTCRD SR (2013b): Summary economy indicators of the transport sector. Ministry of Transport, Construction and Regional Development of the Slovak Republic. [http://www.telecom.gov.sk/files/statistika_vud/ekon_ukazovatele.htm#k2].*

[29] *National Motorway Company (2014): Motorways and expressways network in Slovakia..*

[30] *EIB (2013): Initial Feedback Note. To the Ministry of Finance of the Slovak Republic to support the use of Financial Instruments in the 2014-2020 Programming Period..*

[31] *Statistical Office of the Slovak Republic (2013): Životné prostredie v SR - vybrané ukazovatele v rokoch 2008 – 2012..*

[32] "Taxation trends in the European Union, Eurostat (2014) Available at: http://ec.europa.eu/taxation_customs/resources/documents/taxation/gen_info/economic_analysis/tax_structures/2014/report.pdf".

[33] *EC (2011): Country Factsheet Slovakia. European Commission..*

[34] *PA SR (2013): Partnership Agreement of the Slovak Republic for the years 2014-2020..*

[35] *CMS (2013): Waste management in Central and Eastern Europe..*

[36] *MTCRD SR (2014b): Aktualizácia Národnej stratégie regionálneho rozvoja SR. Ministry of Transport, Construction and Regional development of the Slovak Republic..*

[37] *Statistical Office of the Slovak Republic (2014): Obyvateľstvo a migrácia..*

[38] *EurActiv: regional policy, http://www.euractiv.sk/regionalny-rozvoj/zoznam_liniek/regionalna-politika-v-sr#sthash.ts6jFV0k.dpuf.*

[39] *Statistical Office of the Slovak Republic (2012): Statistical Yearbook of the Slovak Republic 2012..*

[40] *MF SR (2013b): Vyhodnotenie výsledkov rozpočtového hospodárenia obcí a vyšších územných celkov za rok 2012. Ministry of Finance of the Slovak Republic..*

[41] *INEKO (2013b): Analýza finančnej stability 50 najväčších miest v SR..*

[42] *INEKO (2013a): Analýza finančnej stability vyšších územných celkov (VÚC) v SR..*

[43] *EIB (2010): JESSICA Evaluation study – implementing JESSICA instruments in Slovakia..*

[44] *MTCRD SR (2014c): Data on the number of started, completed and under construction flats in SR. [http://www.telecom.gov.sk/files/statistika_vud/vystavba/vystavba_vyvoj.htm].*

[45] *MTCRD SR (2014d): Stratégia obnovy fondu bytových a nebytových budov v Slovenskej republike. Ministry of Transport, Construction and Regional development of the Slovak Republic..*

[46] *SIEA (2014a): Monitorovanie spotreby je pri znižovaní energetickej náročnosti budov kľúčové. [http://www.siea.sk/monitorovaci_system_aktuality/c-6626/monitorovanie-spotreby-je-pri-znizovani-energetickej-narocnosti-budov-klucove/].*

[47] *SIEA (2014b): Monitoring energetickej efektívnosti verejných budov po rekonštrukcii. [http://www.siea.sk/materials/files/poradenstvo/aktuality/2014/konferencia_hn/Kovar_monitoring_verejnych_budov_porekonstrukcii_042014_.pdf].*

[48] *Akčný plán energetičkej efektívnosti ná roký 2014-2016 s výhladom do roku 2020..*

[49] *Ing. Miroslav Zámečník a Ing. Tomáš Lhoták, PhD. Srovnání makroekonomických dopadů národních programů pro zvyšování energetických standardů budov s jinými, státem financovanými alternativami, Květen 2012..*

[50] *COM (2010): Communication from the Commission, Europe 2020: A strategy for smart, sustainable and inclusive growth, 2020 final, Brussels, 3.3.2010..*

[51] *PwC (2013): Analýza absorpční kapacity návratných forem financování v oblasti životního prostředí..*

[52] *SFRB (2014a): Výročná správa o postupe implementácie iniciatívy JESSICA. Štátný fond rozvoje bývania..*

[53] http://news.xinhuanet.com/english/business/2014-04/04/c_133236991.htm.

[54] http://ec.europa.eu/europe2020/pdf/csr2014/swd2014_slovakia_en.pdf.

[55] http://ec.europa.eu/enterprise/policies/finance/data/enterprise-finance-index/access-to-finance-indicators/loans/index_en.htm.

[56] *Slovakian Ministry of Finance: Procedure for the implementation of financial instruments through Slovak Investment Holding in the 2014-2020 programming period..*

[57] *2013 SME survey done by the American Chamber of Commerce in Slovakia..*

[58] *World Bank "Doing Business" report, 2014.*

[59] *IMF (2013): International Monetary Fund Country Report No. 13/262: Slovak Republic. [http://www.imf.org/external/pubs/ft/scr/2013/cr13262.pdf].*

[60] *NBS (2014a): Analytical comments of Ján Beka. National Bank of Slovakia. [http://www.nbs.sk/_img/Documents/_komentare/AnalytickeKomentare/2014/AK10_Transmisia.pdf].*

[61] *http://www.nbs.sk/_img/Documents/_Statistika/VybrMakroUkaz/ZaklMakroUkaz/protected/indicators_2014.pdf.*

[62] *EC (2014a): Factsheet - Financial Instruments in Cohesion Policy 2014-2020. European Commission..*

[63] *NBS (2012): Statistics: FDI. National Bank of Slovakia.[http://www.nbs.sk/sk/statisticke-udaje/statistika-platobnej-bilancie/priame-zahranicne-investicie].*

[64] *Fidrmuc, J. et al. (2013). "Slovakia: A Catching Up Euro Area Member In and Out of the Crisis", OECD Economics Department Working Papers, No. 1019, OECD Publishing. [http://dx.doi.org/10.1787/5k4c9ktpf47g-en].*

[65] *Patterns and trends of public investment in the new Member States ofthe European Union, European Union Regional Policy Report 2010.*

[66] *Patterns and trends of public investment in the new Member States ofthe European Union, European Union Regional Policy Report 2010.*

[67] *World Bank (2012b): World Integrated Trade Solution: Country profile..*

[68] *NBS (2014b): National Bank of Slovakia: Average Lending Rates of Commercial Banks. National Bank of Slovakia. [http://www.nbs.sk/sk/statisticke-udaje/udajove-kategorie-sdds/urokove-sadzby/priemerne-urokove-miery-z-uverov-obchodnych-bank].*

[69] *EC (2013f): Access to Finance. European Commission. [http://ec.europa.eu/enterprise/policies/finance/data/enterprise-finance-index/access-to-finance-indicators/loans/index_en.htm].*

[70] *Council approves recommendations on member states' economic and fiscal policies, Council of the European Union, 11088/14, PRESSE 348.*

[71] *Assessmenet of the 2014 national reform programme and stability programme for SLOVAKIA, European Commission, 02/06/2014, SWD(2014) 426 final.*

[72] *European Commission, Regional and Urban Policy Report: Summary of data on the progress madein financing and implementingfinancial engineering instrumentsco-financed by Structural FundsProgramming period 2007-2013, Situation as at 31 December 2012.*

[73] *SLOVSTAT: Statistics Database.*

[74] *COM (2013b): Recommendation for a COUNCIL RECOMMENDATION on Slovakia's 2013 national reform programme and delivering a Council opinion on Slovakia's stability programme for 2012-2016..*

[75] *EC (2013a): Europe 2020 in Slovakia. European Commission. [http://ec.europa.eu/europe2020/europe-2020-in-your-country/slovensko/country-specific-*

recommendations/index_en.htm].

[76] *Eurostat (2010): Environmental statistics and accounts in Europe..*

[77] *EC (2013e): Building a green infrastructure for Europe. European Commission..*

[78] *COM (2013a): Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Reigons, 249 final, Brussels, 6.5.2013..*

[79] *AVF Annual reports. Audio – Visual Fund. [http://www.avf.sk/aboutus/annualreports.aspx].*

[80] *Barbiero, Darvas (2014): In sickness and in health: protecting and supporting public investment in Europe..*

[81] *COM (2011) 500/II final, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 'A Budget For Europe 2020 - Part II - Policy Fiches'..*

[82] *MTCRD SR (2014a): Ex-ante conditionality for PP 2014-2020. Ministry of Transport, Construction and Regional development of the Slovak Republic..*

[83] *EU SILC (2011): Database..*

[84] *World Bank (2012a): Worldwide Governance Indicators database..*

[85] *SKGBC (2013b): Renovation of Residential Buildings in Slovakia – Gap Analysis. Slovak Green Building Council..*

[86] *Rubianes (2010): Patterns and trends of public investment in the new Member States of the European Union..*

[87] *OECD (2012): OECD Science, Technology and Industry Outlook – Slovak Republic..*

[88] *ME SR (2011b): Akčný plán energetickej efektívnosti na roky 2011 – 2013. Ministry of Economy..*

[89] *Energy Efficiency Watch (2013): Energy Efficiency in Europe – Country Report: Slovakia..*

[90] *EC (2013b): EUROPE 2020 TARGETS: climate change and energy. European Commission..*

[91] *Rubianes (2010): Patterns and trends of public investment in the new Member States of the European Union..*

[92] *Energy Efficiency Watch (2013): Energy Efficiency in Europe – Country Report: Slovakia..*

[93] *MDVR SR (2013): Operačný program Integrovaná infraštruktúra 2014-2020..*

[94] *MTCRD SR (2013a): Transport infrastructure. Ministry of Transport, Construction and Regional Development of the Slovak Republic. [http://www.telecom.gov.sk/files/statistika_vud/dop_infra.htmk2].*

[95] *MDVRR SR (2013): Operačný program Integrovaná infraštruktúra 2014-2020..*

[96] *EC (2013d): Digital agenda scoreboard. European Commission..*

[97] *Monitoring CO2 emissions from new passenger cars in the EU: summary of data for 2011. Online available: www.eea.europa.eu/publications/monitoring-co2-emissions-from-new/at_download/file.*

[98] *Property & Environment (2013): Do roku 2016 bude reforma odpadového hospodárstva. Sľubuje vláda v národnom programe reforiem..*

[99] *Son Media (2013): Odpad a zelená výroba. [http://www.revuepriemyslu.sk/stories/clanok/Recykl%C3%A1cia/Odpad_a_zelen%C3%A1_v%C3%BDroba/aid/20868?af=archiv].*

[100] *NBS (2014e): Štatistická bilancia úverových inštitúcií v SR - Aktíva a pasíva. National Bank of Slovakia. [www.nbs.sk/_img/Documents/_Publikacie/.../MFS_CR_092013.xls].*

[101] *NBS (2014c): Zoznam bánk a iných úverových inštitúcií. National Bank of Slovakia..*

[102] *EIF (2007): JEREMIE – SME Access to Finance in Slovakia – Evaluation study..*

[103] *EIF (2014a): A further EUR 92m for Slovak SMEs, following JEREMIE agreements signed with 2 more banks. [http://www.eif.org/what_we_do/resources/jeremie/news/2014/slovakia.htm].*

[104] *SZRF (2014): JEREMIE. [http://www.szrf.sk/en/home-page].*

[105] *EIF (2014b): Seed and Venture Capital for investing into Slovak Start-ups and growing companies under JEREMIE. [http://www.eif.org/what_we_do/resources/jeremie/news/2014/slovakia_vc.htm].*

[106] *EBI Papers (2010): Public and private financing of infrastructure - Evolution and economics of private infrastructure finance, Vol. 15, No. 1..*

[107] *EIB (2012), The European PPP Expertise Centre (EPEC) PPP Guide available at: http://www.eib.org/epec/g2g/index.htm, European Investment Bank..*

[108] *EC (2013g): JESSICA in London: the London Green Fund. European Commission..*

[109] *GLA (2014): JESSICA - London Green Fund. Greater London Authority..*

[110] *Foresight Group (2014): Foresight Environmental Fund..*

[111] *THFC (2014): Rolling out retrofit. A funding case study. The Housing Finance Corporation Limited. [http://s3-eu-west-1.amazonaws.com/doc.housing.org.uk/Fenella_Edge.pdf].*

[112] *THFC (2013): Annual Report and Financial Statements 2013. The Housing Finance Corporation Limited..*

[113] *LCES (2013): New investment fund launched for the environmental refurbishment of social housing in London..*

[114] *GGF (2014): Green for Growth Fund, Southeast Europe.[http://www.ggf.lu/about-the-fund].*

[115] *MTRP (2013): Polish Investments program. Ministry of Treasury, Republic of Poland..*

[116] *BGK (2014): "Polish Investments" Programme. [http://www.bgk.pl/polish-investments-programme-en].*

[117] *PIR (2014): Polish investments for development..*

[118] *OECD (2011): Factbook: Economic, Environmental and Social Statistics..*

[119] *SKGBC (2013c): Budovy pre budúcnosť. Slovak Green Building Council..*

[120] *SWD (2012): Commission staff working document, Financial Instruments in Cohesion Policy, 36 final,.*

[121] *EEAR (2012). European Environment Agency Report: Climate Change, impacts and vulnerability in Europe in 2012..*

[122] *http://www.nsrr.sk/en/narodny-strategicky-referencny-ramec-2007-2013/.*

[123] *European Commission: Article 44 of Council Regulation (EC) No 1083/2006.*