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EX-ANTE ASSESSMENT OF FINANCIAL INSTRUMENTS UNDER OP ENVIRONMENT 2014-2020

BIM CONSULTING

Sofia 1000, 23 William Gladstone Str., fl. 1
Tel./Fax: 02/987 24 82; E-mail: office@bim-bg.com

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LIST OF ABBREVIATIONS

BDB	Bulgarian Development Bank
WSS	Water Supply and Sewerage
SEWRC/Regulator	State energy and water regulatory commission
SA	State aid
LMSW	landfill for municipal solid waste
TFEU	Treaty on the Functioning of the European Union
WA	Water Act
SAA	State Aid Act
EPA	Environment Protection Act
WMA	Waste Management Act
LAS of WA	Law on the amendments and supplements of the Water Act
CAA	Clean Air Act
EBRD	European Bank for Reconstruction and Development
EIB	European Investment Bank
EEA	European Economic Area
EC	European Commission
EU	European Union
ESIF	European Structural and Investment Funds
ERDF	European Regional Development Fund
ELV	End of Life Vehicles
WEEE	Waste electrical and electronic equipment
WW	widespread waste

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AQ	Air Quality
MEW	Ministry of Environment and Water
SME	Small and Medium Enterprises
MF	Ministry of Finance
IFI(s)	International financial investments
MRD	Ministry of Regional Development
NTEF	National trust Eco Fund
NGF	National Guarantee Fund
OP	Operational Programme
OPE	OP "Environment"
PA	Priority axis
WWTP	Waste water treatment plant
EMEPA	Enterprise for Management of Environmental Protection Activities
EMR	Extended manufacturer responsibility
RAWM	Regional Association for Waste Management
MA	Managing authority
FI(s)	Financial Instruments
FLAG	Fund for local authorities in Bulgaria

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Tel./Fax: 02/987 24 82; E-mail: office@bim-bg.com

Introduction

This report has been prepared by BIM Consulting Ltd. under contract № DOG - 63 / 08.04.2014: "Preparation of an ex-ante assessment and a strategy for the effective implementation of financial instruments under the Operational Program "Environment 2014-2020" financed by the Operational Program "Technical Assistance" with employer Ministry of Finance.

The ex-ante assessment of the financial instruments is crucial for implementation of the program in the new programming period. The ultimate goal of the evaluation is to justify the adequacy of the provided financial instruments (FI) for the identified market failures or suboptimal investment situations and to ensure that the FI will contribute to achieving the objectives of the Operational Program (OP) and European Structural and Investment Funds (ESIF). In this context, the ex-ante assessment can be considered as a tool for verification of adequacy of the decision to achieve specific objectives set out in OP through financial instruments. The conclusions of the ex-ante assessment will be optimally clear and based on the results of analyzes, adapted to the specific needs of the operational program.

When prepare up estimates of the financial instruments under the Operational Program "Environment 2014-2020" the Consultant follows the methodology of the European Commission for ex-ante assessment of the financial instruments during the programming period 2014-20201.

The evaluation is divided into two phases:

(1) an assessment of the market: if as a result of the evaluation of the market is established that implementation of FIs is not justified, at least not in their originally provided form it is logical not to proceed to strategy development for their implementation. In this case, Managing Authority may consider other ways to achieve the objectives without the implementation of FIs. There is an opportunity some of the objectives of the OP to change in the drafting process of the ex-ante assessment. In this case, the OP should be revised before the final decision for the implementation of FIs.

(2) a strategy for the implementation of financial instruments.

The ex-ante evaluation report prepared as of July, 2014, focuses mainly on the step (1). Market assessment by making assumptions on validity of the application of FI in implementation of Operational Program "Environment 2014 - 2020". The ex-ante evaluation report found applicability of the FI.

The present second draft report includes phase (2) of the assessment – Proposal for a strategy for the implementation of financial instruments.

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Methodological approach, methods and tools used

The methodological approach for conducting the ex-ante assessment is based on the methodology of the European Commission for the ex-ante assessment of the financial instruments during the programming period 2014-2020[1].

Article 37 (2) of Regulation 1303/2013 determining the generally applicable provisions provides for seven key groups of elements that should be included in ex-ante estimates of financial instruments as follows:

Elements of ex-ante assessment of FI under Art. 37 (2)	**Description**
Elements of ex-ante assessment of the financial instruments during the first phase of the evaluation:	
1) Analysis of market failures and suboptimal investment situations and investment needs.	Analysis of the amount of ESIF resources to be allocated for FI in order to attract other investors and cover a gap of investment or contribution to achieve the objective; FI need to contribute to the strategy and the expected results of the Operational Program (OP) by providing bridge financing to compensate the gap of return or financing gap. Identifying the fundamental causes, nature and extent of market failure and/or suboptimal investment situations through analysis of best practices, to ensure that FI are used only if there is an effect thereof.
2) Added value of financial instruments.	Verification the added value of FI. Verification of compliance with other forms of public intervention addressed to the same market failure, in order to prevent an overlap and avoid conflicting goals; Possible forms of government assistance including proportionality of the planned intervention with the identified market needs; Measures to minimize market distortions resulting from the application of FI.
3) Additional public and private resources.	Assessment of additional public and private resources that would be potentially attracted as a result of the use of FI. Co-financing to the level of the final recipient; Expected leverage effect (Under Article 140 of the Regulation on the financial rules and Art. 223 of the Implementing Rules, the leverage effect of EU funds should be equal to the amount of finance for the eligible final

[1] EC, EIB, Ex-ante assessment methodology for financial instruments in the 2014-2020 programming period, General methodology covering all thematic objectives, Volume I, Version 1.0 - March 2014

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	recipients divided by the amount of the Union contribution); If applicable, developing an assessment of the need and the level of preferential remuneration to attract matching funding from private investors.
4) Lessons learned	Analysis of lessons learned from similar or appropriate instruments used in the past; Analysis of estimates in the past; Application of the lessons learned to ensure that FI upgrade the accumulated knowledge.
Elements of ex-ante evaluation of the financial instruments in the second phase of the evaluation:	
5) Investment Strategy	Thematic and geographical coverage of FI; Certifying that according to the meaning of Art. 38 was selected the most suitable alternative for application depending on the situation in the country/region; Offer of financial products that meet adequately the needs of the market; Final recipients; If applicable, providing combination with grant funding to the greatest possible efficiency and ensuring minimum impact of the support/subsidy.
6) Expected results	Determination of the expected results and products of FI under priorities of the OP; Setting the reference and target values of the indicators for results and products based on the specific contribution of FI.
7) Assumptions allowing review of the ex-ante assessment.	Justification for the revision of ex-ante assessment; Practical and methodological procedures for updating the ex-ante assessment; Steps to adapt the implementation of FI.

The selected methodological approach, methods and instruments which are used in the evaluation process are consistent to the specifics of the subject and the type of assessment (ex ante assessment) the requirements of the Employer and EU standards.

All information and analytical activities are carried out in accordance with the requirements and standards of the methodological framework.

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The adopted methodological approach is complex and includes research (information activities) and analyzes that combine a variety of quantitative and qualitative methods. Here are considered the key elements of the methodology, grouped as follows: Review of documents Qualitative research: interviews and focus group, case studies; Quantitative research; Analytical methods.

Review of documents:

Given its scope, the evaluation includes a review of a large number of documents, program and analyzes of the state of different sectors targeted under OP Environment – water, waste and air quality.

With the help of the Employer was collected and indexed the existing documentation relating to ex-ante assessment. The administrative data used for assessment purposes included project information, monitoring reports on the implementation, etc. The source of collection of this information is the available database (statistical, technical and financial) of monitoring and implementation, supported by Ministry of Environment and Water, Ministry of Finance and Central Coordination Unit.

The results of the documentary analysis were used to identify the focus of field methods for the performance of studies, their specific scope (questionnaires and respondents) and their relative weight in the formation of the final evaluation.

Also a desk study and analysis of secondary data from electronic information sources was done.

Qualitative research included in-depth interviews and focus group.

In-depth interviews. The purpose of the interviews was to obtain additional, detailed and comprehensive information that was impossible to reach through the documentary analysis of the official sources and to verify the initial hypotheses developed by the assessor.

For the purpose of the interviews the Consultant prepared questionnaires to conduct interviews (instrument) and draw up a list of respondents with whom the interviews to be conducted. Two instruments were developed:

(1) Questionnaire for interview with financial institutions and

(2) Questionnaire for interview with OPE Managing Authority

Interviews were conducted with representatives of the MA and international and national funding and financial institutions.

A detailed list of all interviewed and a summary of the records is available in Annex № 001 to the report.

Focus groups. The purpose of the discussions in the focus group was to form opinions and expectations and to test proposals on strategy of FI usage.

A focus group was formed, which included representatives of various financial institutions (commercial banks, guarantee funds, FLAG Fund, EMEPA, and International Financial Institutions) and OPE Managing Authority. As a result of the discussion were collected information, ideas and possible solutions, best practices, and the assessment of the participants of one or another option or suggestion. The minutes of the focus group is enclosed as Annex № 002 to this report.

Quantitative studies

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Under the contract were conducted two surveys:

(1) Inquiry study of respondents municipalities, potential beneficiaries under the Operational Program Environment 2014 – 2020

(2) Inquiry study of respondents, potential beneficiaries under the Operational Program Environment 2014-2020

For the purposes of the studies were prepared two types of instruments:

Questionnaire for inquiry of potential beneficiaries - municipalities.

Questionnaire for inquiry with potential beneficiaries of the priority axes water, waste and air quality – municipalities, water and sewerage operators, commercial enterprises in the waste sector, including recycling and reuse, large retail foodstuffs chain stores, hotels, companies performing maintenance services relating to cleanliness of public places, public transport operators.

The inquiry was programmed for online filling and distributed by invitation to the addresses of respondents, providing sending reminder letters 5 days after the initial transmission to all non-responders and phone call to all those who have not responded within 7 days after the initial distribution.

(1) Inquiry survey of respondents-municipalities, potential beneficiaries under Operational Program Environment 2014 – 2020

The inquiry was addressed and sent to all municipalities in Bulgaria (264). Responses were received from 109 municipalities – 41% of all potential respondents. The inquiry was addressed to Mayors, Deputy Mayors, directors of Directorates, head of department (or experts) of the respective municipalities. From the responses received, the breakdown of respondents is as follows: 37% of the respondents are deputy mayors, 40% are Directors of Directorates, 8% Head of Department, the questionnaires have been completed by Deputy Mayors, Mayors 2% and 12% - experts. This indicates the commitment of the respondents and the importance of the topic for them. Respondents are municipalities of 26 districts in the country - there are no answers from Sofia City and Targovishte.

From the respondents: 44% are small municipalities (with population up to 20 000 inhabitants), 9% are medium size municipalities – with population between 20 000 and 50 000 inhabitants, and 7% are large municipalities – with population over 100 000 inhabitants. This distribution shows good coverage regarding the total number of the municipalities by type.

(2) Inquiry survey of respondents, potential beneficiaries under Operational Program Environment 2014 – 2020

The scope of the respondents was determined following preliminary talks with the Managing Authority of Operational Program Environment regarding the scope of OP Environment 2014-2020, and possible beneficiaries in respect of the Priority Axis Water, Waste and Air quality.

The inquiry was drafted in two parts - general information and specific questions. In the instructions to the survey was explained the purpose of the questionnaire and was provided definition of "financial instruments" (*According to Art. 130 of the Financial Regulation)*.

The inquiry was addressed and sent to 211 respondents covering different companies – with public and municipal participation as well as private companies operating in various sectors: water supply, public transport,

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Sofia 1000, 23 William Gladstone Str., fl. 1
Tel./Fax: 02/987 24 82; E-mail: office@bim-bg.com

waste disposal and waste collection, waste recycling, trade with various goods, retail chains – supermarkets, household appliances, and clothing.

The survey was addressed to 211 respondents and 15% were received back after multiple (more than 5) reminders by phone and email.

Profile of respondents:

From the Respondents that sent an answer, 36% are private commercial companies 25% are companies with municipal property, 18% - state ownership trade companies and 14% - companies with mixed ownership – public and municipal.

The analysis of the surveys is included as Appendix № 003 and 004 to this report, and the report on implementation of the survey and the questionnaires to surveys and the interviews are in Appendix № 005 and 006. The conclusions and observations are used in the analysis.

Analysis

Collected information is subject to analysis to derive answers to the questions of evaluation.

The methods of analysis, given the specifics of the evaluation are:

- **Benchmarking** (comparisons with best practices).

The method is used to assess the current situation in relation to the "best practices" and to identify the areas and ways to improve the position.

- SWOT analysis (Analysis of the strengths and weaknesses opportunities and threats).

Through the SWOT analysis were outlined the findings concerning the identified problems and challenges under different stages and processes related to the development of the individual components of the assessed document.

- **Statistical Analysis**

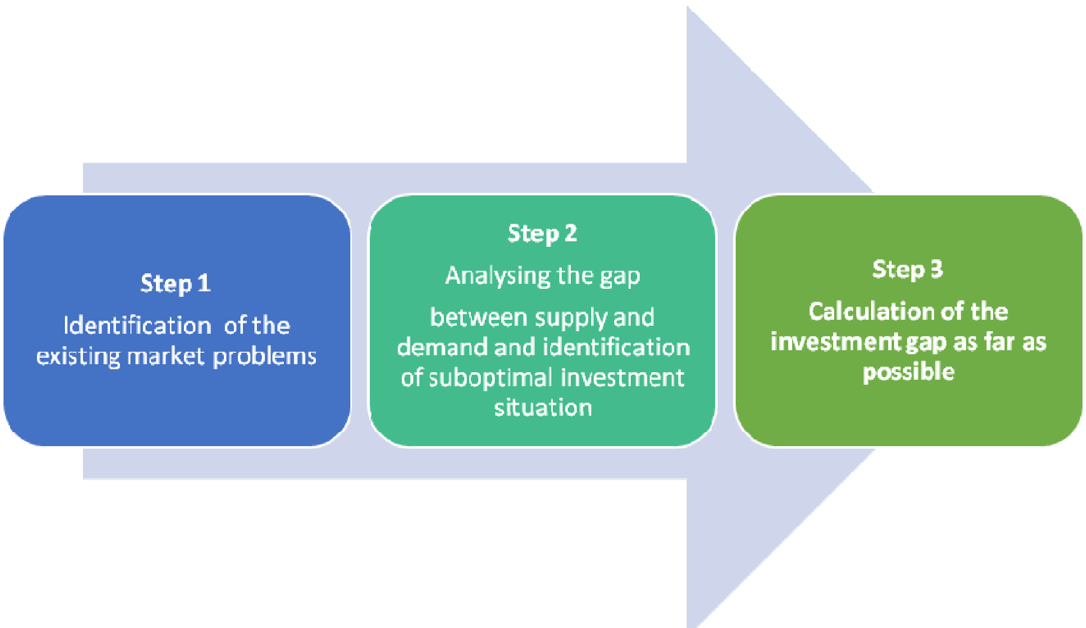
In the process of the preparation of the ex-ante assessment of the financial instruments implementation in OPE the collected data were processed and interpreted using correct statistical instruments.

- **Expert assessment**

The evaluation method based on expert conclusion was used mainly where we do not have enough information and or we are not confident in the quality or reliability of the available data.

1. Analysis of market failures and/or suboptimal investment situations

In accordance with the Methodology of ex-ante assessment of financial tools for the programming period of 2014 – 2020 the analysis of market failures and suboptimal investment situations includes the following steps:



A. Analysis of market failures (inefficiency) and/or suboptimal investment situations.

1.1.Effective management of the Water sector in the country - construction / completion / expansion / modernization / rehabilitation of Water Supply and Sewerage infrastructure

1.1.1. Main characteristics of the Water Supply and Sewerage sector in Bulgaria

According to the Strategy for Development and Management of Water Sector in the Republic of Bulgaria for the period 2014-2023[2] the water sector in Bulgaria started to reform in 1989 passing through the following stages:

- ✓ Until 1989, the Bulgarian needs of water services are provided by 28 regional utilities and water supply companies as well as a municipal water company (in Sofia). Their territorial scope coincides with the division of the country into 28 administrative regions. All water companies are 100% owned with by the state with the exception the one in Sofia which is owned by the municipality.

[2] Approved by the Decision of the Council of Ministers No 269 of 07.05.2014

- ✓ In the course of general economic restructuring and decentralization in the 90s of the lastcentury some water supply and sewerage companies have been separated and reorganized in companies with joint participation of the state and the municipalities where the state transferred 49% of the share capital to the municipalities served by these companies . During this period greatly increases the number of water companies. Some of the companies remained 100% state-owned, while the ownership of the other (usually smaller ones providing services to one municipality) were fully transferred to the municipality they serve. As a result discrepancies have arisen between the ownership of regional reservoirs and water supply infrastructure which were yet to be resolved.

- ✓ In 1999 a concessios contract for Sofyska Voda was awarded to United Utilities to improve water and sewerage services in Sofia. Since 2010 the concession is jointly owned by Veolia Water - 77.1% and Sofia Municipality - 22.9%. Thee water supply and sewerage infrastructure fixed assets are public municipal property.

- ✓ Currently 66 companies provide water supply and sewerage services to consumers on a territorial basis which explains the monopoly of the operators in water services sector..

- ✓ A total of 65 companies have submitted business plans for the period 2009 - 2013

Figure 1: Territorial distribution of water supply operators

Western Central Eastern

Legend: borderline of the lots
borderline of WSS
WSS company with municipal participation

Water sector in Bulgaria is characterized by complexity and uncertainty of asset ownership and management. Changes in the Water Act concerning the water sector (effective September 24, 2009) aim to solve exactly these problems. They regulate the transfer of management rights from central and local government authorities to the Water Supply and Sewerage Associations (BAWK).These associations are responsible for awarding contracts for public, public-private or private water operators under the Water Act and the Concessions Act. The first step to implement this commitment is long-term inventory of assets currently operated by the existing water companies.Problems in the Water Act related to the accounting operations on write-off public water assets from the accounting balance of water companies currently still prevent from transferring the water supply and sewerage systems and facilities. In September 2013 amendments to the Water Act were submitted for approval to the National Assembly. In connection with the adopted by the 42 National Assembly of the Republic of Bulgaria Act on amendments and supplements of the Water Act (PIS of WA) (publ.in the State Gazette Issue 103 of 11.29.2013), according to the "roadmap" elaborated by the Ministry of Regional Development currently the activities and the ensuing procedures in § 9 of the transitional and final provisions of the Act on amendments and supplements of the Water Act (TFP to PIS of WA) are still performed which are associated with the reform of the water sector, including extension of the current regulatory period under Art. 10, para. 1 of the Act on regulation of water supply and sewerage up to December 31, 2015 and the start of the next regulatory period from January 1, 2016.

The Strategy for Development and Management of Water Sector in the Republic of Bulgaria for the period 2014-2023 defines strategic objectives and priorities of the WSS sector in Bulgaria, namely:

- ✓ WSS sector has to meet national / European standards;
- ✓ WWS industry must be environmentally friendly and financially and technically sustainable;
- ✓ The prices of water and sewerage services are to be socially acceptable to consumers;
- ✓ Service quality and efficiency of water operators are to be comparable to the best European practices.

The water sector in Bulgaria is regulated by the regulator, established in accordance with the Law on regulation of water and sewerage services in 2005. The regulator entered into force shortly after starting the first period of business plans in 2007. On April 4, 2014, an Agreement between the MRD and the World Bank was signed to provide consultancy support in strengthening the functions and capacity building of SEWRC and achieve optimization of costs aiming at compliance with Directive 91/271 / EEC on urban wastewater. The measures include technical assistance to the regulator (in the part regulating WSS sector), supporting amendments to the regulatory framework with a view to its harmonization and completion of the reform in the WSS sector, proposals for organizational change and strengthening the capacity of the Commission to implement its mandate.

State Energy and Water Regulatory Commission (SEWRC) is a technical and economic regulator of water and sewerage services in Bulgaria. Prices for WSS services are regulated by the SEWRC in accordance with Art. 6 of the regulation of water and sewerage services (promulgated in the State Gazette Issue 18 of 25/02/2005, last amended in the State Gazette Issue 103 29/11/2013) stating that that the Commission shall be guided in its activities by the principle of assuring conditions to provide of universal access and affordability of water and sewerage services. Under § 1. (1), p. 4 of the Supplementary Provisions of the affordability of the cost of water services is available when the value calculated on the basis of the minimum monthly water consumption for drinking and household needs at 2.8 m3 per person does not exceed 4 per cent of the average monthly household income in the region.

Prices for WSS services are regulated by the SEWRC according to the Ordinance on price regulation for water supply and sewerage services (promulgated in the Gazette, Issue 32 of April 18, 2006).TheOrdinance specifies the methods for regulating of water services, rules for pricing or modification of prices, procedures for providing information, submitting procing proposals and approval of prices and their structure. The Commission applies the following basic methods of price regulation:

1) "Rate of return" ("cost-plus"), where the Commission sets prices and monitors actual values of the water operator revenues and their components; regulatory period is not less than one year;

2) Incentive regulation where the regulatory period is 3 to 5 years:

- ✓ "Price cap" where the Commission sets prices for water operator for the first year of the regulatory period and amends them at the end of each year by an inflation index decreased by efficiency improvement factor of the water operator.
- ✓ "Revenue cap" where the Commission approves the revenue of the water operator for the first year of the regulatory period and amends them at the end of each year by an inflation indexdecreased by efficiency improvement factor of the water operator and by differences between the estimated and actually required revenues resulting from the difference between the estimated and actual indicators of changes in the quantities of delivered, drained and / or purified water and the number of users for previous price periods.

The method of water services pricing in the country determines the low elasticity of demand[3], and hence the commercial losses of water operators from the reduced collection of fees for services that have a significant impact on the ability of water companies to generate sufficient revenues to perform investments and reinvestments in the sector.

In order to plan investments in the WSS sector 51 regional master plans for WSS systemshave been developed. They provide an assessment of the systems status and equipment, plan and prioritize investments in the industry for over 25 years. Short, medium and long-term investment programs have been elaborated with regard to these plans.

1.1.2. Identification of existing market problems in the water sector in Bulgaria

With regard to the regulation of the water sector there is a number of challenges that must be taken urgently. Such challenges relate to the need for:

- ✓ improvementof the overall management inthe sector and minimizationof the artificial monopoly[4]effects;
- ✓ optimization of ownership of water systems and facilities and operational roles;

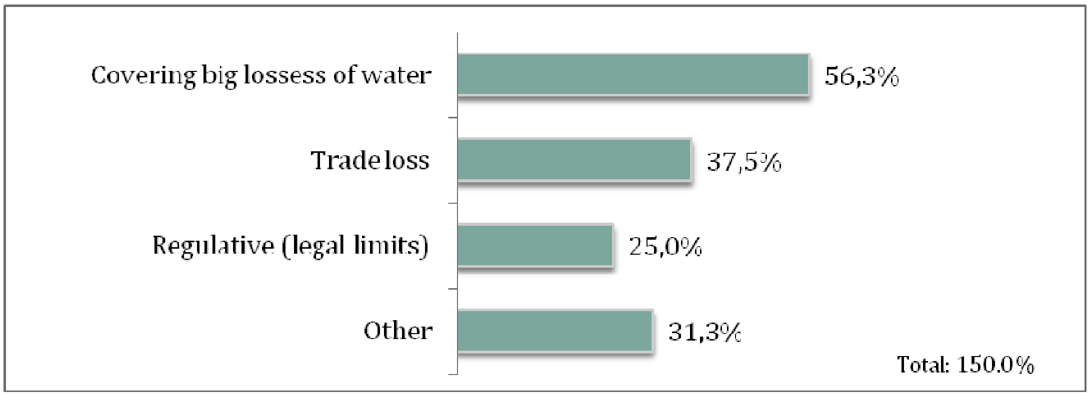
[3] Elasticity of demand is the dependence of the amount of production in demand on the factors of income and prices. Demand is called elastic when small changes in the price of a good or consumer's income are expressed as large changes in the demand for this product.

[4]Artificial (institutional) monopoly exists when there are regulatory restrictions for entrance of many companies in an industry (activity). The legal protection of patents, copyrights, licensing, concession for the use of natural resources put businesses in privileged position in relation to the market.

- better balance between the legal regulating requirements and the capacity and resources of the regulator;and
- improvementof the effectiveness of price regulation of water and sewerage services to meet both performance and funding targets, including through better correspondencebetweenthe master plans, business plans and levels of services.

The described needs are confirmed by the results of the survey carried aout within the framework of the present analysis among potential beneficiaries in the sector. 16 water companies participatedinthesurveyinresponsetothe question **"What are the reasons that restrict you to allocate more resources for investment?"**gave the following answers:

Figure 2: Reasons to reduce investment in the water sector



Problems in the WSS sector related to the delivery and quality of services can be briefly summarized as follows[5]:

- Physically and technologically outdated infrastructure, network losses average 60% (unaccounted water), 57% from the water supply (40 thousand km.) and 20% of the sewerage network that need;
- ~ 300-100 thousand of the population are on the water regime;
- About 36% of the population have no sewerage network;
- Drinking water and wastewater for 50% of the population is not purified - 282 agglomerations require wastewater purification;
- Need for large investments with slow return;
- Fragmentation of the sector into many small WSS companies combined with lack of resources and limited autonomy;
- Low level of the water cost affordability of in households, incl. due to the low cultural of using water resources;
- Shortage of reliable information in the water companies and low public awareness regarding the magnitude of the services costs;
- Fiscal constraints - on the revenue base, on loans;
- Insufficient coordination between institutions and strong political interference;
- Inefficient judicial system.

[5]Presentation "Introduction to the economics of the water sector" under project №DIR-5111328-1-170 "Support of the reform in the WSS sector"

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Another problem in the sector is the efficiency of water operators which is below the EU average[6].In Bulgarian water companies is a tendency to maintain a considerable number of staff.Measured by the number of employees in 1000 deviations, staff of Bulgarian water operators is 4 to 5 times more numerous than in other EU countries.This is partly due to inefficiency, partly to the fact that Bulgarian water companies rely on their own machinery and personnel for almost all their needs (usually they even have a fleet of heavy machinery). Annual water losses and accidents on the water supply network in Bulgaria are higher than in most European countries.

Table 1: Effectiveness of WSS operators

Effectiveness of WSS operators	**Bulgaria**	Rumania	**Czech Republic**	**Lithuania**	**Germany**	**France**
Number of staff per 1000 deviations	7.7	1.9	0.6	0.8	2.5	2.4
Water losses	60%	49%	47%	24	7%	26%
Accidents on the water supply network - accidents /km /year	1.5	1.9	0.7	1.1	0.01	0.1
Prices of water and sewerage services in euro / cu.	0.94	0.85	1.75	1.	3.95	3.40

Source: Bulgaria: Performance of staff and average prices: data from water operators to the SEWRC; NSI (2013a) http://www.nsi.bg/ORPDOCS/Ecology_9.2.xls; analysis carried out by the World Bank for the purposes of the Strategy

Large number of water companies in Bulgaria fail to cover their operating costs. In 2011 many operators achieved efficiency levels of income (the ratio between operating expenses and operating income) over 1.00 and a very small number of companies have efficiency ratio below 0.90 that allowed them to use their own funds for capital investment which can be seen from the table below:

Table 2: Efficiency ratio of revenue of WSS companies

Efficiency ratio of revenue	**2007**	**2008**	**2009**
Small water companies (17)	1,0478	0,9742	0,9361
Medium water companies (15)	0,8820	0,8986	0,8908
Big water companies (13)	0,8974	0,8871	0,8761
Very big water companies (11)	0,8779	0,8213	0,8202
Total water companies (56)	0,8862	0,8480	0,8406

Source:Analysis of the companies providing services in the water sector - http://www.moew.government.bg/?show=top&cid=569

Hence, it can be concluded that the principle of cost recovery should be fully integrated into the requirements for calculating the final cost of water paid by the consumer, including the value of the water resource, environmental costs and operating infrastructure costs.The "polluter pays" principle should also be considered in determining the fees for discharge of wastewater from settlements, which should be defined in a way that encourages the development of facilities for waste water purification in agglomerations.This conclusion is confirmed by the results of a survey among 16 water operators that answered the question **"Do you think that price liberalization in the water sector will contribute to increasing investment?"** as follows:

[6]Source: Strategy for Development and Management of Water Sector in the Republic of Bulgaria for the period 2014-2023

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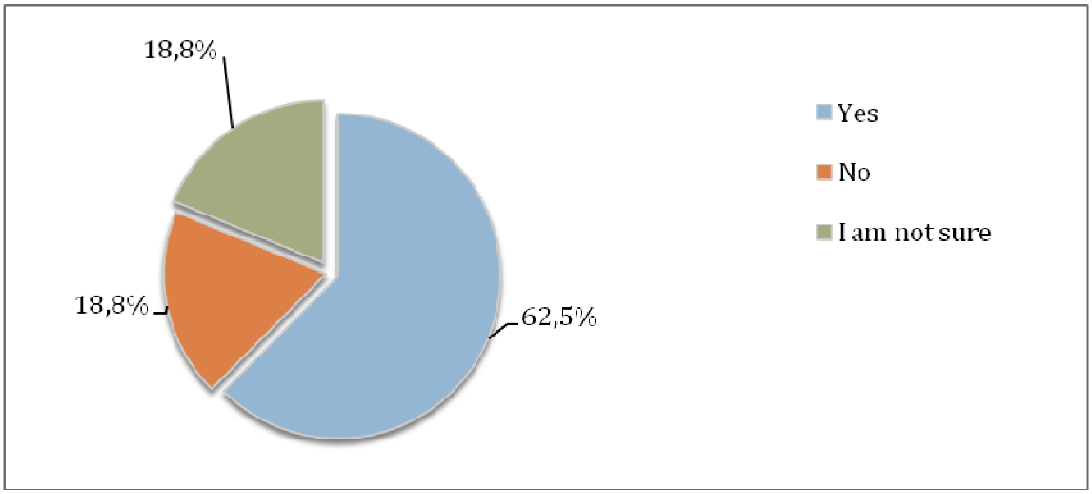
Figure 3: Will the price liberalization in the water sector lead to an increase of investment?



Failure to implement investment programmes of the approved business plans is also due to the fact that the investment intentions of the principals often do not match to their priorities and opportunities which in turn burden the operators with contingency of costs and events.

Table 3: Implementation of planned investment by water companies[7]

	2007*	2008*	2009**
Planned investments (thousands BGN)	166 164	250 293	522 939
Implemented investments(thousands BGN)	45 782	44 080	98 316
Implemented/ planned investments	27,6%	17,6%	18,8%

*Note: *data for 52 companies; **data for 50 companies*

Investments in WSS companies can be funded primarily from two sources: 1) own funds from depreciation of earnings and borrowings;and 2) targeted funds provided under programs financed by EU or through funds of the MRD.Investments in the water sector are made for major repairs and reconstruction of existing water supply, sewerage and purifying facilities. The main reason is that it is not yet solved the problem of the ownership of water systems and facilities which are to be transferred to municipalities or the state, while the water companies are to act as operators who use and maintain them.This is the main reason why water companies that have at their disposal and/or have access to resources, do not to finance their investment intentions. None of the companies has ignored their investment intents at the expense of dividend distribution or allocation of reserves, especially of the reserve fund, which is commonly used for that particular purpose.

According to the methodology for estimating the financial instruments, the reasons for market failures can be different.The definition of market failures in the water sector is based on Volume 1 General Methodology covering all thematic objectives, Volume 4 Methodology related to the sectors

[7] Source: Analysis of the companies providing water services - http://www.moew.government.bg/?show=top&cid=569

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relevant to TC 4 Moving to a low carbon economy and Volume 5 Financial instruments for urban and territorial development as follows:

> The weak financial viability and lack of efficiency impede water companies to finance and implement large-scale programmes for capital investments that are necessary to achieve compliance requirements and the necessary long-term levels of service.

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Market failure	Definition	Justification	Result
		Structural failures of the economy	
Negative externalities	Negative externalities is the price that is borne by a third party as a result of an economic transaction. The external effect is due to the fact that participants in the transaction do not associate all related costs. The presence of a negative external factor means that the private sector /participant /user is not particularly interested in investing in order to reduce the negative effect because it does not borne the full cost. This means that there is a market failure and there is public support.	✓ WSS companies are not willing to investat the expense of dividend distribution or allocation of reserves that causes failure to implement their investment programmes ✓ There is no obligation for end users of water services to join the sewerage network, which means that they are not always interested in investing in measures to reduce pollution caused by wastewater	✓ Physically and technologically outdated infrastructure, network losses average 60% (unaccounted water), 57% from the water supply (40 thousand km.) and 20% of the sewerage network that needreplacement ✓ ~ 300-100 thousand of the population are on the water regime ✓ About 36% of the population have no sewerage network ✓ Drinking water and wastewater for 50% of the population is not purified - 282 agglomerations require wastewater purification
Public services	These services are not conflicting and are not competitive. Even if someone does not contribute to the production of a public good, the cost of limiting the right to benefit from the service	✓ According to Art. 2a, para 1, item 2 of the Water Act, determination of the right of every citizen for access to water for drinking and household purposes as basic	✓ Artificial monopoly in the market of WSS services

Market failure	Definition	Justification	Result
	are prohibited.	necessity of life is a priority of the policy pursued by the state and by the local authorities ✓ In pursuance of the Water Act, the WSS services in the country are provided by 66 operators on a territorial basis	
Unsuccessful market regulation	Arises when political decisions do not account for the fact that the market alone can correct some of its failures. In such cases, control measures create inefficiencies	✓ Tariffs for water services are regulated by the SEWRC through the following basic methods of price regulation: ▪ Rate of return on capital ▪ Incentive regulation, including price cap and revenue cap	✓ Low level of the water cost affordability of in households, incl. due to the low cultural of using water resources ✓ Inefficient water companies with high operating costs and low collection invoiced accounts - about 75% (in the EU is above 95%) ✓ Insufficient coordination between institutions and strong political interference
Incomplete property rights or difficulties in their transfer	Refers to a situation in which it is difficult to establish or transfer ownership rights upon resource or product/service	✓ The change procedure in ownership of the WSS infrastructure is not yet completed	✓ Assets ownership and the implementation framework are not allowed, which in turn determines the absence of clear rules according which an

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Market failure	Definition	Justification	Result
			investment programwill be implemented
	Failures on the demand side		
Information asymmetry	Occurs when the two parties which want to enter into contractual relations have different levels of awareness that affects their ability to make decisions	✓ Shortage of reliable information inside the water companies and low public awareness of the magnitude of the costs of providing services	✓ Low fee collection rates for water services ✓ Ineffective planning of investments
Various incentives	Occurs when the two parties which want to enter into contractual relations have a different purpose and incentives that affect their ability to make decisions	✓ Implementation of projects in the WSS sector are related to additional investment and operating costs that leads to increased prices of water and sewerage services which end users are reluctant or feel difficult to agree to take	✓ Decline in fees collection rates which reflects upon the financial condition of the WSS operators and their ability to repay the initial investment and subsequent reinvestments as well as to maintain an appropriate quality of service
Insufficient investment projects	This means that even if there is access to financing, the supply side can remain passive rather than active	✓ Despite the availability of ready projects that can be started in the new programming period, their number is not sufficient to cover the available financial resources, not to say for the entire volume of investment required to achieve the objectives in the sector. This is	✓ Lack of incentives for preparation and for investment projects and the realization of investments in the sector

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Market failure	Definition	Justification	Result
		mainly due to the fact that until now only municipalities were responsible for the preparation of the projects and relevant ministries (MOEW and MRDW, currently MRD) that do not have sufficient financial resources for investment projects.	
	Failures on the supply side		
Limited access to appropriate financing	Many investments require a mix of public (grant) and private funding, as they have large initial (investment) costs and long payback period / redemption of investment	✓ Projects in the WSS sector as a whole are of significant value. Most investments are paid very slowly, and some of them practically no return. At the same time the available grant funding is insufficient to cover the investment needs. This causes the need to provide joint financing through the grant and own contribution. At present, with the absence of appropriate financial instruments, the possibilities of providing own contribution are limited	✓ Lack of an adequate portfolio of financial resources
Lack of capacity or lack of experience in managing project financing	Lack of capacity/experience in project financing presupposes low or insufficient investment success and increased risk for project	✓ Although over the past programming period municipalities gained some capacity to implement projects, in general problems in the management	✓ Low interest of financial institutions to offer adequate forms of financial instruments due to the high risk of project success

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Market failure	Definition	Justification	Result
	implementation	of investment intentions are significant. ✓ Insufficient participation in the projects implementation of operators which collect revenue from WSS that implies a lack of capacity within their structures.	

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The combination of the above reasons for the identified market failures leads to two main market gaps of water and sewerage services, namely:

- ✓ **Financial -** there is a need for significant financial resource which can not be satisfied by market supply in the financial sector.
- ✓ **Viable -** projects in the sector demonstrate a return below the market level.

1.1.3. Analysis of supply and demand for water services

Analysis of demand for WSS services in the country is largely determined by the requirements of EU legislation in the field of water sector, including:

- ✓ Accordance with Directive 98 / 83EO for water quality intended for human consumption
- ✓ Accordance with Directive 91/271 / EC for purification of urban wastewater, as amended;
- ✓ Accordance with Directive 2000/60 / EC for establishing a framework for Community action in the field of water policy.

To comply with these directives it is necessary to address the significant needs for investment in water infrastructure which are enshrined in the OP "Environment 2014 - 2020," namely:

- ✓ Priority investments in the WSS infrastructure in agglomerations with over 10 000 PE. g. and completing systems for water monitoring in relation to compliance with the requirements of EU legislation in the field of environment and efficient use of water and objectives of the Plan for the protection of water resources in Europe by 2020 (Blueprint).
- ✓ Measures for construction/rehabilitation/reconstruction of facilities for treatment of sewage sludge from wastewater treatment plants and delivery of necessary equipment, incl. to already constructed WWTP

For wastewater treatment in Bulgaria there must be ensured collection, disposal and treatment of waste water in 364 agglomerations. Of these, 256 agglomerations are between 2,000 and 10,000 PE, while 108 are over 10,000 PE.Additional construction of the sewerage network is needed in total 351 agglomerations.

After the accession of Bulgaria to the European Union the need for application of the Directives requires large investments in infrastructure. According to estimations of the Bulgarian government in order to meet the requirements of the Directive for purification of urban waste water 2.1 billion EUR are needed. By the World Bank estimations (2005) 3 billion EUR are required, while DG "Environment" (EC 2010) estimates the need at 5.1 billion EUR[8].

Investments in the water supply are also below the level necessary to maintain the quality and continuity of WSS services in the long term. According to the assessment made in 2005 by the World Bank costs necessary for the construction of the new water supply network and rehabilitation and replacement of the existing network amount to 3.969 billion EUR for a period of more than ten years, or an average of about 800 million BGN per year..

Although the programming period 2007 - 2013 construction of the necessary infrastructure in the

[8]Analysis of the companies providing water services - http://www.moew.government.bg/?show=top&cid=569

water sector started, Bulgaria still faces a huge challenge to meet the statutory requirements for water supply and sewerage. Based on short-term investment programmes (2014 - 2020) with regard to the regional master plans the following calculations were made to determine the necessary financial resources that should be invested in the sector:

Table 4: Short-term investments required the water sector

WSS lot area	Water supply	Sewerage
Isperih	26 270 700 €	68 849 300 €
Kubrat	5 080 600 €	149 600 €
Plovdiv	106 698 900 €	846 101 800 €
Razgrad	24 895 200 €	78 382 600 €
Ruse	148 898 300 €	311 305 200 €
Silistra	64 991 500 €	69 087 800 €
Dupnitsa	23 479 887 €	33 773 385 €
Batak	5 976 800 €	24 076 600 €
Belovo	6 976 700 €	9 447 000 €
Bratsigovo	3 059 385 €	9 302 400 €
Panagiurishte	11 104 500 €	128 500 €
Pazardzhik	115 134 200 €	237 644 900 €
Peshtera	357 797 €	158 000 €
Rakitovo	3 607 200 €	22 407 200 €
Strelcha	6 571 000 €	10 088 600 €
Velingrad	18 007 800 €	47 773 900 €
Dimitrovgrad	21 573 200 €	50 501 600 €
Gabrovo	105 973 900 €	22 150 100 €
Knezha	2 293 836 €	25 169 769 €
Kresna	6 505 405 €	7 511 508 €
Lovech	54 999 974 €	133 013 905 €
Burgas	243 144 851 €	340 495 795 €
Dobrich	96 675 157 €	178 829 643 €
Shument	261 969 309 €	130 349 265 €
Targovishte	129 663 009 €	29 505 156 €
Sliven	173 971 929 €	79 566 116 €
Yambol	81 676 779 €	51 835 940 €
Stara Zagora	99 533 147 €	36 723 720 €
Varna	167 601 479 €	164 840 502 €
Mikrevo	2 393 869 €	5 904 927 €
Berkovitsa	6 202 042 €	19 461 005 €
Botevgrad	10 739 766 €	29 652 171 €
Haskovo	85 455 000 €	359 956 800 €
Kardzhali	53 794 300 €	50 884 300 €
Pernik	26 881 795 €	91 874 715 €

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Petrich	9 872 160 €	33 953 785 €
Smolian	60 187 300 €	92 222 800 €
Stanbolovo	2 012 900 €	221 400 €
Troyan	14 602 905 €	26 409 898 €
Vratsa	7 379 199 €	284 042 610 €
Veliko Tarnovo	99 380 600 €	180 729 600 €
Sandanski	4 515 525 €	32 224 387 €
Sofia	124 682 636 €	202 676 176 €
Svishtov	4 311 900 €	14 940 700 €
Kiustendil	28 348 435 €	91 469 623 €
Blagoevrad	48 543 027 €	201 357 585 €
Montana	56 196 308 €	97 292 350 €
Pleven	43 449 269 €	259 904 772 €
Spareva bania	8 455 062 €	8 060 590 €
Vidin	26 965 729 €	100 277 827 €
Total	**2 741 062 171 €**	**5 202 687 825 €**

According to the Strategy for Development and Management of Water Sector in the Republic of Bulgaria in the short and long term, the necessary costs to bring the sector in line with the legal requirements are estimated at 7.5 billion BGN of which 7.1 billion BGN are for compliance with the disposal and treatment of wastewater. Urgent investment needs for rehabilitation and replacement in the area of water supply is estimated at 5.0 billion BGN, of which a small part (0.4 billion. Lev) are for compliance in the water supply. These figures do not differ significantly from the projected medium-term investment programmes for regional master plans, and in both cases the necessary financial resources are between 7.5 and 8 billion EUR.

The analysis of supply in the water services in the country and in particular their largely depends on the funding available for investment in infrastructure.During the previous programming period Operational Programme "Environment 2007-2013" is the maintool for the construction of infrastructure to reduce pollution of water bodies from untreated municipal wastewater and improve the quality of drinking water. Under OPE 2007-2013 the foreseen funds for this sector amount to a little more than 1.2 billion EUR. They aim at building WSS infrastructure in accordance with the requirements of Directive 91/271 / EEC and 98/83 / EC.

The actual implementation of the measures under Priority Axis 1 of the programme began in 2010 after an analysis of the announced procedures up to 2009, submitted proposals and subsequent prioritization of agglomerations which should be financed by OPE to comply with the obligations under Directive 9 /271/EEC and sound financial management of the OPE. As a result of the delayed start of the priority axis, the financial resources under Priority Axis 1 have been renegotiated and increased. Currently the following projects are eithercompleted or in the process of implementation:

Table 5: Procedure: BG161PO005-1.0.02 Improvement and development of infrastructure for drinking water and wastewater

Beneficiary	Total value(BGN)	Actuallypaid (BGN)	Duration (months)	Status

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Municipality of Blagoebgrad	21 258 510,56	11 385 291,14	39,10	Suspended
Municipality of Troyan	8 057 097,42	5 087 231,59	36,00	Suspended
Municipality of Pernik	25 616 977,48	25 882 671,38	40,00	Completed
Municipality of Kavarna	7 052 115,36	7 041 322,72	44,10	Completed
Municipality of Glavinitsa	7 647 617,15	7 631 488,86	37,37	Completed
Municipality of Sopot	16 457 194,55	14 158 081,75	72,03	In process of implementation
Municipality of Varshets	4 939 920,84	4 939 920,84	61,00	Completed
Municipality of Primorsko	18 795 925,58	17 036 972,32	28,00	Completed
Municipality of Gorna Oriahovitsa	12 705 988,41	7 385 320,02	76,00	In process of implementation
Municipality of Veliko Tarnovo	44 734 372,51	29 142 766,44	66,93	In process of implementation
Municipality of Straldhza	2 837 838,00	216 315,50	24,00	Suspended
Municipality of Hisaria	15 616 997,96	14 701 970,13	47,00	Completed
Municipality of Burgas	5 553 418,53	5 276 173,17	40,00	Completed
Municipality of Tundzha	23 187 888,47	9 034 500,34	72,00	In process of implementation
Municipality of Burgas	14 660 020,23	9 824 349,02	62,23	In process of implementation
Municipality of Beloslav	17 286 921,50	16 901 772,09	28,00	In process of implementation
Municipality of Valchi Dol	8 494 204,58	8 072 873,85	32,00	Completed
Municipality of Loznitsa	15 872 827,53	14 927 188,93	70,00	Suspended
Municipality of Yablanitsa	8 965 257,36	6 927 419,19	75,07	In process of implementation
Municipality of Targovishte	17 500 550,29	4 433 728,51	71,00	In process of implementation
Municipality of the capital	8 427 778,88	8 324 769,37	55,00	Completed
Municipality of Ruen	28 651 184,08	28 573 303,82	62,33	Completed
Municipality of Popovo	7 966 036,39	7 117 651,97	47,00	Completed
Municipality of Kaolinovo	22 585 846,68	0,00	40,00	Suspended
Municipality ofKazanlak	5 980 166,40	4 020 133,99	29,63	In process of implementation
Municipality of Vratsa	136 344 211,03	39 690 997,82	71,00	In process of implementation

Municipality of Gabrovo	123 539 184,42	53 223 284,65	65,00	In process of implementation
TOTAL	**630 736 052,19**	**360 957 499,41**		

Source: MIS

Table 6:Procedure: BG161PO005-1.0.06 Improvement and development of infrastructure for water and waste water in agglomerations above 10 000 PE

Beneficiary	Total value(BGN)	Actuallypaid (BGN)	Duration (months)	Status
Municipality of Triavna	13 141 649,47	2 654 576,67	37,00	In process of implementation
Municipality of Tervel	17 667 001,59	5 324 633,88	38,00	In process of implementation
Municipality of Kozloduj	21 892 101,78	11 992 320,71	45,00	In process of implementation
Municipality of Sredets	9 887 514,94	5 069 016,11	34,00	In process of implementation
Municipality of Peshtera	28 715 233,43	11 689 824,94	38,00	In process of implementation
Municipality of the capital	5 582 663,75	2 075 559,48	31,00	In process of implementation
Municipality of Pridop	42 984 245,33	34 021 473,39	30,00	In process of implementation
Municipality of Burgas	10 845 887,80	5 238 386,46	40,00	In process of implementation
Municipality of Krichim	33 852 989,90	15 810 248,03	33,00	In process of implementation
Municipality of Rakovski	58 894 977,41	32 057 906,59	36,00	In process of implementation
Municipality of Hisaria	31 561 047,34	24 743 266,11	32,00	In process of implementation
Municipality of Provadia	13 984 258,35	15 769 152,49	26,00	In process of implementation
Municipality of Knezha	32 940 428,16	16 960 680,36	33,00	In process of implementation
Municipality of Varna	41 557 184,98	8 204 914,61	37,00	In process of implementation
Municipality of Lovech	8 125 543,24	3 998 011,25	37,53	In process of implementation
Municipality of Stara Zagora	40 399 581,97	9 451 191,24	30,00	In process of implementation
Municipality of Burgas	30 897 506,35	7 338 767,42	41,00	In process of implementation
Municipality of Isperih	49 768 510,12	9 638 169,67	31,00	In process of implementation
Municipality of Biala	13 136 834,50	3 740 925,65	34,00	In process of implementation
Municipality of Biala Slatina	22 749 879,78	17 516 233,20	33,00	In process of implementation
Municipality of Blagoevgrad	7 233 900,52	1 390 721,85	24,00	In process of implementation
Municipality of Veliki Preslav	11 296 141,59	3 856 150,39	27,00	In process of implementation

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Municipality of Svishtov	30 138 347,50	11 502 224,60	37,00	In process of implementation
Municipality of Novi Pazar	36 747 604,39	7 125 360,49	29,00	In process of implementation
Municipality of Cherven Briag	24 213 390,26	4 663 591,32	33,00	In process of implementation
Municipality of Bansko	89 286 639,26	20 970 548,75	37,00	In process of implementation
Municipality of Sopot	35 280 094,80	0,00	35,20	In process of implementation
Municipality of the Capital	61 055 777,91	11 550 532,07	30,00	In process of implementation
Municipality of the Capital	4 711 948,13	862 946,18	27,00	In process of implementation
Municipality of the Capital	28 403 317,41	5 510 243,58	24,00	Suspended
Municipality of Etropole	22 217 659,20	15 943 526,25	28,00	In process of implementation
Municipality of Kazanlak	22 867 404,17	6 665 631,72	40,00	In process of implementation
Municipality of Sozopol	77 291 892,35	23 064 412,87	36,00	In process of implementation
Municipality of Nesebar	95 842 113,85	36 152 319,31	30,00	В процес на изпълнение
Municipality of Aksakovo	13 482 600,20	5 317 255,38	30,00	In process of implementation
Municipality of Botevgrad	20 116 016,16	8 274 925,88	32,00	In process of implementation
Municipality of Stambolijski	41 070 510,79	11 762 031,71	29,00	In process of implementation
Municipality of Mezdra	20 317 528,14	6 706 972,06	31,00	In process of implementation
Municipality of Karlovo	15 191 337,99	731 083,14	20,00	Suspended
Municipality of Yambol	93 092 225,34	21 800 301,33	31,00	In process of implementation
Municipality of Biala	40 396 596,98	1 957 093,46	36,00	In process of implementation
Municipality of Kubrat	44 218 715,47	16 941 149,39	34,00	In process of implementation
Municipality of Kostinbrod	97 405 411,01	56 570 253,60	37,00	In process of implementation
Municipality of Montana	54 544 237,52	23 461 024,04	29,00	In process of implementation
Municipality of Panagiurishte	58 800 943,39	21 229 752,14	30,00	In process of implementation
Municipality of Shumen	75 712 867,35	14 485 199,74	33,00	In process of implementation
Municipality of Sliven	63 524 520,32	23 420 362,44	28,00	In process of implementation
Municipality of Lukovit	33 666 131,62	6 529 007,29	36,00	In process of implementation
Municipality of Momchilgrad	25 610 370,81	13 368 293,42	32,00	In process of implementation

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Municipality of Petrich	24 611 295,04	1 158 508,70	24,00	Suspended
Municipality of Dimitrovgrad	13 274 503,93	5 156 150,46	28,00	In process of implementation
Municipality of Silistra	72 552 548,50	14 434 904,41	27,00	In process of implementation
Municipality of Vidin	75 021 684,29	21 415 731,04	27,00	In process of implementation
Municipality of Septemvri	9 018 280,51	1 688 222,11	36,00	In process of implementation
Municipality of Pomorie	96 686 234,48	18 636 597,04	32,00	In process of implementation
Municipality of Svilengrad	48 004 785,34	13 967 299,37	30,00	In process of implementation
Municipality of Radnevo	38 949 684,44	6 799 304,11	30,00	In process of implementation
Municipality of Belene	42 392 916,17	264 680,00	32,00	In process of implementation
Municipality of Parvomai	36 007 563,02	15 987 148,35	33,00	In process of implementation
Municipality of Troyan	29 486 104,51	5 597 366,20	26,00	In process of implementation
Municipality of Sevlievo	18 890 193,03	6 434 397,00	24,00	In process of implementation
Municipality of Pavlikeni	30 222 879,95	11 983 568,17	33,00	In process of implementation
Municipality of Kardzhali	72 069 182,65	24 254 455,21	30,00	In process of implementation
TOTAL	**2 379 509 140,48**	**772 886 504,83**		

Source: MIS

Within the past programming period a significant group of good quality projects has been identified that meet both the legal requirements and the principles of sound financial management which can actually continue or start the implementation process in the 2014-2020 period. These projects have been prepared within the procedure BG161PO005-1.0.07 Preparation and implementation of projects for the improvement and development of infrastructure for drinking water and wastewater in agglomerations over 10 000 of PE

Table 7: Procedure BG161PO005-1.0.07 Preparation and implementation of projects for the improvement and development of infrastructure for water and wastewater in agglomerations over 10 000 of PE:

Beneficiary	Total value(BGN)	Actuallypaid (BGN)	Duration (months)	Status
Municipality of Razlog	8 200 667,09	77 033,40	46,00	Suspended
Municipality of Chirpan	42 070 028,68	640 809,44	46,00	Suspended
Municipality of Drianovo	24 592 609,10	339 573,72	41,00	Suspended
Municipality of Aitos	31 017 340,00	151 240,00	42,30	Suspended
Municipality of Levski	43 661 062,22	533 079,04	46,37	Suspended
Municipality of	79 844 040,00	464 299,40	57,37	Suspended

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Radomir				
Municipality of Popovo	28 537 437,45	241 592,59	40,00	Suspended
Municipality of Elin Pelin	40 642 709,36	297 566,08	51,00	Suspended
Municipality of Smolian	41 195 567,46	1 149 556,49	48,00	Suspended
Municipality of Pazardzhik	49 822 725,34	601 683,06	48,00	Suspended
Municipality of Razgrad	35 031 308,05	153 216,60	44,00	Suspended
Municipality of Burgas	19 132 711,00	148 557,60	33,00	Suspended
Municipality of Tutrakan	19 960 312,62	523 727,52	40,00	Suspended
Municipality of Ihtiman	28 645 461,44	555 583,81	44,00	Suspended
Municipality of Balchik	32 445 369,75	170 475,90	36,00	Suspended
Municipality of Varna	48 056 411,96	353 962,79	44,87	In process of implementation
Municipality of Burgas	23 313 852,25	158 192,40	36,00	Suspended
Municipality of Balchik	18 884 558,48	273 101,70	27,07	Suspended
Municipality of Kavarna	19 278 754,68	309 637,01	41,80	Suspended
Municipality of Kiustendil	87 807 247,20	684 926,08	40,00	Suspended
Municipality of Primorsko	42 419 124,25	146 065,88	41,40	Suspended
Municipality of Dulovo	22 211 606,00	0,00	35,00	Suspended
Municipality of Elhovo	18 093 346,43	337 002,98	36,00	Suspended
Municipality of the Capital	28 547 353,90	231 848,20	34,00	Suspended
Municipality of Sandanski	51 535 151,25	186 192,00	36,00	Suspended
Municipality of Galabovo	33 840 592,24	124 825,42	26,00	Suspended
TOTAL	**918 787 348,20**	**8 853 749,11**		

Source: MIS

The presented here information can be summarized as follows:

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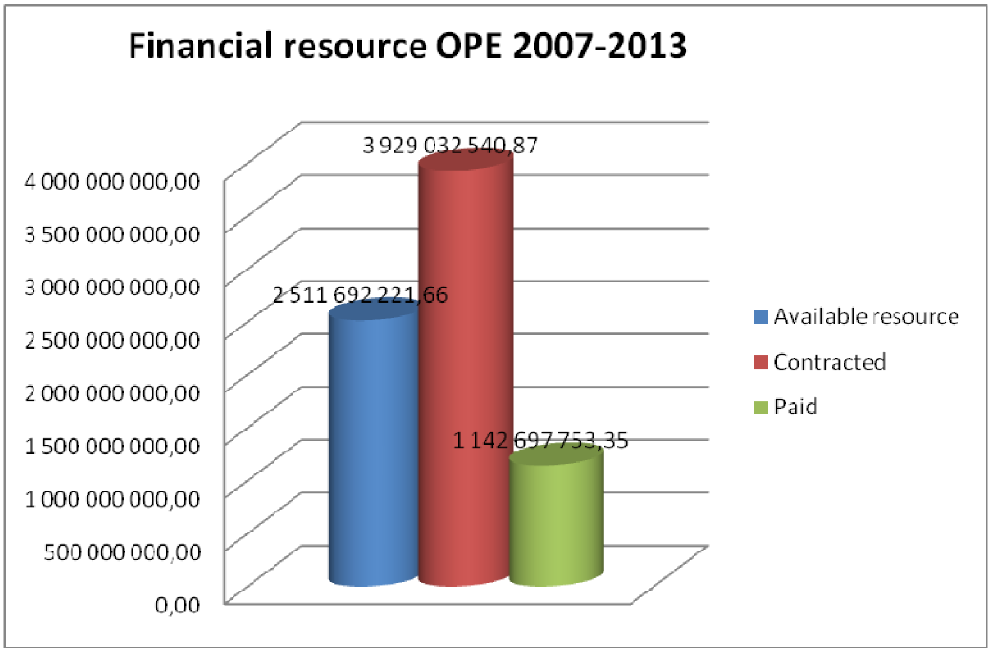
Figure 4: Financial resources under OPE 2007-2013



Finally, the agreed resource under OPE 2007-2013 is equivalent to 156% of the available funding, while the amounts paid by the end of May 2014 represent 45% of the total programme funding for the water sector.

The MA of OPE decided to transfer the physical implementation of projects under the procedure BG161PO005-1.0.07 Preparation and implementation of projects for the improvement and development of infrastructure for water and wastewater in agglomerations above 10 000 pe to the new programming period and its value is equal to 887 460 071.08 BGN or 453 751129.23 VAT included.

There are also potential major projects that are foreseen to be implemented within the OPE 2014 - 2020:

Table 8: Major projects OPE under 2014-2020

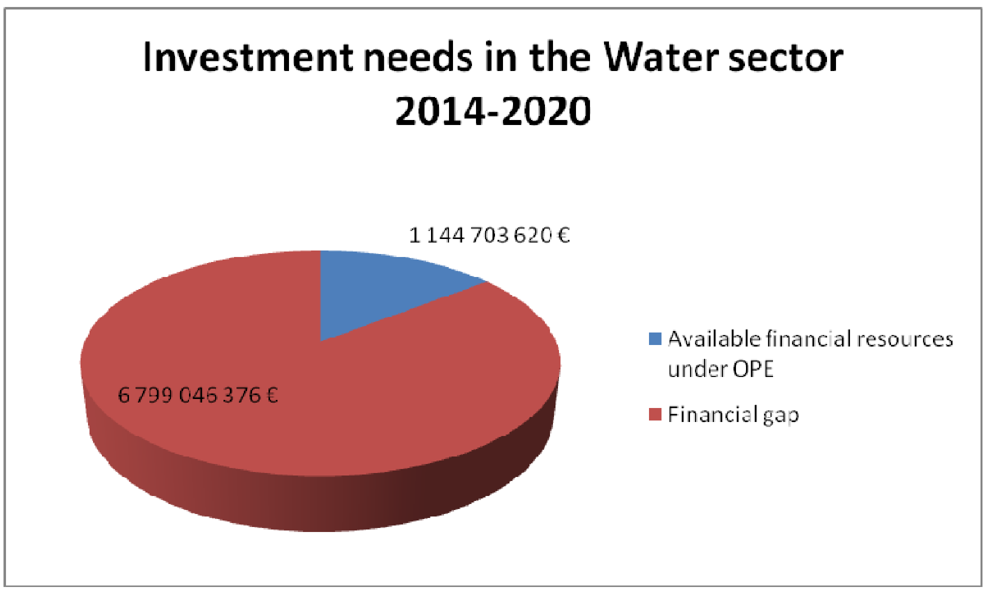
Plovdiv	**€ 72 712 000**
Dobrich	€ 57 692 000
Asenovgrad	€ 55 758 000
Pleven	€ 79 511 142
TOTAL	**€ 265 673 142**

1.1.4. Investment gap

At present within the OPE the 2014-2020 the financial resources foreseen under Priority Axis 1 'Water' amounts to of 1,216,023,392 EUR including the amount of national co-financing. After having deducted the cost of water management and measures to reduce greenhouse gas emissions as well as the cost of projects that are ready to start, the financial resource available which remains is equal to 425,279,349 EUR. In the Strategy for Development and Management of Water Sector in the Republic of Bulgaria for the period 2014-2023 it is estimated that the funds from the EU funds will be sufficient to finance only about 30-40% of the total amount of the required capital investment in the water sector for the period of the Strategy (2014 -2023).

Based on the information summarized above, it can be concluded that the investment gap for achieving the specific objectives under OPE 2014-2020 (Specific objective 1 Preservation and improvement of water resources and Specific Objective 2 Improving the assessment of water status) as well as for providing national contributions to the Thematic goal 6 'Protecting the environment and promoting resource efficiency' of the Europe 2020 Strategy is as follows:

Figure 5: Investment gap in the water sector 2014-2020



<u>Note:</u>The financial gap in the sector is calculated as follows: from the total resources under OPE the management measures and reduce greenhouse gas emissions have been deducted, while the total investment amount is that of short-term investment programmes related to the Regional Master Plans

The reasons for the investment gap that is due to the difference between supply and demand can be summarized as follows:

Ineffective regulation of water and sewerage services at present leads to lack of financial sustainability and economies of scale that makes it impossible financing of investments in WSS systems and facilities by the operators of water supply and sewerage infrastructure [9].

1.1.5. Analysis of supply and demand for financing

a) Schemes for financing projects in the water sector in the pre-accession period

Until 2007 when Bulgaria became a member of the EU, the following financial memoranda have been signed in the Sector Environment under ISPA:

Table 9: Approved projects under ISPA by 2007

		Budget under financing memoranda			
No	Name	Total (Euro)	ISPA grant (Euro)	National financing (Euro)	Funds from IFIs (Euro)
1	Package of 6 regional landfills for waste products located in Montana, Ruse, Pernik, Sevlievo, Silistra and Sozopol	60 577 513	45 433 135	15 144 378	
2	Construction of urban sewage treatment plants for waste water located in the Maritsa River Basin (Stara Zagora and Dimitrovgrad)	43 399 688	32 549 766	4 399 969	6509953.00
3	Regional treatment plant for wastewater - Gorna Oryahovitsa	14 970 551	11 227 913	3 742 638	
4	Urban wastewater treatment plant – Pazardzhik	17 199 871	11 179 916	6 019 955	
5	Urban wastewater treatment plant – Blagoevgrad	11 322 419	7 925 693	3 396 726	
6	Urban wastewater treatment plant – Targovishte	15 235 915	11 426 936	3 808 979	
7	Urban wastewater treatment plant – Meden Rudnik district, Burgas	10 206 220	7 654 665	2 551 555	
8	Urban wastewater treatment plant – Montana	15 067 113	11 300 335	3 766 778	
9	Urban wastewater treatment plant – Sevlievo	13 987 623	10 490 717	3 496 906	
10	Urban wastewater treatment plant – Popovo	11 860 433	8 895 326	2 965 107	
11	Urban wastewater treatment plant – Lovech	17 811 576	13 358 682	4 452 894	
12	Integrated project for improvements in the water sector in the city of Smolyan	24 471 021	18 353 266	6 117 755	
13	Integrated project for improvements in the water sector in the city of Varna	25 432 000	19 074 000	6 358 000	
14	Integrated project for improvements in the water sector in the city of Balchik	21 589 225	16 191 919	5 397 306	
15	Integrated project for improvements in the water sector in the city of Shumen	30 130 000	22 597 500	7 532 500	
16	Regional Centre for Waste Management - Kardzhali	14 547 162	10 910 372	3 636 791	
17	Construction of desulphurization plant for Units 5 and 6 of CHP Maritsa Iztok 2	72 330 000	36 165 000	11 165 000	25 000 000.00
18	Integrated project for improvements in the water sector in the city of Sofia	58 500 000	43 875 000	5 850 000	8 775 000.00
19	Integrated project for improvements in the water sector in the city of Sliven	21 200 000	15 900 000	2 120 000	3 180 000.00

[9] Source: Strategy for Development and Management of Water Sector in the Republic of Bulgaria for the period 2014-2023

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20	Integrated project for improvements in the water sector in the city of Burgas	21 000 000	10 080 000	0	10 920 000.00
21	Integrated project for improvements in the water sector in the city of Ruse	46 800 000	35 100 000	3 700 000	8 000 000.00
22	Integrated project for improvements in the water sector in the city of Kiustendil	21 200 000	15 900 000	5 300 000	
	Total - Environment	**588 838 330**	**415 590 140**	**110 863 237**	**62 384 953**

Source: Ministry of Finance

The structure of financing these projects is as follows:

Table 10: Structure of financing projects under ISPA

Budget under financing memoranda				
Name	Total (€)	ISPA grant (€)	National financing	Funds from IFIs(€)
Environment	588 838 330	415 590 140	110 863 237	62 384 953

Source: http://ispa-mrrb.org/?id=108

The international financial institutions (IFS) through which the majority of co-financing is provided for some projects in the water sector include the European Investment Bank (EIB) and European Bank for Reconstruction and Development (EBRD). Financing schemes for these projects are as follows[10]:

- ✓ 'Construction of WWTP in the basin of Maritsa river' – 75% fromISPA, 15% government loan from the EIB and 10% funding from the state budget
- ✓ 'Integrated project for the water sector of the city of Sofia' – 75% from ISPA, 15% government loan from the EIB and 10% funding from the state budget
- ✓ 'Integrated project for the water sector in the city of Sliven' - 75% from ISPA, 15% government loan from the EIB and 10% funding from the state budget
- ✓ 'Integrated project for the water sector in the city of Burgas' –46,26% from ISPA, 51,40% loanofWSSBurgasfromEBRDand2,34% fundingfromthestatebudget
- ✓ 'Integrated project for the water sector in the city of Ruse' –66,12%from ISPA, 13,63% loan of WSS Ruse from EBRD and 20,25% funding from the state budget

As can be seen from the information presented above, almost ¼ of the projects used the opportunity to ensure external financing, which, however, may not be qualified as financial engineering. However, it may be concluded that some of the projects in the water sector, especially for larger agglomerations served by a financially sound water companies are rated by IFS as profitable in the long term and capable of generating enough revenue to pay the land funding[11].

[10] According to information provided by MEW and MRD

[11] This particularly applies to water companies in Burgas and Ruse, since they are the direct recipients of loans from the EBRD. For the other water operators the same cannot clearly be argued, as direct recipients of the loans are the municipalities through the state.

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b) Schemes for financing projects in the water sector in the period 2007-2013

During 2007-2013 the structure of projects funding in the water sector is as follows:

Table 11: Structure of the пройецтс funding in the water sector (2007-2013)

Priority axis	Psc	Budget (BGN)		
	agreed	Total	EU funding	National funding
Improvement and development of infrastructure for wastewater and drinking water in settlements with more than 2000 PE and in settlements with less than 2000 PE within urban agglomeration areas	290	2 511 692 221,66	2 009 353 777,72 (80%)	502 338 443,94 (20%)

Source: MIS

National funding includes funding from the state budget and municipal financing which is determined based on the results of the financial analysis prepared for particular projects. According to the call for proposals under the procedure BG161PO005-1.0.06 Improvement and development of infrastructure for дринкинг water and waste water in agglomerations above 10 000 PE, the minimum municipal support is set at 3%. As a result of pre-defined minimum amount of municipal съпорт, ин most of the projects funded under this procedure, the own funds provided by municipalities amount to between 3% and 5% of the total project budget. Some of these funds are provided from the municipal budget of the municipality, while the other part is provided by loan financing from the FLAG Fund.

According to information provided by the Fund for the period 2007-2013, FLAG has funded 69 projects under OPE, 61 of them are in the water sector totaling at 804,7 million BGN and the value of the provided loans at 140,8 million BGN. By the end of May 2014 another 12 projects were submitted to the Fund in the water sector valued 335 million BGN and request for loan financing in the amount of nearly 64 million BGN.

The majority of the loans granted by the FLAG is used as a bridge financing for the projects, i.e. to cover the costs before they will be recovered from the OPE.

Another source of funding for projects under OPE is teh Enterprise for management activities on environmental protection (Environmental Protection Fund) with principal Ministry of Environment and Water.

Currently co-financing on behalf of the enterprise for OPE projects is presented as interest-free loans to municipalities to cover the inital costs before they are recovered by the programme, i.e. bridge financing.

c) Possible forms of financing projects in the water sector under OPE in the period 2014-2020

According to Art. 120 of Regulation (EC) № 1303/2013 of the European Parliament and of the Council laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European regional

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Development Fund, the European Social Fund, the Cohesion Fund and the European maritime and Fisheries Fund, and repealing Regulation (EC) № 1083/2006 of the Council (general Regulation), the rate of financing for each priority axis and, where applicable, by category region and fund, operational programmes under the 'Investment for growth and jobs" can not exceed 85% for the Cohesion Fund and the ERDF.

According to Art. 37 of the same Regulation, the European Structural and Investment Funds (ESIS) can be used to support financial instruments in order to contribute to the achievement of specific objectives set under a given priority. Financial instruments are used to support investments that are expected to be financially viable but can not generate sufficient funding from market sources.

In determining the possible sources and forms of financing projects in the water sector the following circumstances should be taken into account:

- ✓ ESIS policy framework emphasizes the need to use more financial instruments for the period 2014-2020, especially in the context of financial constraints;
- ✓ In the new programming period the financial instruments can be used for pre-financing of grants (bridge financing);
- ✓ Up to now in the country there have not been established schemes for the use of funding instruments to finance projects in the water sector, i.e. the choice of financial instruments will be examined and models from other European countries will be proposed;
- ✓ At this stage of the evaluation all the possible forms of financing applicable to the sector will be listed and in-depth analysis will be made in the following sections of this document.

Table 12: Possible forms of financing projects in the water sector (2014-2020)

Possible forms of financing projects in the water sector	**Justification**
Tariffs for water services	Are determined in accordance with: ✓ WSS Services Regulation Act ✓ Ordinance for regulating the prices of water supply and sewerage services (promulgated in the Gazette, Issue 32 of April 18, 2006) ✓ Guidelines of the SEWRC for pricing of water supply and sewerage services at a price adjustment by using the "price cap". Charged and collected by WSS operators according to the methodology and guidelines of the SEWRC
Grant	High initial costs and long payback period of investment in the sector makes it impossible to finance massive investment without CCD.
Direct loans to financially sound (large) WSS operators	The aim of the FI is not to replace funding from market соурцес when the latter is available but to supplement investment needs. In this sense, when water operators can use loans on a commercial basis,

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	it is not necessary to use financial instruments.
Loan finance facilities and guarantees to financially unstable (small) water companies	In order to provide needed incentives and opportunities for smaller water companies to invest in the infrastructure it is necessary to provide them with favourable conditions for loan financing because they are unable to achieve the required savings/economies from the scale.
Public-private partnership	An example of a successful PPP is the concession of Sofia Water Plc. To increase investment in the sector is possible to attract additional private financial resources through the creation of appropriate forms of PPP including concessions, private equity and more.

In addition, it should be noted that water companies would use financial instruments for investment in the sector provided there is technical assistance which is confirmed by a survey, of which some results are presented as follows:

Figure 6: Would you use financial instruments for the realization of investments?

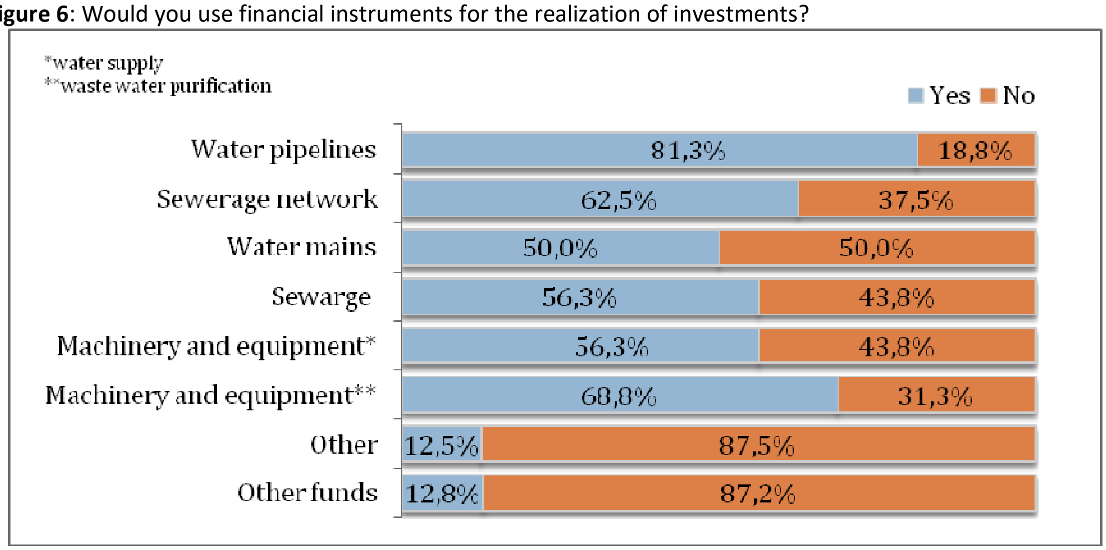

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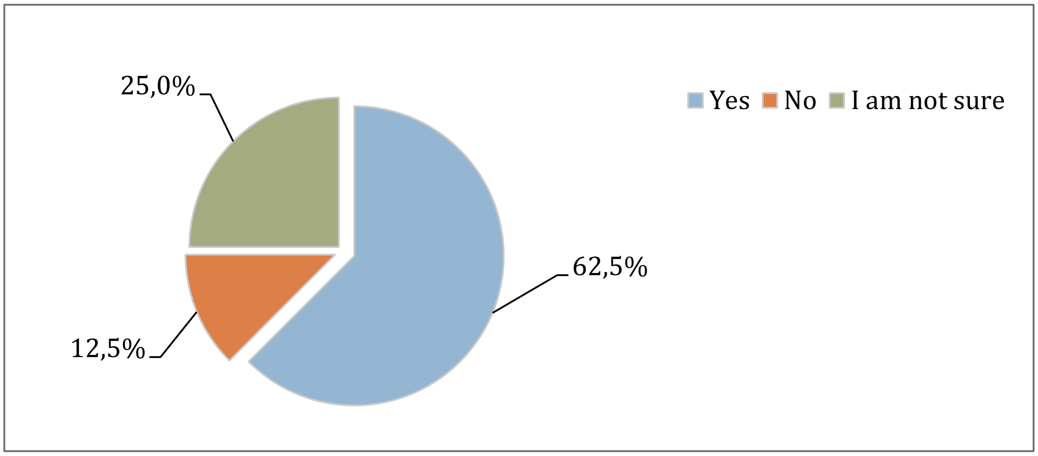
Figure 7: Do you need technical support for management of financial instruments?



1.1.6. Summary of suboptimal investment situations

It can be concluded from the above that there is a suboptimal investment situation in the sector which is illustrated in the following diagram:

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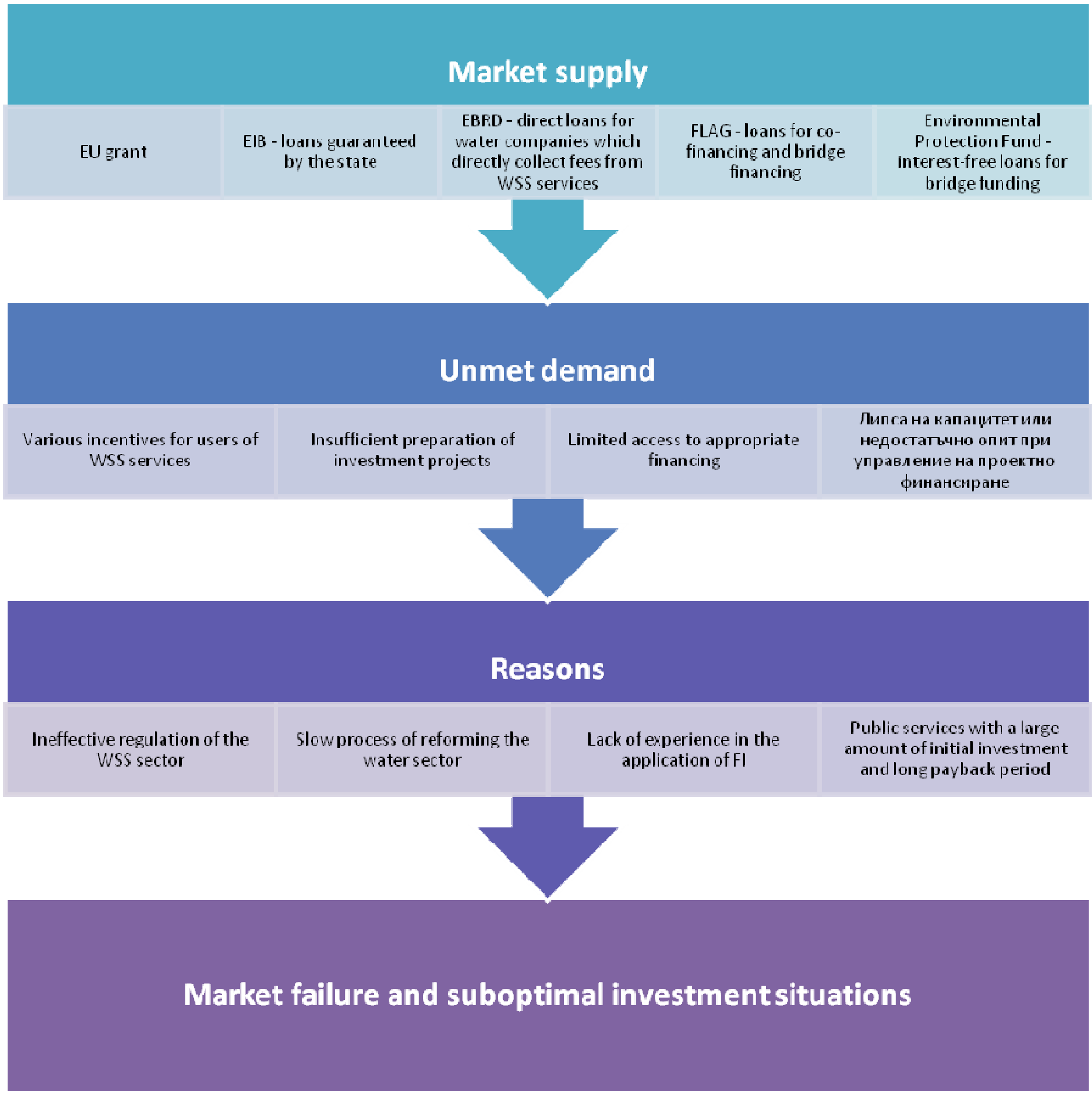
Figure 8: Suboptimal investment situation in the water sector



1.2. Effective waste management – construction of plants according to the hierarchy of waste management needed to improve household waste management in compliance with the legislative requirements.

1.2.1. Main characteristics of the Waste Sector in Bulgaria

Till the adoption in September 1997 of the Act on Limiting the Harmful Effects of Waste on the

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Environment in Bulgaria, there was no specific legislation in this area[12]. The law for the first time regulated the public relations in the "Waste Management" Sector and introduced a number of basic requirements of the Waste Framework Directive 75/442/EEC (WFD). The Law on Waste Management, adopted in September 2003, developed further the philosophy of law adopted in 1997 and fully transposed the WFD 75/442/EEC, and together with the regulations to the law introduced the requirements of all European directives in "Waste Management" Sector. At the time of accession of Bulgaria as an EU member in 2007, the legislation in the sector was harmonized with the European law. With the additions to the law in 2010 were introduced economic incentives the local authorities to undertake real actions to reduce waste disposed, as well as moving towards a regional principle of household waste management. Waste Management Act, in force since 2012, which introduces the requirements of Waste Framework Directive 2008/98/EO, including the principles “polluter pays”, “extended producer responsibility” and “waste management hierarchy”.

Key regulations resulting from the WMA are:

- ✓ Quantitative for targets for preparation for reuse and recycling of waste materials, including at least paper and cardboard, metal, plastics and glass from households and similar waste from other sources, that the municipalities should reach within the following terms and quantities:
  - till January 1, 2016 – at least 25% of their total weight;
  - till January 1, 2018 – at least 40% of their total weight;
  - till January 1, 2020 – at least 50% of their total weight;

- ✓ It introduced requirements not later than the end of 2020 the municipalities should limit the quantity of deposited biodegradable municipal waste to 35% of the total quantity of the same waste in Bulgaria generated in 1995;
- ✓ The mayors of municipalities to organize systems for separate collection of the municipal waste of paper and cardboard, metals, plastics and glass, and to provide conditions for separate collection of packaging waste for all populated areas having population over 5 000 inhabitants and for the resorts;
- ✓ Until the mid-2014 the mayors of municipalities to provide sites for free disposal of separately collected waste from households, including bulky waste, hazardous waste, etc., in all populated areas with population over 10 000 inhabitants and if needed in other populated areas.

- ✓ The users of commercial establishments, industrial, economic and public buildings in populated areas with over 5 000 inhabitants and in resorts are required from the beginning of 2013 to separate waste paper and cardboard, glass, plastics and metals in accordance with municipality regulations under Art. 22 of the WMA.
- ✓ To introduce detailed rules and requirements for associating municipalities in regional associations to address the waste management at regional level through regional facilities and organization.
- ✓ To introduce economic instruments to cover the future costs for the closure and post-operational care of the landfill site and for promoting the prevention and recovery of waste prior landfilling.

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[12] Source: National plan for waste management for the period 2014-2020 (Report for Stage 1) – http://www.moew.government.bg/?show=html&hid=173

Furthermore, the Ordinance on the separate collection of bio-waste (promulgated in State Gazette 107, 13/12/2013) commits the mayors of municipalities in each of the regions for waste management under Art. 49, paragraph 9 of the WMA to achieve these regional targets for separate collection and recycling of municipal bio-waste:

- Till December 31, 2016 – not less than 25% of the quantity of municipal bio-waste generated in the region in 2014
- Till December 31, 2020 – not less than 50% of the quantity of municipal bio-waste generated in the region in 2014
- Till December 31, 2025 – not less than 705% of the quantity of municipal bio-waste generated in the region in 2014

Local authorities are traditionally charged to perform the activities and provide services related to the collection, removal and treatment of municipal waste. The mayor of the municipality is organizing the control on the household and construction waste generated in the municipality. The duty of the mayors of the municipalities related to the control of such waste includes a number of specific, practical activities, such as providing plant and equipment for the treatment of municipal waste, providing containers for household waste; ensuring separate collection of plastics, glass, paper and cardboard, (except for packaging waste) on the territory of the municipality in concern, and the municipal bio-waste; providing sites for free delivery of waste collected from households, including bulky and hazardous waste; cleaning of streets, squares, alleys, parks and the other areas in the populated areas that are allocated for public use; prevention of waste disposal at unauthorized places and/or the establishment of illegal landfills and organizing their cleaning, if such were allowed.

Regarding the current infrastructure for waste management, the current situation is as follows[13]:

- ✓ Municipalities in Bulgaria use a wide range of various containers (according their type, material, and volume) for the collection of mixed municipal waste, and most of the municipalities are well equipped with containers;
- ✓ Almost all containers for separate waste collection are property of the organizations for waste recovery and currently there is no information about their number and volume;
- ✓ In 220 municipalities are used 1035 containers for the municipal waste transportation. About 90% of them are special waste collecting vehicles (Vario Press type, RotoPress type, Multi-lift type, container trucks, etc.) and the others are auxiliary vehicles (automatic weepers, loaders, tractors with trailers, chassis, containers, etc.).
- ✓ Currently in the country is operating only one transfer station for municipal waste in Kiten, which serves the municipalities of Primorsko and Tsarevo. Furthermore, the OPE 2007-2013 provides for the establishment of new transfer stations as a part of the regional systems in concern.
- ✓ Currently from the 55 Regional associations for waste management (RAWM) 32 have functioning and consistent with the requirements plants and equipment for municipal waste treatment.
- ✓ In the country there are functioning facilities for treatment of biodegradable municipal waste on the territory of Varna RAWM and Plovdiv RAWM, and in early 2014 was also put into trial

[13] Idem

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operation the installation for green and food waste on the territory of Sofia Municipality.

- ✓ In the last few years have been aso built plants for separating the useful components from waste. On the territory of some of RAWM function sorting plants for the separation of recyclable waste – paper and cardboard, plastics, glass and metal.
- ✓ In 32 RAWM operate regional landfills for municipal waste that meet the national and European requirements for landfills.

Also, various economic instruments and incentives were introduced in the waste management sector. The economic instruments are mechanisms introduced by the government, and making more profitable for the population and business to recycle and recover waste instead of their disposal[14]. Today, the following economic instruments and incentives exist in Bulgaria:

a) Fees for waste landfilling and treatment

- ✓ ***Guarantees to cover subsequent costs for closure of landfills and charges for waste disposal*** that include:

Collaterals under Art. 60 of the Waste Management Act – for each ton of landfilled waste. The purpose of collateral is within the period of the landfill operation to accumulate financial resources that the landfill owner shall use for its closure and rehabilitation after exhausting of the capacity. Collaterals can be in the form of: 1) monthly bank account deductions for foreign funds for RIEWs; 2) monthly deductions for specific purposes, blocked for the period up to the completion and adoption of measures for the closure and post-operational care for the landfill site, except for cases their use was permitted by the Director of RIEW; or 3) a bank guarantee in favor of the RIEW in concern and on whose territory the landfill is located.

Deductions under Art. 64 of the WMA (eco-charge for disposal) – these deductions are made for each ton disposed waste to accumulate funds for both the construction of new facilities for the treatment of municipal and construction waste proving the implementation of the regulatory requirements by the municipalities, and for the provision of subsequent operating costs related to the constructed plants and equipment for recycling and recovery of municipal waste.

- ✓ ***Municipal waste fee and costs for municipal waste management of the municipalities***

The Law on Local Taxes and Charges has introduced a "municipal waste" fee to be paid for the services for collection, transportation and disposal in landfills or utilizing the municipal waste in other facilities and to maintain the cleanliness of public areas in the populated areas. The fee is determined as an annual amount for each populated area by decision of the municipal council on the basis of the approved planned expenses for each activity, including the necessary costs for providing the services. The fee amount is determined for each service separately.

According to the changes in the Law on Local Taxes and Charges in November 2013,

[14]Idem

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the fee is defined in BGN depending on the waste quantity. In case the municipal waste quantity can not be fixed, the fee shall be defined in BGN per user or on proportional basis specified by the municipal council, which can not be the tax value of real estate (as it is now), their balance value or market price (Art. 67 para. 2 of the Law on Local Taxes and Charges). This requirement will come into force in the beginning of 2015. In connection with the new changes the Ministry of Finance has developed a new methodology for defining the municipal waste fee, which is to be adopted by the end of October 2014.

Till November 2013 the Law on Local Taxes and Charges required the amount of the fee to be determined by the quantity of municipal waste, and in case it can not be fixed, the amount of the fee is defined on a basis specified by the municipal council. This formulation resulted in the current practice in the country to fix the amount of municipal waste fee based on the tax value of real estate. Many municipalities have also provided in their regulations for determining the amount of municipal waste fee an option to pay per container at a definite frequency of waste disposal, but it is actually practiced in a limited number of cases. For this reason, we can not state that there is a "payment upon disposal" system in Bulgaria as the users of the service related to the waste management do not pay based on the quantity of the waste disposed.

Another important feature is the affordability of the municipal waste fee for the population in the country. Unlike the Water Supply and Sewerage sector where the Act on Regulation of Water Supply and Sewerage Services is regulating the level of affordability of the costs that people have to pay for the water supply and sewerage services, the Bulgarian legislation contains no such regulation in respect of the affordability of costs for the population related to the waste management. As a rule the criterion for the ability to pay (solvency) is a kind of socially accepted threshold of the share of costs in the municipal waste in the household budget. Regarding the threshold for determining the social affordability for municipal waste fee in the EU, it is accepted that such is available if the value of the fee does not exceed 1% of the average annual household income in the region in concern.

b) Environmental Taxes and Charges

The eco-charge for polymer bags is one of the first targeted measures to prevent waste in Bulgaria and till the adoption of National Program for Waste Management 2014-2020 – the only one in the country. The objective of this charge is to minimize the consumption of single-use plastic bags. It is paid for all sizes of bags made of polymers whose thickness is less than 25 microns (µm) and for size smaller than 390/490 mm. The amount of the charge increased in the years, and in 2014 reached BGN 0.55 per bag. The amount of the charges for the next year shall be determined by the Government.

c) Schemes for Manufacturer Responsibility

Six schemes for extended producer responsibility of the manufacturer (EPR) were implemented and are working with very good results in Bulgaria. The introduced high governmental product fee on wide-spread waste (WSW) not included in the EPR schemes is intended to proceed to schemes for EPR, and recycling and other recovery of waste generated after the use of such products.

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d) Financial guarantees and insurance

These include guarantees for cross-border waste transport and bank guarantees for receiving permission for the organizations of waste recovery. On the ground of the legislative requirements were set out the following scenarios for the future development of the policy on waste management:

Scenario 1. "Zero scenario". In this scenario it is assumed that:

- for the 20 Regional Associations for Waste Management (RAWM) that have already contracted the OPE contracts to build infrastructure for waste management – the projects will be implemented, no matter to what extent the targets for bio-waste recovery were achieved;
- for other RAWMs that have no OPE projects – will keep the current situation of waste management without additional investments in building infrastructure for waste management;

Scenario 2. "Centralized composting of separately collected bio-waste". This scenario is featured by achievement of the recovery targets for each of bio-waste for each of the RAWM under Article 8 para. 1 of the Ordinance on the Separate Collection of Bio-waste (prom. SG 107 on 12/13/2013) where the quantities of bio-waste treated through home composting are excluded as prevented waste. The target is achieved by the construction of a central plant for composting/anaerobic digestion in the municipality, which is the center of ROWM.

Scenario 3. "Decentralized composting of separately collected bio-waste". This scenario as well as Scenario 2 is featured by the achievement of the targets for bio-waste recovery for each of the RAWM under Article 8 para. 1 of the Ordinance on the Separate Collection of Bio-waste (prom. SG 107 on 12/13/2013) where the quantities of bio-waste treated through home composting are excluded as prevented waste This scenario differs from Scenario 2 in the selection of plants for composting/anaerobic digestion and here was adopted the approach to build several smaller plants, which in the calculations is reflected both in the relatively larger investments and in the reduced operational costs due to reduced transportation of bio-waste to the composting plants.

Based on the financial assessment of the scenarios, the Analysis of the policy and the technical infrastructure in the field of waste management in the Republic of Bulgaria recommended to prefer Scenario 3 for the future policy development in waste management during the next programming period .

1.2.2. Identification of the existing problems of the market in the Waste Sector in Bulgaria

The problems in Waste Sector should be attributed to several categories as follows:

Table 13: Problems in Waste Sector

Category	Problems
Institutional capacity	✓ Greater part of the municipalities have not yet updated their municipal regulations and programs for waste management in

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	conformity with the requirements of the Waste Management Act of 2012; ✓ Currently there are no developed programs for waste management at regional level (RAWM); ✓ The municipalities have no experience and knowledge for the implementation of measures to prevent waste generation; ✓ The information campaigns at national and local level have limited and ad hoc performance, and not on the ground of long-term national and municipal strategies for prevention, separate collection and effective use of resources; ✓ The local authorities are facing great challenges in the recycling of municipal waste and recovery of biodegradable waste ✓ There is a need of training programs to improve the municipal capacity in waste management in the greater number of the municipalities.
Infrastructure for waste management	✓ The municipalities are not provided for containers for separate collection of bio-waste. Strategically such containers should be provided for municipalities where in 2013, 2014 and 2015 will operate the facilities under construction for bio-waste recovery. ✓ The motor vehicles fleet for transportating municipal waste is outdated, and the proportion of new specialized vehicles for waste collection purchased in the last 2-10 years is small. The fast replacing of the depreciated transportation vehicles in operation for more than 20 years, which are about 31% of the used vehicles is imperative. ✓ Need to change the container trucks (about 10% of all transport vehicles) by special machines due to the transition from containers with 4 m^3 capacity to containers with smaller volume. ✓ In some municipalities is necessary to buy additional special vehicles for transportation at long distances to the regional lanfill. ✓ Over 60% of the municipal waste composition is biodegradable waste, but only three ROWM are provided for facilities for the recovery of such waste. ✓ Lack of sufficient number of feasibility studies at RAWM level providing systems and facilities for separating and sorting recyclable waste from paper, cardboard, metal, plastics and glass and for municipal waste suitable for incineration, considering the established systems for separate collection of such waste at the points of formation. ✓ Insufficient project readiness for closing and rehabilitation of the other municipal landfills with terminated operation or whose operation shall be terminated in the next three years.

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Legislation	✓ There are some defects in several texts from the Territory Structure Act that should be removed because these are a barrier (although formal) to undertaking investment initiatives by the municipalities and business for plants and equipment for recycling and recovery of waste ✓ Still there is no approved methodology for determination of the municipal waste fee in conformity with Article 67, Para 2 from the Law on Local Taxes and Charges.

Before passing to the more detailed definition of market problems and the reasons for them in the sector, it is necessary to consider the schemes for waste management in Bulgaria in order to assess whether market failures exist in all schemes for management

There are several schemes that are applied in the country, namely[15]:

✓ **Responsibility of the causer and the owner of the waste generated in the production of goods and services**

Waste flows for which this scheme is applied in the country are: industrial waste, including hazardous industrial waste; hospital waste; PCB/PCT; sludge from WWTP, waste from construction and demolition of buildings (excluding the construction waste from household repairs and demolition of buildings in small quantities according to the criteria set out in the Waste Management Act)

Under this scheme, the manufacturer of a definite product or provider of a service is the person liable and responsible for the storage, transport and disposal of waste generated in the production of the goods and services in accordance with regulatory requirements.

Prices of services related to storage, transportation and disposal of waste are formed entirely on a market basis under the competition available at the national level, within the EU, and the World Trade Organization (WTO), *respectively, under this scheme of waste management can not talk about market failure in terms of achieving the targets of the 2014-2020 OPE.*

✓ **Extended producer responsibility (EPR) on 6 groups of wide spread waste (WSW)**

According to the national legislation, the scheme includes in stages the following widespread waste [16]:

- Packaging waste – since 2004 г.
- Waste from end-of-life vehicles – since 2005 г.
- Waste electrical and electronic equipment – since 2006 г.
- Waste from oil and petroleum products – since 2006 г.
- Waste from spent batteries and accumulators – since 2006 г.

[15] Idem
[16] According the WMA "Widespread waste" means waste generated after the use of products originating from multiple sources throughout the country and requiring special management due to their characteristics.

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- Waste from tyres – since 2011 г.

In this scheme of EPR persons placing on the market products that after their use become WSW are the liable persons under the scheme and they are liable in accordance with the requirements of the Waste Management Act and the specific regulations for each type of WSW.

Households and various organizations, enterprises and institutions that as a result of the use of products generate WSW are required to comply with the rules on separate collection and disposal of waste at the designated for the purpose areas for WSW.

Prices of services related to the preparation for reuse, recycling and recovery of WSW are formed entirely on a market princile in the competition available at national level, within the EU, and the WTO to provide such services, *respectively, under this scheme for waste management not can talk about market failure in terms of achieving the objectives of the OP Environment 2014-2020*

✓ **Scheme of the households responsibility and responsibility of other entities that generate household waste and waste similar to household waste**

The scheme applies to waste from households (except for 6 groups of widespread waste) and for waste similar to household waste, that by their nature and composition are comparable to household waste, but generated from other sources. Similar to household waste are generated mostly by office buildings, educational institutions, social organizations, markets, shops, hotels and restaurants, service shops. Household waste is also generated by manufacturing enterprises, but from the vital activity of employees and workers in these enterprises. In the scheme falls also the construction waste from remedies and demolition generated by households and other sites in small quantities.

In this scheme, taxable persons are households and individuals generating household waste and similar household waste. These individuals are responsible for discharging, including separate collection and disposal of household waste at designated containers and places and for payment of the costs of services in temporary storage, collection, transportation and treatment of waste in accordance with the Law on Local Taxes and Charges, WMA and the municipal regulations on waste management. The taxable persons in the scheme shall pay an annual fee for municipal waste in the amount determined by the municipal council for each location separately. The purpose of the municipal waste fee is a waste is to apply of the principle "the polluter pays". As municipalities have difficulties in amounting the fee for the households and other taxable persons to include in the scheme the exact quantity of disposed waste, the principle 'polluter pays' is not fully implemented.

The other entities involved in the scheme are the municipalities, the regional associations of the municipalities for waste management (RAWM) and the companies or municipal undertakings outsourced by the municipalities for one or more activities associated with the collection, transportation and treatment of household waste.

Main challenges of the scheme are as follows

- There is a delay in the construction of modern plants and equipment for household waste treatment providing a higher level in the waste management hierarchy, and for residual waste that is landfilled – to reach 100% disposal in landfills that meet the legal requirements
- RAWMs having no or are partially provided with plants and equipment for separating recyclable waste, and for recycling of biodegradable waste must take urgent actions to ensure them;
- The incomplete implementation of the "polluter pays" principle is an essential disadvantage due to the way of formation of the municipal waste fee.

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- Loss of secondary resources due to the closure and rehabilitation of old municipal landfills without recovery of at least part of the waste is also a weakness of the waste management scheme.

The municipalities indicate several answers as reasons for the above mentioned challenges, as well as the small number of facilities for waste re-treatment and recovery in the country.

Table 14: Reasons for the small number of facilities for waste re-treatment and recovery in the country

Reason	**Percentage***
Lack f funds for purchase and installation of plant and equipment	***60.6%***
Lack of effective regulation on waste management	47.7%
Insufficient funds to purchase installations for landfills	46.8%
Lack of sufficient volume for separated waste (raw materials)	45.9%
Lack of market for the resulting product from the recycling and composting	13.8%
Others	**3.7%**

*Base: 109, * more than one answer available*

From the argument so far may conclude that *in this scheme for waste management there are market failures in terms of achieving the targets of OPE 2014-202*0, and the reasons shall be discussed hereinafter.

According to a methodology for ex-ante assessment of financial instruments, the reasons for the market failures can be different. Based on the examples given in the methodological documents, the main reasons for the above mentioned problems can be defined as follows

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Market Failure	Definition	Argumentation	Results
Economic structural failures			
Negative externalities	Negative externality is the price that is borne by a third party as a result of economic transaction. The external effect is due to the fact that the participants in the transaction do not associate any associated costs. The presence of a negative externality means that the private sector/ participant/user is not particularly interested in investing in order to reduce the negative effect because it does not bear the full cost. This means that there is a market failure and there is public support.	✓ Incomplete application of the "polluter pays" principle due to the way of municipal waste fee formation originates a situation where subjects that generate household and similar waste do not bear the full cost of environmental pollution. Office buildings, educational institutions, social organizations, markets, shops, hotels and restaurants, service shops, etc., are not interested to invest, considering that this is the responsibility solely of municipalities.	✓ There are great challenges for local authorities referring the targets for the household waste recycling and the recovery of biodegradable waste.
Public services	These services are not mutually exclusive and are not competitive. Even if someone does not contribute to the production of a public good, the cost of limiting its right to benefit from the service are prohibited.	✓ According to Art. 19, para. 1 of WMA mayor of the municipality in concern shall organize the household and construction waste generated on its territory. ✓ However, the incomplete implementation of the "polluter pays" principle due to the way of formation of	✓ Delays in the construction of modern plants and equipment for household waste treatment that shall provide a higher level in the hierarchy of waste management.

		the municipal waste fee and the low participation of business limit the investment opportunities in the sector.	
Unsuccessful market regulation	It arises when the political decisions do not consider the fact that the market alone can correct some of its failures. In such cases, control measures create inefficiency.	✓ Still there is no approved methodology for determining the municipal waste fee in accordance with Art. 67, para. 2 Law on Local Taxes and Charges. ✓ There are some shortcomings in several texts of the Structure of Territory Act, which should be removed as they although formally are a barrier to undertake investment initiatives by municipalities and business.	✓ Delays in the construction of modern plants and equipment for household waste treatment that shall provide a higher level in the hierarchy of waste management.
Incomplete property rights or difficulties in their ransfer	It refers to a situation where it is difficult to establish or transfer property right on resource or product/service	✓ Household and similar waste is municipal property, as they are responsible to establish appropriate arrangements for their collection and treatment. In the absence of long term contracts with private entities operating in the sector, there are no incentives to invest because in the absence of regular amounts of waste, the investments could not be paid and bring the expected profit of the private sector.	✓ Delay in the construction of modern plants and equipment for household waste treatment that shall provide a higher level in the hierarchy of waste management.
Failures due to the demand side			

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Information asymmetry	It arises in case two parties that want to enter into a contract have different levels of awareness, which affects their ability to make decisions	✓ Analysis of the quantities of waste that is carried out by the private sector is often at odds with the analysis of municipalities. The reason is that business uses statistical data which are processed and averaged on the basis of a methodology, and valid for the country as a whole and not for the area in concern.	✓ Ineffective planning of investment required and risk of projects successful completion
Various incentives	They arise when two parties that want to enter into contractual relations have a different objective and incentives that affect their ability to make decisions	✓ Implementation of projects in this sector is related to additional investment and operational costs. The main sources for funding the operating costs of waste management are the own funds of the organizations for waste recovery and municipal waste fee generated by municipalities. ✓ The payment of a fee, whose amount is determined on a basis other than the level of generated waste, does not create an incentive for the population to generate smaller amount of waste.	✓ Constraints to municipalities to provide independently the necessary financial resources for investment in the sector

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Insufficient number of ready investment projects	This means that even if there is any access to funding, the supply side can be rather passive than active.	✓ This is mainly due to the fact that the municipalities are responcible for the preparation of the projects and they do not have sufficient financial resources for investment projects, and revenues from MSW are not sufficient to cover these costs. In practice, currently there is no market incentive for the municipalities to invest in the necessary infrastructure alone.	✓ In 34 RSUO were not carried out feasibility studies for the recovery of biodegradable municipal waste ✓ 32 RUSO no action has been taken to build the separation and sorting systems ✓ Also lack of incentives for preparation of investment projects and the realization of investments in the sector
Failures of the supply side			
Limited access to adequate funding	Many investments require a mix of public (free of charge) funding and private funding, as have large initial (investment) costs and long payback period/ edemption of investment	✓ Implementation of projects in this sector is related to additional investment and operational costs. The main sources for funding the operating costs of waste management are the own funds of the organizations for waste recovery and municipal waste fee generated by municipalities. ✓ The payment of a fee, whose amount is determined on a basis other than the level of generated waste, does not create an incentive for the population to generate smaller quantity of waste. This fact, together with the fact that to	✓ Lack of adequate portfolio of financial resources

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		date there is yet no adopted methodology for determining the municipal waste fee in accordance with Art. 67, para. 2 from the Law on Local Taxes and Charges restricts the municipalities to provide independently the necessary financial resources for investment in the sector.	
Lack of capacity or insufficient experience in the project funding management	Lack of capacity/experience in project funding suggests low or insufficient investment success and increased risk in the implementation of projects.	✓ Although during the previous programming period, the municipalities accumulated some capacity in the project implementation, as a whole the problems in the management of investment intentions are significant. The business entering in the sector is partially limited by legal restrictions in the Structure of Territory Act, which makes the investment schemes underperforming. These circumstances suggest underachievement of investment and high risk in the implementation of the projects.	✓ Lowered interest of the financial institutions to offer appropriate forms of financial instruments due to the high risk of project unsuccessful implementation.

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The totality of the above reasons for the identified market failures lead to a major gap in the market in the Waste sector, namely:

- ✓ **Financial** - there is a need for substantial financial resources, which can not be filled by market supply in the financial sector.

This finding is also confirmed by the difficulties shared by the municipalities in the survey[17] in obtaining or securing investment funding – 64% specify that they have such difficulties (17% do not believe they have such difficulties). When asked about the reasons for these difficulties, the answer "Insufficient revenue to cover the cost of funding" takes the largest share - 90% of respondents, followed by "Unable to provide the required guarantee for the funding from the financing bank/institution" - 33%.

1.2.3. Analysis of supply and demand in the Waste Sector

The analysis of demand in the Waste sector in the country is largely determined by the requirements of the EU legislation in the field of waste including:

- ✓ Compliance with Directive 1999/31/EC of the Council dated April 26, 1999 on landfilling of waste;
- ✓ Compliance with Directive 2008/98/EC of the European Parliament and of the Council dated November 19, 2008 on waste and repealing certain Directives.

To comply with these directives, it is necessary to address significant needs for investment in the sector, which are also underlying in the OP "Environment 2014 - 2020", namely:

- ✓ Measures to improve the municipal waste management;
- ✓ Activities related to the implementation of demo/pilot projects for the collection, synthesis, distribution and application of new, non-traditional successful measures, best practices and/or management approaches in the field of waste management as well as introduction of new technologies.

The specific measures that require investment in infrastructure under the National Plan for Waste Management for the period 2014-2020 and that may be funded within the OPE in the new programming period include:

- ✓ Construction of plants for the recovery of biodegradable municipal waste in 34 RAWM
- ✓ Recovery of RDF-fuel produced by the MBT installation in the municipal waste plant in the ciy of Sofia
- ✓ Construction of separating and sorting systems for municipal waste in 32 RAWM

The National Program for Waste Management 2014-2020 includes 9 programs, and it is estimated that their implementation would need BGN 1,698 billion. Specifically, for investment in infrastructure to improve the management of household and biodegradable waste the necessary

[17] The number of the municipalities – respondents in the survey for the purposes for this analysis is 109.

financial resources are in the amount of BGN 1,254 billion, and for the measures that can be specifically funded by OPE the necessary funding are in the amount of BGN 23.9 million.

Another strategic document which sets out measures in the field of waste management is the Third National Action Plan on climate change for the period 2013-2020. Some of these measures include:

Table 15: Measures in the field of waste management in the Third National Action Plan on climate change (2013-2020)

Measure	Needed funding
Construction of plants for mechanical and biological treatment (mMBT) and installations for treatment by compost and bio-gas recovery	BGN 221 million.
Further development of collective systems for separate waste collection by the population	BGN 80 million
Capture and incineration of bio-gas in all new and existing regional landfills*	BGN 24 million
TOTAL	**BGN 325** million

**Note*: Such measures are not included in the OPE 2014-2020*

As a source of funding this strategic document is fixing both the municipal budgets and OPE 2014-2020.

The analysis of the service provision in the Waste sector in the country and in particular their quality largely depends on the funding available for investment in infrastructure. During the previous programming period Operational Programme "Environment 2007-2013" was one of the main tools for the construction of infrastructure related to the management and recovery of waste. According to OPE 2007-2013, the allocated fund for the sector amounted to nearly EUR 367 million. Their purpose was to ensure compliance with Directive 75/442/EEC on waste and Directive 1999/31/EC on waste landfilling.

The actual absorption of funds under OPE 2007-2013 started in 2010. At present 24 contracts for technical assistance were already implemented and another 4 contracts are still running. Within the program in 2013 started also the implementation of 19 contracts with an investment focus on establishing regional systems for waste management and the 1 contract for the implementation of activities on closure and rehabilitation of municipal landfills for household waste that do not meet the legal requirements.

Table 16: Procedure BG161PO005-2.0.08 Construction of regional systems for waste management

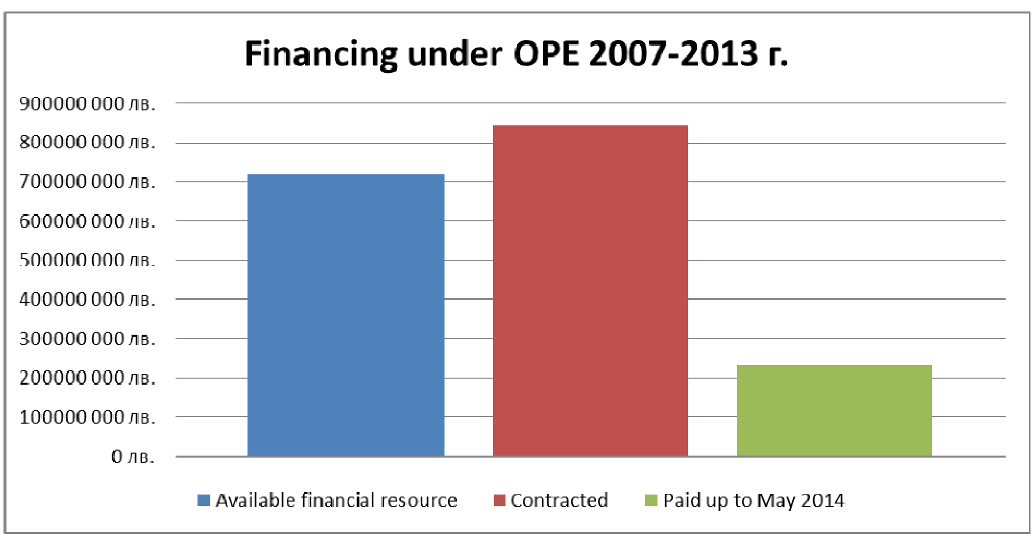
Beneficiary	Total value (BGN)	Actually paid amounts (BGN)	Duration (months)	Status
Municipality Razlog	12 899 179,51	2 588 080,81	42,03	Under implementation
Municipality Lukovit	16 309 111,60	4 795 083,10	32,00	Under implementation
Municipality Gabrovo	26 235 646,29	10 591 620,26	38,00	Under implementation
Municipality Aksakovo	29 846 833,39	0,00	34,00	Under implementation

Municipality Samokov	9 478 365,18	0,00	31,00	Under implementation
Municipality Nikopol	42 848 567,83	14 186 995,65	39,03	Under implementation
Municipality Stara Zagora	52 017 747,21	9 883 371,97	39,00	Under implementation
Municipality Yambol	31 324 460,67	0,00	33,00	Under implementation
Municipality Pleven	27 478 394,82	9 821 251,59	33,00	Under implementation
Municipality Panagiurishte	18 299 654,65	0,00	33,00	Under implementation
Municipality Byala	25 362 330,82	1 102 710,04	34,00	Temporary suspended
Municipality Dobrich ciy	38 877 375,67	7 386 701,38	33,00	Under implementation
Municipality Pernik	21 147 974,26	5 354 480,70	37,00	Under implementation
Sofia Municipality	344 268 693,54	132 474 679,91	49,00	Under implementation
Municipality Botevgrad	13 708 899,29	13 925 768,20	31,00	Under implementation
Municipality Vidin	20 515 302,00	5 949 360,02	46,00	Under implementation
Municipality Burgas	43 231 121,10	13 330 176,89	44,63	Under implementation
Municipality Malko Tarnovo	6 482 815,95	1 348 782,35	31,00	Under implementation
Municipality Haskovo	28 454 919,25	0,00	32,00	Temporary suspended
TOTAL	**841 650 605,74**	**232 739 062,87**		

Sourse: UMIS

The information presented here can be summarized as follows:

Figure 9: Funding under OPE 2007 – 2013



Source: UMIS

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Agreed resource under OPE 2007-2013 equals 117% of the available, and the paid amount at the end of May 2014 is 32% of total program funding for the Waste sector. Given that after the public procurements the real value within the individual Grant Agreements is below the initially agreed in the budget, and that part of the costs were not verified, it is expected the financial resource to be sufficient for the realization of these projects.

The issue about the projects to be implemented within the OPE 2014-2020 is not standing in the same way,

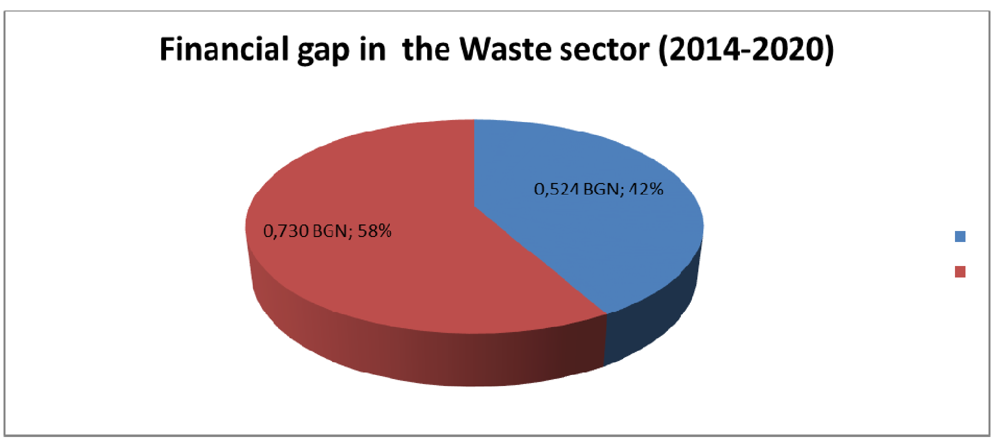
1.2.4. Investment gap

At present, within the OPE 2014-2020, the financial resources provided under Priority Axis 2 "Waste" amounts to EUR 268,078,420 or BGN 524,315,816.2, including the amount of the national co-funding.

According to the National Plan for Waste Management 2014-2020, for investment in infrastructure to improve the management of household and biodegradable waste is necessary financial resource in the amount of BGN 1,254 billion, and for the measures that are to be funded by OPE the necessary resource is in the amount of BGN 623.9 million

Based on the information summarized above, it can be concluded that the investment gap for achieving a specific objective under OPE 2014-2020 (Specific Objective 1 Reducing the amount of landfilled waste) as well as to provide the national contributions to Thematic objective 6 "Environment protection and promoting the resource efficiency" from the Europe 2020 Strategy is as follows:

Figure 10: Financial gap for improving the household and biodegradable waste management



1.2.5. Analysis of supply and demand of funding

a) Schemes of funding projects in Waste sector during the pre—accession period

In the period until 2007, when Bulgaria became a member of the European Union were signed the following Financial memoranda in Environment Sector under ISPA program:

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Table 17: Approved projects under ISPA program until 2007

		Budget under financing memoranda			
No	Name	Total (Euro)	ISPA grant (Euro)	National financing (Euro)	Funds from IFIs (Euro)
1	Package of 6 regional landfills for waste products located in Montana, Ruse, Pernik, Sevlievo, Silistra and Sozopol	60 577 513	45 433 135	15 144 378	
2	Construction of urban sewage treatment plants for waste water located in the Maritsa River Basin (Stara Zagora and Dimitrovgrad)	43 399 688	32 549 766	4 399 969	6509953.00
3	Regional treatment plant for wastewater - Gorna Oryahovitsa	14 970 551	11 227 913	3 742 638	
4	Urban wastewater treatment plant – Pazardzhik	17 199 871	11 179 916	6 019 955	
5	Urban wastewater treatment plant – Blagoevgrad	11 322 419	7 925 693	3 396 726	
6	Urban wastewater treatment plant – Targovishte	15 235 915	11 426 936	3 808 979	
7	Urban wastewater treatment plant – Meden Rudnik district, Burgas	10 206 220	7 654 665	2 551 555	
8	Urban wastewater treatment plant – Montana	15 067 113	11 300 335	3 766 778	
9	Urban wastewater treatment plant – Sevlievo	13 987 623	10 490 717	3 496 906	
10	Urban wastewater treatment plant – Popovo	11 860 433	8 895 326	2 965 107	
11	Urban wastewater treatment plant – Lovech	17 811 576	13 358 682	4 452 894	
12	Integrated project for improvements in the water sector in the city of Smolyan	24 471 021	18 353 266	6 117 755	
13	Integrated project for improvements in the water sector in the city of Varna	25 432 000	19 074 000	6 358 000	
14	Integrated project for improvements in the water sector in the city of Balchik	21 589 225	16 191 919	5 397 306	
15	Integrated project for improvements in the water sector in the city of Shumen	30 130 000	22 597 500	7 532 500	
16	Regional Centre for Waste Management - Kardzhali	14 547 162	10 910 372	3 636 791	
17	Construction of desulphurization plant for Units 5 and 6 of CHP Maritsa Iztok 2	72 330 000	36 165 000	11 165 000	25 000 000.00
18	Integrated project for improvements in the water sector in the city of Sofia	58 500 000	43 875 000	5 850 000	8 775 000.00
19	Integrated project for improvements in the water sector in the city of Sliven	21 200 000	15 900 000	2 120 000	3 180 000.00
20	Integrated project for improvements in the water sector in the city of Burgas	21 000 000	10 080 000	0	10 920 000.00
21	Integrated project for improvements in the water sector in the city of Ruse	46 800 000	35 100 000	3 700 000	8 000 000.00
22	Integrated project for improvements in the water sector in the city of Kiustendil	21 200 000	15 900 000	5 300 000	
	Total - Environment	**588 838 330**	**415 590 140**	**110 863 237**	**62 384 953**

It is obvious from the information presented above that the opportunity to secure funding from IFIs was not used for the projects in the Waste sector, and only funds from the national budget were used.

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In the pre-accession period has been also established the Enterprise for Management of Environmental Protection Activities (EMEPA). It is a legal entity established by the Law on Environmental Protection - Art. 60, para. 1 (SG. 91 of 25.09.2002). EMEPA is a public entity within the meaning of Art. 62, para. 3 of the Trade Law and it is not a commercial company, and it does not form and distribute profits. According to the EMEPA Rules of Organization and Operation[18] the entity's operations are funded with proceeds from:

- ✓ fees established by special laws in the field of environment;
- ✓ specially designated funds from the state budget for environmental programs according a decision of the competent authorities;
- ✓ donations from local and foreign individuals and legal entities;
- ✓ receipts from interest on deposits;
- ✓ fines and property sanctions for administrative violations under the Environmental Protection Act and any special laws relating to the environment imposed by the Minister of Environment and Water or by authorized officials thereof;
- ✓ proceeds from recovered credits and interest paid thereon;
- ✓ income from investment portfolio of short-term government securities and bonds
- ✓ revenue from services and activities related to the operation of the company;
- ✓ other proceeds set by legislative act.

The company provides funds in the form of:

- ✓ Grants;
- ✓ Interest free of low-interest loans;
- ✓ Subsidies to cover part or the full amount of interest due on bank loans for the implementation of environmental projects and sites.

b) Schemes for financing projects in Waste sector in the period 2007-2013

In the period 2007-2013 the structure for funding the projects in Waste sector was as follows:

Table 18: **Structure for funding the projects in Waste sector** (2007-2013)

Priority axis	Number	Budget (BGN)		
	of contracts	Total	EU funding	National funding
Improvement and development of the infrastructure for waste treatment	56	717 288 084	609 694 872 (85%)	107 593 212 (15%)

Source: UMIS

[18] Last version – Decree of the Council of Ministers No. 81 of 23.04.2012

National funding includes funding from the state budget and municipal co-funding, which is determined based on the results of the financial analysis prepared for the project in concern. According the invitation for submitting project offers under Procedure: BG161PO005-2.0.08 Construction of regional systems of waste management, the minimum municipal co-funding is set at the value of 5%. As a result of ex-ante defined minimum amount for the municipal co-funding, in most projects funded under this procedure, the own funds provided by municipalities are equal from 5% and 10% of the total project budget. Some of these funds are provided from the municipal budget of the municipality in concern and part through debt financing of FLAG Fund.

According to the information provided by the Fund in the period 2007-2013, FLAG funded 69 projects under OPE, including 6 in the Waste sector totaling BGN 47.5 million and the value of loans was BGN 4.1 million. As of the end May 2014, the Fund was submitted one more project totaling BGN 21.8 million and requiring credit funding in the amount of over BGN 6 million.

Most of the loans granted by the FLAG were used as bridge funding for the projects, i.e. to cover costs before they recover from the OPE

The Enterprise for Management of Environmental Protection Activities (EMEPA) is another source of funding for projects under OPE with principal Ministry of Environment and Water

c) Possible forms for funding projects in Waste Sector in the period 2014-2020

According to Art. 120 of Regulation (EC) № 1303/2013 of the European Parliament and of the Council laying down generally applicable provisions for the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development, and the European Maritime and Fisheries, and for laying down general provisions for the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European maritime and Fisheries, and for repealing Regulation (EC) № 1083/2006 of the Council (General Regulation), the rate of co-funding for each priority axis and, where applicable, by the categories region and fund, co-funding of operational programs under the "Investment for growth and jobs" shall not exceed 85% for the Cohesion Fund and the ERDF.

According to Art. 37 of the same Regulation, the European Structural and Investment Funds (ESIF) can be used to support financial instruments in order to contribute to the achievement of specific objectives set out in a priority in concern. Financial instruments are used to support investments that are expected to be financially viable, but can not generate enough funding from market sources.

In Waste sector, the projects under the scheme for the responsibility of households and other entities that generate municpal waste and waste similar to municipal waste, can not generate sufficient funding from market sources for the following reasons:

a) At present in Bulgaria there is no system “pay for disposal"as the users of the service related with waste management do not pay based on the quantity of waste discarded by them;
b) The percentage of collectability for deductions under Art. 64 of the WMA is still relatively low (about 70%), and failure in performing the obligations by municipalities results in a serious gap of funds;

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c) The higher share of revenues in the overall structure of the revenues from the municipal waste comes from legal entities, but however they missing incentives to participate more actively in projects on waste management.

Assessing the possible sources of funding for projects in the sector should consider the following circumstances:

- ✓ ESIF Policy Framework emphasizes the need to use more financial instruments for the period 2014-2020, particularly in the context of the financial restrictions;
- ✓ In the new programming period financial instruments can be used for ex-ante funding of grants (bridge financing)
- ✓ Currently in the country, only the public-private partnership is applied in the Waste sector as an instrument of financial engineering[19];
- ✓ At this stage of the evaluation all possible forms of funding applicable to the sector will be listed, while the more profound analysis will be made in the next sections of this documenT

Table 19: Practicable forms of funding projects in Waste Sector

Practicable forms of funding projects in Waste Sector	Grounds
Municipal waste fee	It is introduced by the Local Taxes and Charges Law. Forthcoming is the adoption of methodology for determining the municipal waste fee depending on the quantity of waste.
Deductions under Art. 60 and Art. 64 from WMA	For closure and rehabilitation of the existing Landfills for solid municipal waste; accumulation of funds for construction of new plants and for the subsequent operating costs associated with constructed plants
Grant	High initial costs and long payback period of the investments in the sector
Dept financing under favorable conditions and guarantees	In order to provide the necessary incentives and opportunities for the private sector to invest in the infrastructure, it is necessary the profit legal persons be provided with favorable conditions for debt financing
Public-private partnership	Continuation of successful practices in the sector, creating conditions for investment in new technologies and capacity building for implementation of the investment projects, including concessions, private equity, etc.

[19] The installation for mechanical and biological treatment (MBT) servicing RAWM Varna was constructed on the ground of a contract for public-private partnership and it is operating since 2912. In RAWM Botevgrad is forthcoming the construction of sorting installation for separation of mixed waste from the region in the form of public-private partnership.

In addition it should be noted that entities operating in the sector would use financial instruments for investments (loans and guarantees mainly) and this is also confirmed by the survey done among potential beneficiaries[20] as evidenced by the following figure:

Figure 11: Would the organization you represent use financial instruments to perform the activities on waste recovery?

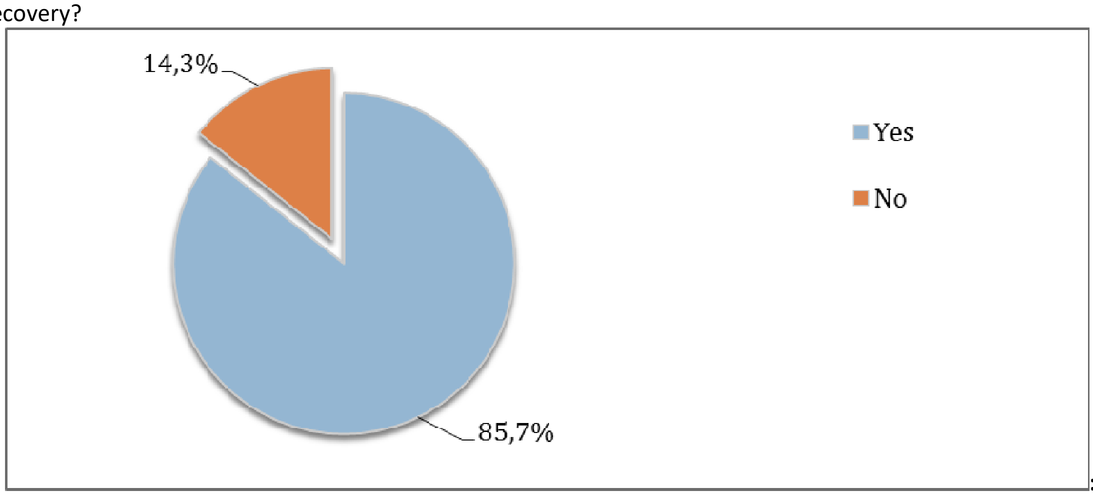

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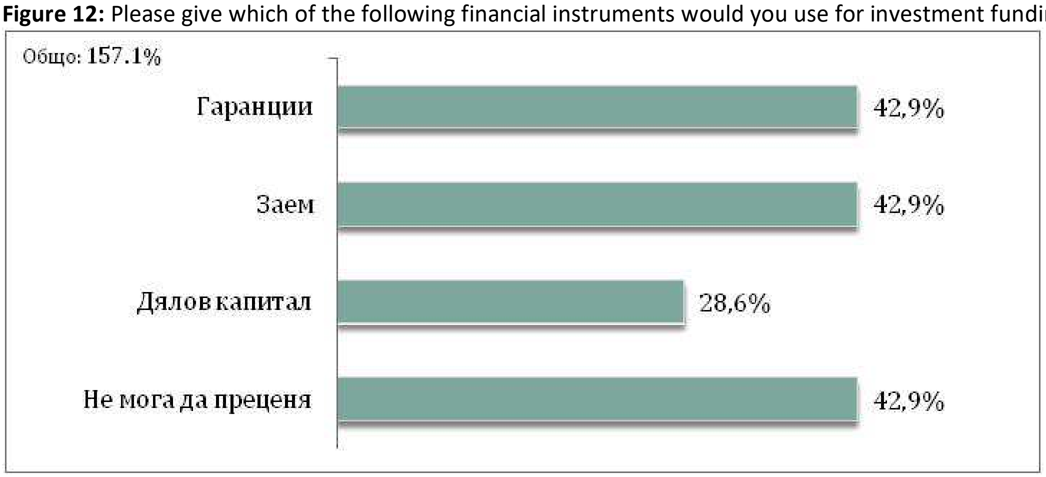
Figure 12: Please give which of the following financial instruments would you use for investment funding?



** Question with more than one answer possible*

1.2.6. Summary of suboptimal investment situation

From all these considerations, it can be concluded that there is a suboptimal market situation in the sector under the scheme for the responsibility of the households and the other entities that generate municipal waste and waste similar to the municipal waste, which is presented in the following diagram:

20 Answers from 116 respondents for Waste sector

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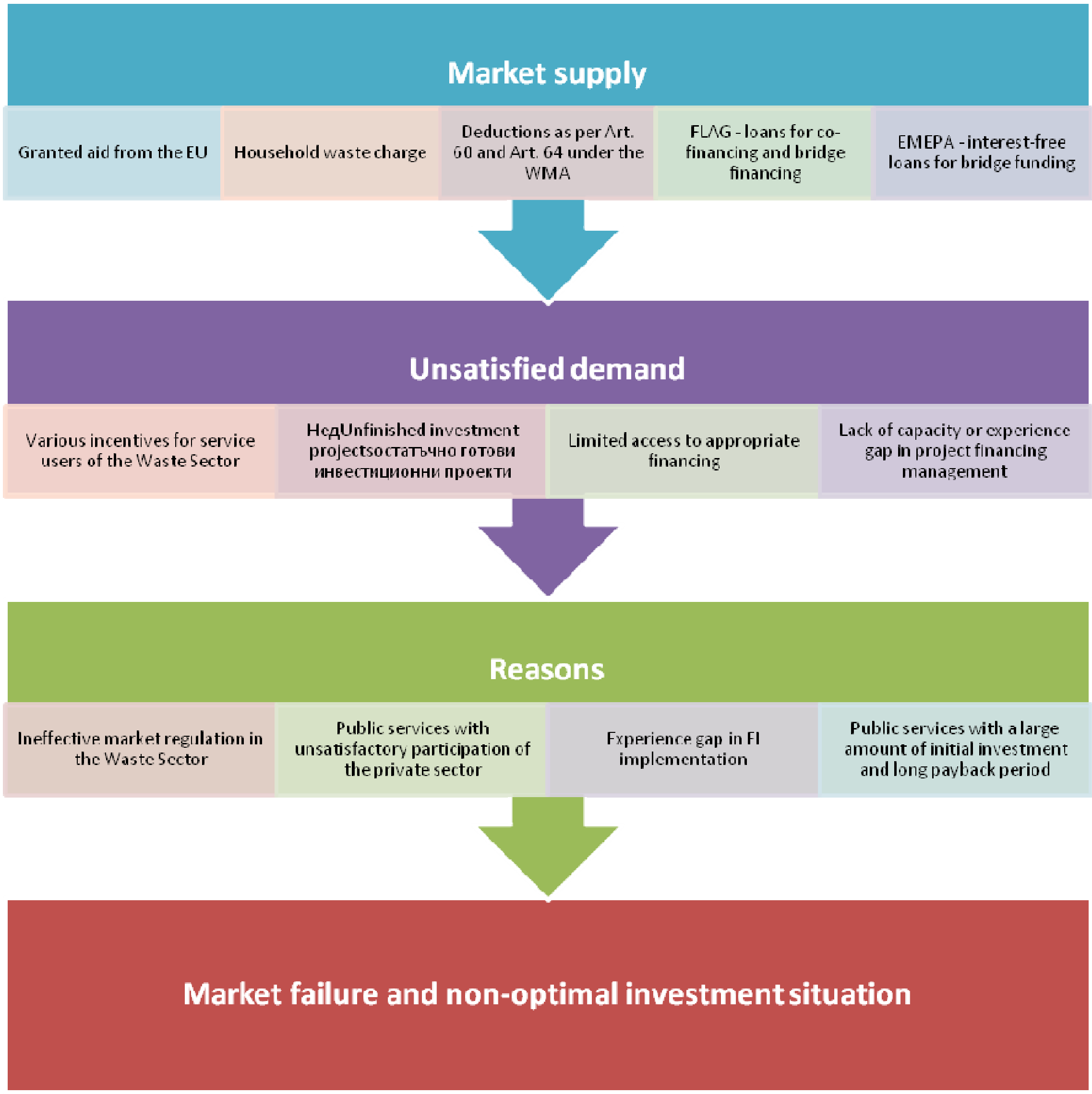
Figure 13: Suboptimal investment situation in Waste sector



1.3. Actions on air quality improvement

1.3.1. Main characteristics of the Air Sector in Bulgaria

Obligations of Bulgaria in Air Sector in terms of ambient air quality (AQ) resulting from the the following major European and Bulgarian legislative documents:

- ✓ Directive 2008/50/EC on ambient air quality and cleaner air for Europe
- ✓ Clean Air Act (Prom. SG. SG. 45 of 28 May 1996, last amendment and supplement SG. 102 of December 21, 2012)

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- ✓ Ordinance No. 7 for assessment and management of ambient air quality (SG. 45/1999, Effective as of January 1, 2000)

According to Art. 27 of the Clean Air Act, the areas (populated areas), where the emission of harmful substances in the air are exceeding the standard, are subject to assessment and management of the air quality, and the mayors of the municipalities in concern develop Programs addopted by the municipal councils to reduce the levels of air pollutants and for achieving the established standards under Art. 6 of Clean Air Act. At present were developed and adopted 29 municipal programs. The main measures to improve air quality in these areas are set out in the Action Plan, which is an integral part of each program.

The ambient air quality is monitored every day on the entire territory the country, including in larger towns and cities, and in the populated areas classified as regions for assessment and management of air quality where the levels of one or more pollutants exceed established standards, and where there is a potential health risk to the exposed population. The monitoring and the control of the ambient air normalcy is carried out by the National System for Control on the Air Quality, which at the end of 2007 include 22 automatic monitoring stations, 11 differential optical absorption systems, 4 automatic measuring stations in forest ecosystems and 19 with manual sampling and subsequent analysis. Additionally, in certain populated areas the monitoring of ambient air quality is carried out by 6 automatic mobile emission stations according to an established annual schedule. In 2008 were installed 7 new automatic measuring stations[21].

The main problems in the Air sector according the National Environmental Strategy 2009 – 2018 are due to the heavy traffic. In most cases to the contribution of transport, besides the emissions from motor vehicles, are also reported the particulate matter (PM10) emissions from fly-ash of particulate matter from road surfaces (the so called secondary atomization). Another source of air pollution with PM is heating houses with wood and coal in winter.

In Air sector the OPE 2014-2020 provides measures to reduce the pollution from the transport sector, so the submitted analysis focuses mainly on AQ related to the Transport sector[22], incl. the secondary atomization from the road pavements due the traffic.

The sources for funding the activities related to air quality in terms of the transport sector are the municipal budgets, as well as those of transport operators in the territory of each municipality[23].

The main revenues of municipalities are formed by the local taxes and charges collected under the Law on the Local Taxes and Charges. The local taxes are:

- ✓ Tax on real estates;
- ✓ Tax on heritage;
- ✓ Tax on donations;
- ✓ Tax on onerous acquisition of property;
- ✓ Tax on motor vehicles;
- ✓ License tax;
- ✓ Tourist tax;
- ✓ Other local taxes established by law.

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[21] Source: National Action Plan on Environment and Health 2008 - 2013

[22] Due to demarcation with Operational Program “Regions in Growth 2014-2020”

[23] As far as these participate in projects for improving the ambient air quality.

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The municipalities are also collecting the following local charges:

- ✓ for municipal waste;
- ✓ for use of markets, market-places, fairs, sidewalks and street;
- ✓ for use of nurseries, kitchens for children, kindergartens, specialized institutions for provision of social services, camps, dormitories and other municipal social services;
- ✓ for technical services;
- ✓ for administrative services;
- ✓ for redemption of graves
- ✓ for having a dog
- ✓ other local charges established by law.

Revenues from municipal waste fee are used purposefully for the services for municipal waste collection, transportation and disposal in landfills or recovery of municipal waste in other plants, and to maintain cleanliness of public areas in poplated regins, incl. streets and sidewalks,

These services are performed either by municipal enterprises for cleanliness and landscaping or by private companies under concession contract. The concession contracts require the concessionaires to provide also services for waste disposal, and these services may include:

- ✓ mechanical sweeping of streets according to a schedule;
- ✓ machine sweeping of streets and sidewalks according to a schedule;
- ✓ manual/mechanical sweeping of sidewalks and walkways;
- ✓ cleaning the streets and sidewalks of earth sediments.

The machinery for performing these activities may be concessionaire's property; municipal property or property of municipal company; respectively in these cases the municipal waste fee is indirectly source of funding for measures to reduce PM in the air.

Other source of revenue in the municipal budgets is the revenues from fines and sanctions under Art. 65 from EPA. According to this article of the ACT:

- ✓ 80% of the sanctions for damage or contamination of the environment above the admissible levels are received in the budget of the municipality in whose territory the sanctioned entity is located;
- ✓ Revenues from fines and sanctions under the law imposed by the mayors of municipalities are received in the budget of the municipality in concern;
- ✓ Revenue from fines and sanctions, as well as revenues from fines for violation of the regulations adopted by the municipal councils for the protection of the environment should be spent on environmental projects and activities on priorities identified in local environmental programs.

The other source of revenues in the sector – the revenues of transport operators – is formed by public transport services. Services by public transport are awarded by municipalities under a contract for public service (CPS) to municipal companies.

In recent years, under Regulation 1370/2007 of the European Parliament and the Council of Europe, the Bulgarian legislation was adapted to mass application of the CPS by local authorities in Bulgaria. The main changes are as follows:

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Table 20: Changes after the implementation of Regulation 1370

	Bulgaria before the implementation of Regulation 1370	**EU**
Legal framework	Ordinances 2, 3, 33 of Ministry of Finance and Ministry of Transport, Information Technologies and Communications	Regulation 1370/2007
Competition	**Competition**	CPS
Revenue formation	= Ticket sale = compensations & grants	Rate per km mileage
Service quality	Advantage in competitions	Minimum quality standards

The ticket price for the public transport is the main source of revenue for the transport operators for performing their activities, including making investments in new rolling stock or retrofitting of vehicles for the public transport[24].

The ticket price is regulated by the municipal administration. Generally, the price changes based on a request from the company-operator, and the request shall be considered by the City Council, taking also into consideration the level of "social affordability" and the ability to provide a return on the funds of the company-transport operator.

Each operator should generate revenues, *including from advertising and compensations*, within a reasonable level of profit. "Reasonable profit" must be understood as rate of return on capital that is normal for the sector in a Member State and shall be aware of the risk or lack of risk to which the operator of public services is exposed to as a result of the public authority intervention. In Bulgaria, the rate of return on capital that is normal for the sector is considered 5% in accordance with the provisions of Ordinance № 3/04.04.2005 of the Ministry of Finance on the terms and conditions for the provision of funds to subsidize the transport of passengers in unprofitable bus lines in city transport and transport in mountainous and other areas.

This regulation of the market leads to limited financial resources for investment by the public transport operators.

In addition to that described here, it should be noted that for the Air sector generally is lacking depth analysis and information as part of national plans and programs on which to make an adequate assessment of the problems and the market. This is a significant weakness that should be reported in the new programming period and which could be addressed adequately through the implementation of measures focusing on awareness and creating and promoting behavior in institutions and society for the protection of ambient air quality[25].

[24] These are provided within OPE 2014-2020

[25] Improving air quality is not understood at the forefront of priorities for environmental protection in the absence of direct vision of the impact of pollution on the environment

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1.3.2. Identification of existing problems of the market in the Air Sector in Bulgaria

As mentioned above, the problems in large cities related to poor air quality due to heavy traffic and jam that also cause secondary atomization and increased levels of fine particulate matter in the air. This is referred to as one of the greatest challenges faced by large cities in the National Environmental Strategy[26]. These problems are related to lifestyle, way of living, habit of using private cars, increased consumption of resources, etc. They are also directly linked to industrial activities and transport in general.

According to the National Action Program for Environment 2008-2013, the problem for the whole country is still the contamination by suspended dust and particulate matter (PM) levels, and their levels in most cities are at or above the adopted limits, respectively concentration limit values of total dust content and for the content of PM in ambient air[27].

The program also acknowledges that in recent years substantially was reduced the sulfur dioxide in the air especially after 2000, but in some areas are not excluded cases of exceeding the admissible limits[28]

Specially mentioned problem is the tendency to increase the content of nitrogen dioxide in the air of large cities, which is related to an increase in the number and use of personal vehicles. In most cases the transport helps to register, besides the emissions from motor vehicles, also the PM10 emissions from fly-ash of particulate matter from road surfaces (the so called secondary atomization).

Given the mentioned problems, the reduction of greenhouse gas emissions, ozone precursors emissions and particulate matter from transport activities are one of the biggest challenges facing cities.

Another source of air pollution with PM10 is heating homes with wood and coal in winter. Point data for measuring the air show that in other conditions being equal, including transport and industry, during the six summer months the pollution is within the limits, but in winter from time to time it exceed the permissible limits multiple.

Municipalities are responsible to deal with these problems in the sector and they do not have sufficient financial resource for investments in environmental protection and in particular in air quality improvement, and their role is currently limited mainly to the development of Programs to reduce the levels of ambient air pollutants (obligation under the act).

In the Air sector the OPE 2014-2020 provides for measures to reduce pollution from the transport sector, so further below analysis of market failures is considering the relationship of Air sector with Transport sector only, and in particular the applicability of financial instruments for the measures included in Priority Axis 5 of OPE.

According to a methodology for ex-ante assessment of the financial instruments, the reasons for the market failures can be different. Based on the examples given in the methodological documents the problems and the main reasons of their occurrence can be defined as follows:

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[26] National Environmental Strategy 2009-2018

[27] National Action Program for Environment 2008-2013, p. 28-30

[28] Idem, page. 29

Market failure	Definition	Argumentation	Result
Economic structural failures			
Negative externalities	Negative externality is the price that is borne by a third party as a result of economic transaction. The external effect is due to the fact that the participants in the transaction do not associate all associated costs. The presence of a negative externality means that the private sector/ participant/user is not particularly interested in investing in order to reduce the negative effect because it does not bear the full cost. This means that there is a market failure and there is public support.	✓ Programs to reduce the levels of air pollutants include comprehensive measures that can not be implemented by municipalities only, and require a broader partnership with other parties, and transport operators/agents of secondary atomization shall not bear the full cost of air pollution. ✓ Air pollution is caused by different sources, and the municipalities have no powers of direct impact on them.	✓ Incomplete application of the principle "the polluter pays" ✓ There are great challenges for the local authorities about the objectives to improve the ambient air quality
Public services	These services are not mutually exclusive and are not competitive. Even if someone does not contribute to the production of a public good, the costs of limiting its	✓ The public transport as well as waste disposal and washing the streets are public services (basic agents of particulate matter in urban environments) for which there is no competition in the market, because these services are	✓ Lack of incentives for investment in measures for air quality

Market failure	Definition	Argumentation	Result
	right to benefit from the service are prohibited.	awarded by long-term contracts to definite entities. The prices for these services are not formed on a competitive basis, and at the same time there are no sufficient regulatory sanctions to limit pollution.	
Unsuccessful market regulation	It arises when the political decisions do not consider the fact that the market alone can correct some of its failures. In such cases, control measures create inefficiency.	✓ The public transport as well as waste disposal and washing the streets are public services for which were introduced the principle of "social affordability of prices" under existing regulations.	✓ Legislative restrictions leading to limitting the financial resources for investment in the sector
Incomplete property rights or difficulties in transferring them	It refers to a situation where it is difficult to establish or transfer property right on resource or product/service	✓ In the case of concession contracts, the waste disposal machinery is concessionaries' property, and the contracts are long-term ones and not subject to change. In the event that they are not providing duties of such machinery, it is impossible to impose such requirements on already existing contracts, and a the same time there is no legal and economic grounds for the municipalities to provide the necessary machinery to prevent secondary atomization in air	✓ Lack of waste disposal equipment in all entities that perform services for cleaning and washing of streets
Failures of the demand side			

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Market failure	Definition	Argumentation	Result
Various incentives	They arise when two parties that want to enter into contractual relations have a different objective and incentives that affect their ability to make decisions	✓ The public service providers want to maximize their profits and reduce costs, and therefore are reluctant to invest in activities that do not add value ✓ The transport operators do not sustain fines for air pollution, respectively, they have no incentives to invest in measures to improve air quality ✓ In most concession contracts for waste disposal are not included obligations for the implementation of measures to improve air quality.	✓ Lack of incentives for investment in measures for air quality
Failures of the supply side			
Limited access to adequate funding	The investments require a mix of public (free of charge) funding and private funding, as have large initial (investment) costs and long payback period/redemption of investment	✓ Public transport and waste disposal and washing the streets are public services for which was introduced the principle of "social affordability of prices" under existing regulations	✓ Gap in funding for investment in measures for air quality

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1.3.3. Analysis of supply and demand in the Air Sector

The analysis of demand in Air sector in the country is largely reasoned by the requirements of the European legislation in the field of the quality and clean ambient air protection.

In order to comply with these directives, it is necessary to address the significant needs for investment in the sector, included in the OP "Environment 2014 – 2020", namely

- ✓ Measures to improve ambient air quality (AAQ) by providing multifunctional cleaning equipment for durable and permanent removal of particulate matter and by reducing pollutant emissions from vehicles of the urban public transport
- ✓ Measures relating to reducing emissions of pollutants from vehicles of urban public transport including reducing the use of conventional fuels in public transport; retrofitting of vehicles for public transport
- ✓ Demo/pilot projects for improving ambient air quality

Measures that will have positive effect on ambient air quality are provided in the third National Action Plan on Climate Change for the period 2013-2020 Some of them are as follows:

- ✓ To reduce the share of trips by private motor vehicles by improvement and development of urban public transport and by developing the non-motorized transport.
- ✓ To reduce in half (50%) motor vehicles using conventional fuels in public transport.

In addition the Action Plan of the National Environmental Strategy 2009 – 2018, provides performance of the measures from municipal programs under Art. 27 of the Clean Air Act for control of the AAQ in areas with poor air quality, including update of program measures in case of proved need:

The analysis of supply of services in Air sector largely depends on the funding available for investment in measures to improve ambient air quality. During the previous programming period OP "Regional Development" 2007-2013 is funding renovation of rolling stock of public transport operators in large cities. After extending the scope of OP "Environment 2007-2013", measures were taken to improve air quality by purchasing environmentally friendly vehicles.

In the new programming period 2014-2020, the OPE will fund measures directed towards improving air quality, incl.:

- ✓ review and analysis of municipal programs for air quality – identification of emission sources, emission inventory of pollutants from these sources, model evaluation, measures for compliance, etc.;
- ✓ assisting the competent authorities in the preparation/revision, implementation and control of municipal programs, and monitoring of air quality, incl. identification of emission sources, emission inventory of pollutants from these sources, model evaluation and implementation of adequate to local conditions measures to improve air quality;
- ✓ providing multifunctional cleaning equipment (incl. foor washing streets, squares and sidewalks) for durable and permanent withdrawal of particulate matter;
- ✓ measures relating to reducing emissions of pollutants from vehicles of urban public transport

including reducing the use of conventional fuels in public transport; retrofitting of vehicles for public transport;

- ✓ development, where appropriate, of early warning systems for air pollution in adverse weather conditions in the context of the analysis of municipal programs;
- ✓ Implementation of demo/pilot projects related to measures to improve air quality including development of alternative modes of transportation.

The financial resources provided for these measures is totaling EUR 58 823 529.

Here it should be noted, however, that ***due to the lack of sufficient reliable information, currently no analysis of the investment gap in Air sector can be done.***

1.3.4. Analysis of supply and demand of funding

a) Schemes of financing projects in Air sector during the period 2007-2013.

On 14.02.2013, the European Commission approved the amendment of the Operational Program "Environment 2007 - 2013". The amendment aims to extend the scope of the program by including new measures that meet the priorities in the sector "Environment". They are directed towards improving air quality in cities, preventing and fighting the floods and the forest fires, monitoring and protection of water. Following the amendment of the program is announced procedure for GA BG161PO005 / 13 / 1.50 / 01/35 "Measures to improve air quality by providing environmentally friendly vehicles of public transport" with a total grant of BGN 389 983 958 The specific purpose of this procedure is to ensure the implementation of actions to improve air quality through the purchase and delivery of new trolley buses, trams, subway trains and buses.

Procedure: BG161PO005-1.0.12 Measures to improve air quality by providing environmentally friendly vehicles of public transport

~ Beneficiary	Total amount (BGN)	Amounts paid (BGN)	Duration (months)
Metropolitan Municipality in partnership with the "Metropolitan motor transport "JSC	66 283 581,60	53 026 865,28	16,00
Metropolitan Municipality in partnership with the "Metropolitan" JSC	80 173 250,15	64 138 600,12	13,00
Metropolitan Municipality in partnership with the "Metropolitan Electrotransport "JSC	81 505 912,87	0,00	22,00
Burgas Municipality in partnership with the company "Burgasbus" - city of Bourgas; Varna Municipality in	91 345 530,96	62 420 625,87	17,83

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partnership with the company "Public Transport" JSC - city. Varna, Pleven Municipality in partnership with the company "Trolleybus Transport" - city of Pleven and Stara Zagora Municipality in partnership with the company "Trolleybus Transport" Ltd. - city of Stara Zagora		
TOTAL	**319 308 275,58**	**179 586 091,27**

Source: ISMM (Information systems of Management and Monitoring)

Another source that offers financing investments for the purchase of waste disposal equipment in the period 2007-2013 is the Program for municipal funding from the European Investment Bank. The beneficiaries of this program are municipalities, public or private companies performing municipal services in favour of local community. Parameters of the funding are:

Loans under the Program for municipal funding	
Minimum loan amount	40 000 EUR
Grant Scheme (Grant) - used for automatically repayment of loan principal	to 2.5% of the project cost
Term of loan	Min 4 years
Term of project implementation	Max 5 years
Repayment	Negotiable
Interest rate	Individually determined for each project
Collateral	Negotiable

Financial resource under the program is provided by the credit line with the EIB, grants from the European Commission (EC) and by the International Fund to support the decommissioning of Kozloduy.

In relation to the market research of the supply of financial instruments for the implementation of measures in the air sector were held interviews with representatives of the banking institutions in the country, the results of which tend to show that there is no interest in the Program for municipal funding from EIB and no application was submitted for a loan. Respectively, can be concluded that at present there is no demand of financial instruments for the implementation of measures to improve air quality.

b) Possible types forms of financing projects in Air sector under OPE in the period 2014-2020.

Based on the above analysis are outlined the possible forms of financing projects in the Air sector as follows:

Possible forms of financing projects in the Waste sector	Grounds

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Municipal waste fee (indirectly[29])	Introduced by the Law on Local Taxes and Charges. Part of the fee is used by the concessionaires or municipal enterprises providing cleaning services for the purchase of the necessary waste disposal equipment, including washing roadways, squares and sidewalks
Fares for public transport	The ticket price for public transport is the main source of income for transport operators whereby they perform their activity, including making investments in new rolling stock or retrofitting of vehicles of the public transport
Grant Assistance	Grant funding can be used to finance projects that do not generate enough income or have no alternative funding sources

1.3.5. Summary of suboptimal investment situation in the Air Sector

Based on the above information about Air sector the following conclusions can be made regarding the availability of suboptimal investment situation:

1) ***In the sector there is a suboptimal investment situation, the reasons for which are presented in item 1.3.2 above.***
2) ***However, inactivity is observed in the implementation of measures to reduce pollution caused by traffic and improvement of AAQ for regulatory reasons and lack of adequate incentives.***
3) ***The market for implementation of investment projects in the sector as a whole is immature as measures for improving AAQ are still sporadic and are seen as pilot/ demonstrative.***
4) ***Despite the presence of suboptimal investment situation, the use of financial instruments in the Air sector at this stage will be rather unsuccessful due to lack of interest and the lower level of AAQ in the hierarchy of priorities of the municipalities in the field of environment.***
5) ***It is recommended first through projects funded entirely by Grant funding to create a "culture" of air quality protection within the 2014-2020 programming period and then to think about diversification/ supplement funding from other sources.***

Based on the above conclusions, the rest of the analysis will focus on Water and Waste sectors, as given the financing measures included in the OPE 2014-2020, it is considered that the Air sector is still "immature" and needs mostly grant funding[30].

Regardless this conclusion, upon future changes in financing activities envisaged under the program[31], it will be necessary to review the assessment of the applicability of financial instruments in this sector.

29 Given that solid municipal waste could be used partially to finance the activities of washing street roadways and sidewalks in the framework of concluded concession agreements or commitments of municipal companies providing cleaning services

30 As the example is given in item. 3.1.4 of Volume 4 of the Methodology for ex ante assessment of the financial instruments - http://ec.europa.eu/regional_policy/thefunds/fin_inst/pdf/ex_ante_vol4.pdf

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1.3.6. Investment priorities, thematic targets and specific targets under the OPE 2014-2020, which can be supported through financial instruments

Investment priority	Thematic target	Specific targets
"Investing in water sector to meet the requirements of EU legislation in the field of environment and meeting the needs identified by Member States for investments that exceed these requirements "	TT 6 "Preserving and protecting the environment and promoting resource efficiency"	Specific target 1 - Protection and improving the status of water resources Specific target 2 - Improving the assessment of water status
"Investing in the waste sector to meet the requirements of the acquis of the Union in the field of environment and meeting the needs identified by Member-States for investments beyond these requirements"	TT 6 "Preserving and protecting the environment and promoting resource efficiency"	Specific target 1- Reducing the amount of waste deposited

1.3.7. Summary of the lack of funding and investment needs in the WSS sector

The investment shortfall in the WSS sector amounts to 7.5 bil. Euro. At the same time the available resources under OPE for investment projects amounts to 1.1 bil. euros which represents only 15 % of the total required resource for implementation of investment projects for the improvement of water resource status.

Figure 14: Investment shortfall in the WSS sector

[31] e.g. providing measures for the purchase of new rolling stock, which eventually would be appropriate to use financial engineering instruments.

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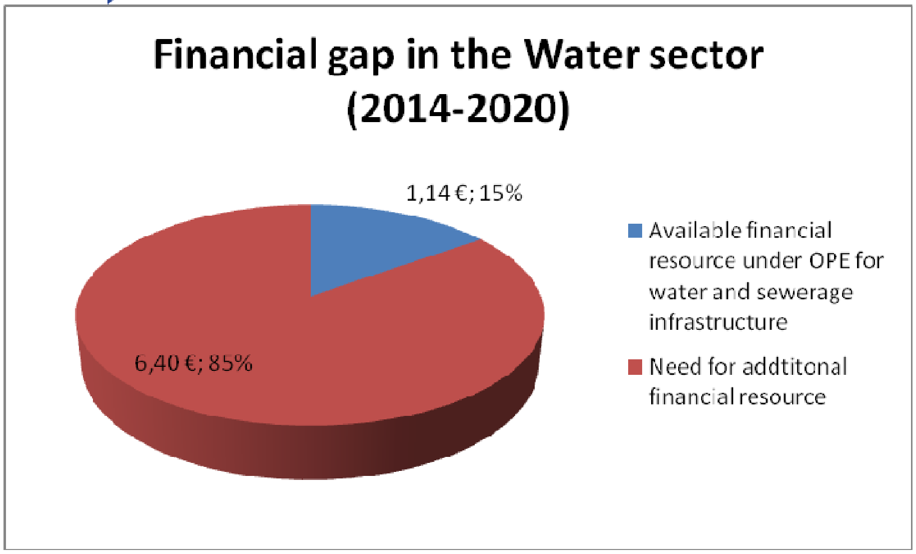

Note: The total financial resource amount refers to the types of investments under OPE 2014-2020

The types of investments that need to be funded are as follows:

- ✓ Construction / rehabilitation / reconstruction of facilities for wastewater treatment, incl. facilities for sludge/sediment treatment (according to the provisions under the Directive on waste water treatment and the conditions under the permit for discharge, incl. providing more stringent treatment with removal of biogene elements from wastewater for agglomerations above 10,000 PE discharging into particular areas);
- ✓ Construction / rehabilitation / reconstruction or replacement of sanitation networks to or from the WWTP in order to provide the priority of the ecological and cost effective operation of WSS systems in accordance with the country's commitments under the Directive on urban waste water treatment;
- ✓ Construction / rehabilitation / reconstruction of facilities for purification of drinking water or if it is more cost-effective by building new water intake facilities;
- ✓ Construction / rehabilitation / reconstruction of water supply systems for drinking water in compliance with the obligations under Directive 98/83/EC in order to increase the efficiency of water use and reduce water losses in water supply networks;
- ✓ Construction of supporting infrastructure (e.g. electricity, roads, water supply), which serves only the projects under construction (e.g. WWTP, DWTP and pumping stations).

The measures to support the preparation of investment projects and the realization of water reform should be funded wholly by grants.

The practice prevailing hitherto of preparation and implementation of projects in the sector shows that the investments that are realized are integrated, i.e. they include components to improve the quality and infrastructure of both water and wastewater. In its comments on the version of OPE 2014-2020, proposed in June, the European Commission stresses that "considering the importance of a sustainable water system the approach to water efficiency should be particularly careful ... higher priority should be given to measures reducing water losses in the distribution network rather than to investments increasing the capacity of water supply." *Actually, this means that under the new operational program measures will be funded with equal priority both for water supply and wastewater collection and treatment of wastewater.*

In addition, the Commission stresses that funding under OPE should be offered to no more than one project area, the beneficiary of which should be a consolidated regional WSS company. In this regard, management and development strategy of the water sector reads that "the acceptance of the proposal to reduce the number of separate areas in accordance with the number of districts in the country (28) will continue to respect the existing legal provision: a separate territory – a WSS operator. The identified 28 WSS operators (WSS operators who currently perform full functions of a specified area or combined several WSS operators acting within a specified area) will continue to be entitled to perform their functions." *So, it can be concluded that the expected minimum number of projects under the OPE for the period 2014-2020 is at least 28.*

So far, the MA of OPE has provided four major projects within the meaning of Art. 100 under Regulation 1303/2013, totaling 265 mil. euros, which means that in case of an average number of 28 projects in the country, at least 24 projects will be worth up to or close to 50 mil. euros.

Table 21: Potential projects in the WSS sector

Potential large-scale projects	**Estimated value, per project**
Plovdiv	73 mil. Euros
Dobrich	58 mil. Euros
Asenovgrad	56 mil. Euros
Pleven	80 mil. Euros
Potential small-scale projects	Estimated value, per project
At least 24 regional WSS companies	45 mil. Euros

1.3.8. Summary of the funding gap and investment needs in the Waste Sector

Investment gap in the Waste sector for the realization of measures for domestic and biodegradable waste amounts to 1.3 billion Euro. Available financial resources under OPE 2014-2020 is only 23% of the total funds needed to reduce the amount of deposited waste.

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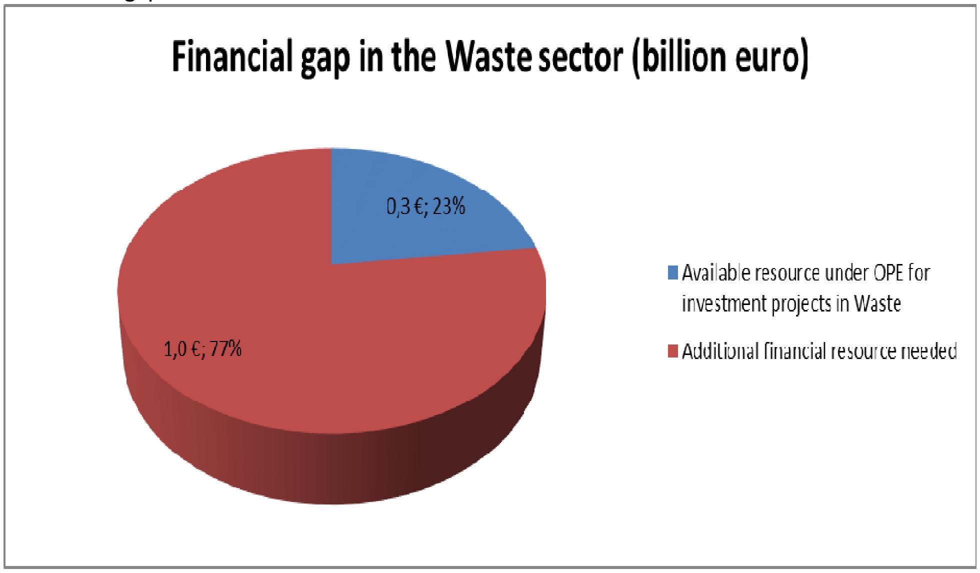
Figure 15: Investment gap in Waste sector



Available financial resources OPE for investment projects

Needed additional financial resources

Types of investments for which funding should be provided are the following:

- ✓ Design and construction of centers for reuse, repair and preparation for reuse, incl. providing facilities and equipment for the purposes of the activity;
- ✓ Design and construction of sites and installations for pre-treatment of waste;
- ✓ Design and construction of anaerobic and/or composting installations for biodegradable and/or green waste, incl. provision of necessary equipment and facilities and machinery for separate collection of biodegradable waste and green waste;
- ✓ Design and construction of installations for the preparation for utilization and recycling of waste;
- ✓ Design and construction of supporting infrastructure to the above described facilities (e.g. electric power supply, road, water supply), which serves the sites under construction only.

It should be noted that in the framework of Priority Axis 2 Waste of OPE 2014-2020 are scheduled for implementation activities, related to the execution of demo/pilot projects for the collection, synthesis, dissemination and application of new, non-traditional successful measures, good practices and/ or management approaches in the field of waste management, as well as the introduction of new technologies. These activities, however, do not involve the use of financial instruments, as the value of the individual projects is small, and their components are mainly the so called "Soft" measures for which there is no supply of financial engineering instruments.

In contrast to the Water sector here can not be evaluated the estimated amount and scope of the projects based on previous experience, as the proposed for funding activities within the OPE 2014-2020 differ materially from those funded in the previous programming period.

The only quantitative assessment of the average investment is for the following types of projects:

- ✓ Design and construction of anaerobic (about 26 million Euro) and/or composting (about 2 million Euros) installations for biodegradable and/ or green waste;
- ✓ Design and construction of pre-treatment facilities and recycling of waste - third phase of an integrated system of facilities for the treatment of domestic waste of Sofia Municipality (total project costs amount to about 135 million EUR preliminary evaluation of the financial gap of 68 4% or 92.5 million Euro) with potential beneficiary 'Heating Company".

1.4. Demand and supply of financial instruments for the realization of investment priorities in Environment Sector

1.4.1. Supply of financial instruments for financing projects in the Environment Sector

Funding sources for the programs (projects) in the field of environmental protection include national (Bulgarian) or international organizations, funds, mechanisms and others that perform direct investment through: budgetary subsidies, grants and donations, preferential loans for project implementation in the field of environment protection, indirect investments, etc..

1.4.1.1. Financial instruments from Bulgarian institutions

- ➢ **Enterprise for Management of Environmental Protection Activities (EMEPA)**

The Enterprise for Management of Environmental Protection Activities (EMEPA) was established by Environment Protection Act. EMEPA controls the spending of the funds allocated to the National Trust Eco-Fund (NTEF) under the contracts for financing projects under the National Green Investment Scheme (NGIS), including costs for administrative purposes for the implementation of NGIS.

The enterprise provides funds in the form of:

- ✓ grants;
- ✓ zero or low interest loans;
- ✓ subsidies to cover part of or the full amount of interest due on bank loans granted for the realization of environmental projects and sites.

Resources provided by the enterprise are spent on:

- ✓ realization of ecological investment projects;
- ✓ implementation of non-investment projects and activities for protection and restoration of the environment;
- ✓ scientific research and studies with practical character assigned by the Ministry of Environment and Water;
- ✓ payment of the service with scientific and technical character, expertise, research and ecological assessments assigned by the Ministry of Environment and Water;
- ✓ development and maintenance of the National system for Environmental and Water Monitoring; insurance of stationary and mobile equipment;
- ✓ activities related to sample collection, monitoring and control;

- ✓ conducting and participating in conferences, symposia, workshops, exhibitions, competitions and other forums addressing environmental protection;
- ✓ educational and information activities;
- ✓ other activities foreseen by normative act

In the Water Management sector EMEPA finances[32]:

- ✓ Completion of the inlet collectors and principal collectors to the Waste water treatment plant for agglomerations with more than 10 000 inhabitants, in accordance with Article 127 of the Water Act;
- ✓ Completion of the sewerage systems feeding main collectors and inlet collectors to the small WWTP/ large WWTP for agglomerations with over 2,000 population equivalent in order to load the capacity of small WWTP/ large WWTP pursuant to Article 127 of the WA;
- ✓ Completion of small water supply projects under terminated contracts – as a result of decision of the Management Board of EMEPA as well as water supply facilities with completed phase of financing, by means from the state budget and EMEPA, having less than 50% for the completion, in accordance with the submitted updated application and updated detailed design, in accordance with the legal requirements of Water Act, Spatial Planning Act and Public Procurement Act.
- ✓ Financing or co-financing of projects or accompanying facilities, financed by resources from the European Union or other sources;
- ✓ Concerning priority "Completion of sewerage networks feeding main collectors and inlet collectors to LWWTP/ SWWTP for agglomerations over 2,000 population equivalent in order to workload the capacity of LWWTP/ SWWTP in accordance with Article 127 of the WA, the allocation of financial resources reported as income under the Water Act, which will be used to finance projects under the said priority, is as follows:
    - For financing projects in agglomerations between 2 000 and 10 000 PE up to 40% of the financial resources of EMEPA, reported as annual income from fees and sanctions decrees under the Water Act.
    - For financing projects in agglomerations above 10 000 PE up to 60% of the financial resources of EMEPA, reported as annual income from fees and sanctions decrees under the Water Act.

In the Waste Management sector EMEPA finances[33]:

- ✓ Completion of landfills for municipal solid waste or expansion of existing regional landfills without any possibility of financing in the system of the 24 new regional landfills for solid waste under the OP "Environment" 2007 – 2013

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[32] http://pudoos.bg/2013/01/%D1%80%D0%B5%D1%88%D0%B5%D0%BD%D0%B8%D1%8F-%D0%BF%D1%80%D0%BE%D1%82%D0%BE%D0%BA%D0%BE%D0%BB-%E2%84%96-3-%D0%BE%D1%82-27-08-2013-%D0%B3/

[33] http://pudoos.bg/2013/01/%D1%80%D0%B5%D1%88%D0%B5%D0%BD%D0%B8%D1%8F-%D0%BF%D1%80%D0%BE%D1%82%D0%BE%D0%BA%D0%BE%D0%BB-%E2%84%96-3-%D0%BE%D1%82-27-08-2013-%D0%B3-2/

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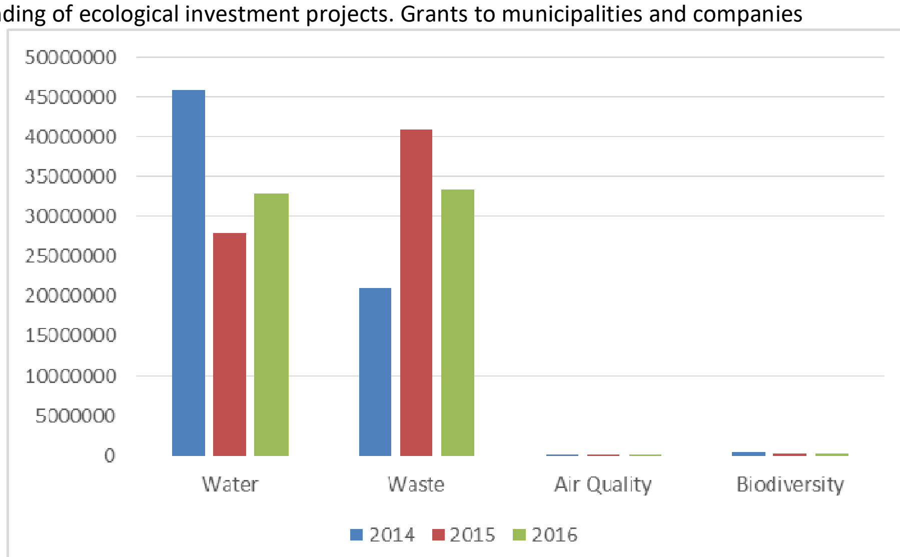
- ✓ Optimization of systems for organized collection and transportation of solid waste from the locations in accordance with the National Program for Waste Management Activities 2007 – 2013 valid by the end of 2013 and National Program for Waste Management Activities 2014 - 2020 (Funding is provided only in the form of interest free loan).
- ✓ Rehabilitation of old municipal landfills (corresponding to the requirements of the CM Decree № 209 / 20.08.2009)
- ✓ Financing or co-financing of projects implemented with EU funds or other sources.

Realization of projects in the field of waste management is supported by funds from the EMEPA in the form of:

- ✓ grant that can be allocated to municipalities and regional associations of municipalities to the amount of 100%;
- ✓ interest-free loan that can be granted to municipalities to the amount of 100%, and to commercial companies and sole traders up to 70% of the total project cost;
- ✓ allocation of funds accumulated by product charges in order to ensure the operation of systems for collection, transportation, utilization and/or disposal of hazardous and widespread waste;
- ✓ allocation of funds for implementing projects that are public state property, as well as on lands that are public state property or public municipal property, and ensure the implementation of commitments, undertaken by Republic of Bulgaria under international agreements and in relation to the membership of Bulgaria in the EU.

The estimated costs of EMEPA for Funding ecological investment projects and grants to municipalities and companies for the period 2014-2016 are presented in the figure below:

Figure 16 Funding of ecological investment projects. Grants to municipalities and companies



Source:http://pudoos.bg/%D0%BF%D0%BB%D0%B0%D0%BD-%D1%81%D0%BC%D0%B5%D1%82%D0%BA%D0%B8

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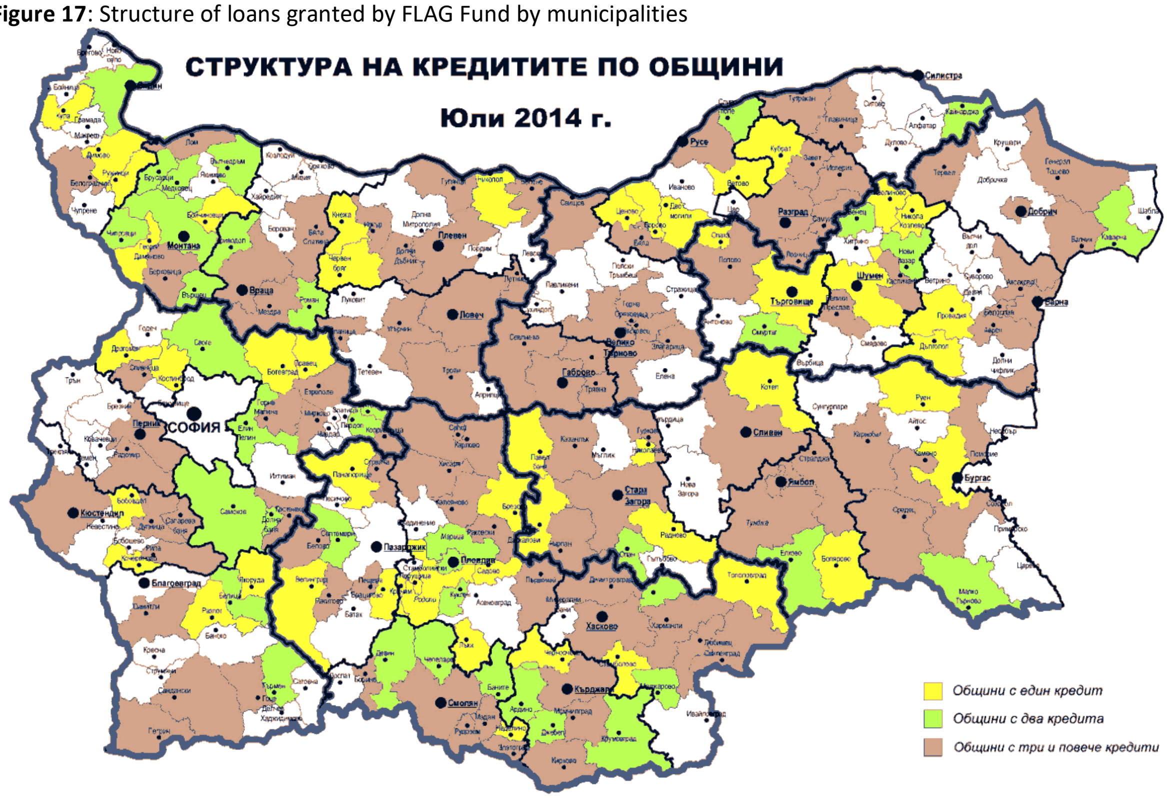
➢ Fund for local authorities in Bulgaria - FLAG EAD

The Fund was established by Decree № 4 of the Council of Ministers of the Republic of Bulgaria of March 7th 2007 as an instrument of government policy for regional development that is co-financed by the EBRD. The Fund grants loans to municipalities and municipal companies implementing projects approved by the Managing Authority of OP "Environment"/ RDP, and to municipalities for preparation of project proposals. FLAG determines the cost of each loan depending on the specific loan request. The cost of each loan is aggregated as total of the following elements:

- ✓ Six-month value of EURIBOR;
- ✓ FLAG margin - includes margin of borrowed capital and margin of equity as well as administrative costs. FLAG margin is calculated on 2.078%.
- ✓ Risk premium - for implementation of an approved project and for the preparation of project proposal: from 0.5 up to 3%;
- ✓ The cost of the loan for implementation of projects approved by the Managing Authority and for project proposals preparation varies from 2.977% up to 5.477%, calculated on the value of the six-month EURIBOR as of 30.01.2014

As is apparent in the figure below at present most of the municipalities in the country have benefited from loans from FLAG, and nearly half of the municipalities have received two or more loans.

Figure 17: Structure of loans granted by FLAG Fund by municipalities

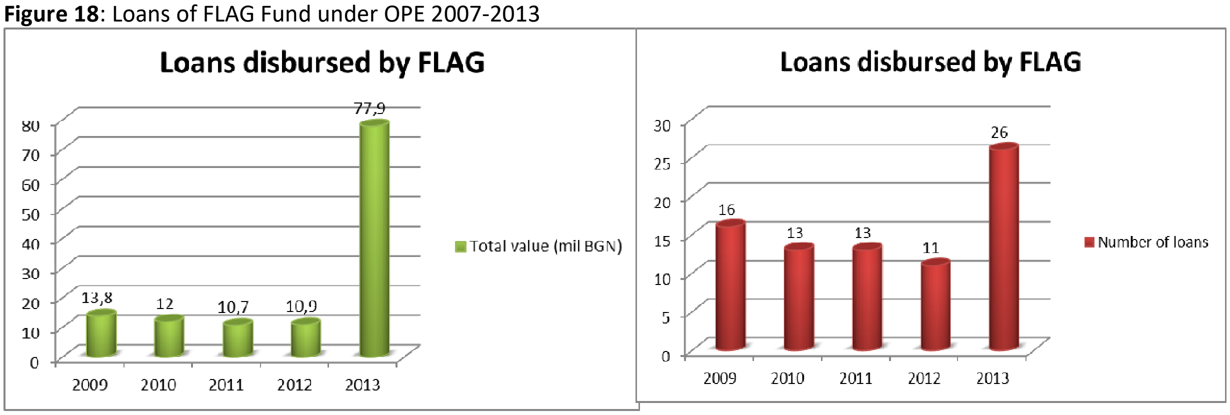


Source:http://www.flag-bg.com/img/Map22.png

municipalities with one credit ***municipalities with two credits*** ***municipalities with three and more credits***

The total value and the number of loans granted only within OP Environment 2007-2013 are presented as follows:

Figure 18: Loans of FLAG Fund under OPE 2007-2013



Source: http://www.flag-bg.com/?id=185

➢ Bulgarian Development Bank

For the purposes of the present analysis Bulgarian Development Bank (BDB) is considered in relation to the potential beneficiaries in the Waste sector, which can also be legal profit entities within the SME category.

Bulgarian Development Bank (BDB) was established in 1999 under the name "Encouragement Bank" JSC. In April 2008, the name was changed to "Bulgarian Development Bank" JSC, by adopting a special Law on Bulgarian Development Bank.

BDB is the only state-owned bank (with 99.99% state participation) in the domestic market, which is a prerequisite for its stability.

According to Article 4 of the BDB Act – "Priorities in the Bank's activities are consistent with the policy of the Government of the Republic of Bulgaria with regard to small and medium enterprises." The main activities are:

1) Pre-export and export credit for small and medium enterprises;
2) Provision of other products associated with stimulation of export – tender guarantee, performance guarantee, advance payment guarantee, guarantee for repayment of exporter loan, etc.;
3) Financing of Small and Medium Enterprises through participation in their capital by Capital Investment Fund;
4) Financing through domestic intermediary banks or directly the activities of small and medium enterprises;
5) Issuance of guarantees to supplement the collateral offered by small and medium enterprises for obtaining loans from other domestic or foreign banks, directly or through the National Guarantee Fund;

6) Refinancing of banks lending to small and medium enterprises;

7) Refinancing of foreign banks lending to the purchaser of goods or services provided by small and medium enterprises;

8) Financing of investments outside of the country of small and medium enterprises;

9) Management of financial resources of the European Union, including of European Union funds resources;

10) Consultancy, mainly related to project preparation and application for the absorption of funds/ subsidies from the European Union funds;

11) Advising small and medium enterprises on the capital structure and issues relating thereto;

12) Supporting activities involving state, municipal or international projects for development of the national economy, such as realization of trust/ management, current and monitoring operations, as well as absorption of funds harmonization/ subsidies under the projects

The Bank performs direct lending to SMEs (long-term priority and with investment purposes) and On-Landing loans of SMEs – through provision of targeted financial resources of the commercial banks in Bulgaria in order to finance specific Beneficiaries – SMEs and farmers. Bulgarian Development Bank is the only Bulgarian bank that provides financing through other commercial banks.

As of 31.12.2013 the loan portfolio/ credit portfolio of BDB is 631 credit exposure with a total amount of 1,496 million BGN – 90% of which regular, under surveillance – 2%, irregular – 2.5% and losses – 5%.

Distribution of the portfolio by sectors at the same date as follows:

Sectors	Exposure BGN thousands	%
Financial Services	911 556	60.92
Industry	224 812	15.02
Transport	84 994	5.68
Trade	73 007	4.88
Construction	67 162	4.49
Tourist Services	28 855	1.93
Collection and Disposal of Waste	**28 738**	**1.92**
Real Estate Operations	21 492	1.44
Agriculture	15 367	1.03
Receivables from Government	-	0
Other	40 325	2.69
Total	**1 496 308**	**100.00**

The experience of the Bank in Waste sector is related to the financing of a project in the city of Varna for the construction of a landfill with two funding stages – initial stage: for construction of installation for disposal of municipal solid waste with a capacity of 450 tons/ per day; second funding stage: purchase and mounting of installation for production of Refuse derived fuel in Solid Waste Treatment Plant – with total investment 24 million euro; total amount of funding – 17.6 million euro.

Bulgarian Development Bank provides various types of guarantees to SMEs, mainly performance bonds, tenders guarantees, advance payment and more. As of 31.12.2013 the number of issued guarantees was 59 with a total of 35 million BGN.

Guarantee agreement with European Investment Fund

BDB has concluded Guarantee Agreement with the European Investment Fund (EIF) in 2003, on the basis of which BDB participates in the guarantee scheme for providing loans to small and medium enterprises (SMEs) according to the long-term program of the European Union for SMEs. The EIF undertakes to provide a direct guarantee covering 50% of the remaining loss on the principal and interest on each Loan from the Group of borrowings included in the sub-portfolio of the bank, formed on the basis of the conditions set out into the Agreement, but totalling not more than 2,520 thousand Euro. Bulgarian Development Bank has applied reduced collateral requirements on the loans included in the portfolio guaranteed by the EIF.

As of 31.12.2013 the total exposure on loans guaranteed by the EIF, amounted to 9.844 thousand BGN This amount includes the utilized, but outstanding amount of loans of the portfolio. The payments under guarantees from the EIF to that date amounts to 3 million Euro, of them 1.3 million euro have been reimbursed by the BDB.

In connection with the implementation of the programs of EIF, BDB is aware of and has implemented the reporting procedures on State aid "de minimis." (*about minimal things*)

National Guarantee Fund

To additionally facilitate Loan terms in 2008 BDB created a subsidiary – National Guarantee Fund, which issues guarantees complementing the collateral required by the commercial banks. This increases the range of companies that banks are willing to finance and reduced interest rates on loans. Over the past four years the Fund has partnered successfully with 19 commercial banks. 2600 is the total number of the companies assisted at the moment.

Guarantee scheme to the risk of NGF includes:

- ✓ Guarantees for investment and working capital loans, including for the realization of projects under all Operational Programs;
- ✓ Potential of the Scheme: loans for 360 million BGN;
- ✓ No fees and commissions for the issuance of the guarantees

1.4.1.2. Financial instruments of international institutions

➢ *European Investment Bank*[36]

EIB finances large projects directly and uses intermediate structures to finance smaller projects. EIB provides funding through:

- ✓ JESSICA – supporting integrated sustainable urban development projects. The program uses financial instruments such as equity investments, loans and guarantees.

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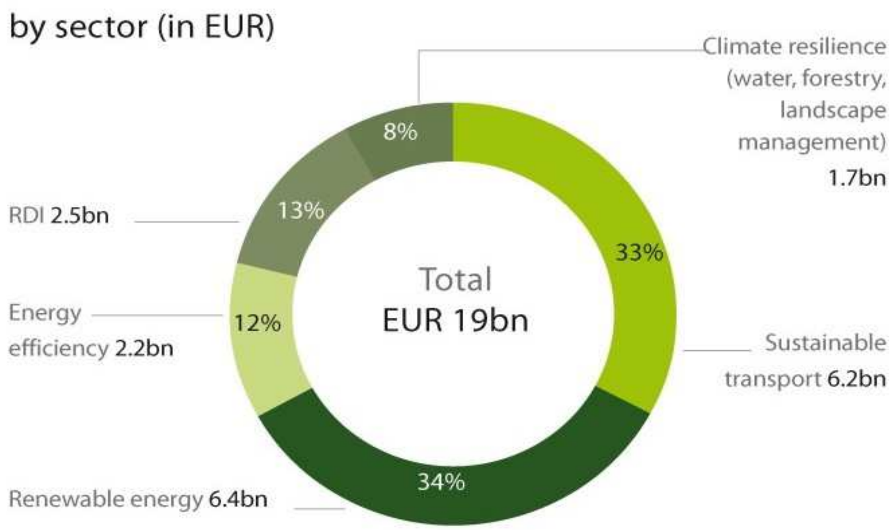
- ✓ *JASPERS* - provides technical assistance at every stage of the project cycle, including technical, economic and financial expertise to prepare major projects funded by the ESIF. This tool is used to increase the quantity and quality of projects co-financed by the EU. The total amount of the investments provided at the time by the program is over EUR 60 billion for more than 550 projects.
- ✓ Urban Environment Program - under this program projects are funded in the following sectors:
    - Water – projects for water supply, sewerage and wastewater treatment
    - Instrument to support municipalities / community infrastructure - finances new Member States and candidate countries to support projects, incl. in the environmental sector
- ✓ Program to reduce carbon emissions and tackle climate change - financing projects related to climate change in different sectors, including Water and Waste, as evidenced by the following figure:

Figure 19: EIB Financing by Sectors



Source: EIB

EIB provides the following financial engineering products:

Loans for project financing

Financing individual projects which total cost exceeds EUR 25 million. This is usually a key support to attracting additional funding. Loans cover up to 50% of the total costs of public and private investors, but typically the share of funding is about 1/3.

Multi-component loans - multi-component, long-term investment through a single "framework loan" usually for projects of the central or local administration investments in infrastructure, energy efficiency, transport and urban development.

Terms of financing

- Fixed or floating rate
- In some cases, costs are charged to project evaluation, legal services, non-utilization, etc.
- Payment is usually on semi-annual or annual basis. There is grace period for the duration of the project.

Equity and fund investments

Stimulation of equity and fund investments and mobilizing private capital through equity investments and funds. EIB works with new and approved fund managers in traditional and innovative segments.

- European Bank for Reconstruction and Development[34]

Through its activities and investment policy EBRD promotes and supports implementation of structural and sectorial reforms in the countries of operation, the development of competition, the promotion of privatization and private initiative and the development of the infrastructure needed to support the private sector. EBRD invests mainly in private enterprises, usually together with other trading partners. In the public sector EBRD provides financing for major infrastructure projects. The Bank is also working with public sector enterprises with the aim of supporting privatization, restructuring of state-owned enterprises, and improving municipal services.

EBRD provides the following financial engineering products:

Loans for larger projects (EUR 5 mln. - EUR 250 mln.)

The average amount of projects is EUR 25 million. EBRD loans are structured with a high degree of flexibility to provide loan profiles that match client and project needs. The basis for a loan is the expected cash flow of the project and the ability of the client to repay the loan over the agreed period. The credit risk can be taken entirely by the Bank or may be partly syndicated to the market. A loan may be secured by a borrower's assets and/or it may be converted into shares or be equity-linked.

Terms of financing

- Minimum EUR 5 to 15 million, although financing can be smaller in some cases
- Fixed or floating rate
- Senior, subordinated, mezzanine or convertible debt.
- Short to longer maturities, from 5 to 15 years
- Project-specific grace periods may be incorporated.
- Accrual of costs and commissions - depending on the specific project

Since the beginning of its operation in Bulgaria in 1993 up to 31 December 2013, EBRD has invested EUR 2.8 billion in various economy sectors (corporate, financial, infrastructure, energy and energy efficiency) while mobilizing more than EUR 5.5 billion from other funding sources.

According to the Strategy for Bulgaria, EBRD bank will support Bulgaria's transition to a low-carbon economy, to increasing energy efficiency and security. The Bank will support Bulgaria in achieving more sustainable growth focusing on improving the competitiveness of local business and investment in

[34] http://www.ebrd.com/pages/country/bulgaria.shtml

modernization. In addition, the Bank will promote commercial entities and private sector participation in municipal infrastructure.

Forms of co-financing

Loan Syndications techniques most frequently used to date by the EBRD are:

- the A/B loan syndication structure, where the EBRD remains the lender of record for the entire loan and the commercial banks derive benefit from the EBRD's preferred creditor status
- assignments of part of EBRD loans to domestic commercial banks in its countries of operations to promote their cooperation in medium-term lending
- co-financing with other international financial institutions
- parallel or joint financing with commercial banks
- parallel loans with commercial banks
- parallel loans with official government agencies
- various guarantee facilities
- debt co-financing with institutional investors

➢ *World Bank*

Since Bulgaria joined the World Bank Group in 1990, the total amount of support received amounts to approximately USD 4 billion.

Country Partnership Strategy for Bulgaria of the World Bank Group, endorsed in 2011, provided a framework for support for the period of 2011-2013. The partnership focused on Bulgaria as an EU member state with the World Bank Group’s principle role as a provider of knowledge and advisory services.

Advisory and knowledge services focused on roads and water infrastructure, and innovations.
As of April 2014, the active portfolio of World Bank-financed projects in Bulgaria consists of three operations with original commitments totalling USD 212.9 million equivalent.

One of the largest projects of the World Bank is the Municipal Infrastructure Development Project, seeks to improve the reliability and quality of water provision to communities in selected settlements in the project area, and assist municipalities in investment-planning for the water sector. The Project supports preparation of regional Master Plans for Water Supply and Sewerage systems and completing the construction of three dams that was interrupted about 20 years ago, along with the rehabilitation of a fourth dam that is currently operational. The project is financed by a loan from the Bank totalling USD 148.3 mln.

World Bank offered the following products, which could be used in the environmental sector:

Investment Project Financing

It is used in all sectors, with a concentration in the infrastructure, human development, agriculture, and public administration sectors. This instrument is focused on the long-term (5 to 10 year horizon) and supports a wide range of activities including capital investments, loans and guarantees.

Unlike commercial lending, this instrument not only supplies borrowing countries with needed financing but also serves as a vehicle for technical assistance. This includes support to analytical and design work in the conceptual stages of project preparation, technical support and expertise (including in the areas of project management) during implementation, and institution building throughout the project.

Development Policy Financing

It provides financing to help a borrower address actual or anticipated development financing requirements. The instrument aims to support the borrower in achieving sustainable development through a program of policy and institutional actions, e.g. improving the investment climate. The use of this instrument and scope of funding in a country is determined in the context of the Country Partnership Framework.

The instrument emphasizes country alignment, stakeholder consultation, donor coordination, and results, and requires a systematic treatment of fiduciary risks and of the potential environmental and distributional consequences of supported policies. Financing can be extended as loans, credits, or grants. Funds are made available to the client based on:

- Maintenance of an adequate macroeconomic policy framework, as determined by the Bank with inputs from IMF assessments
- Satisfactory implementation of the overall reform program
- Completion of a set of critical policy and institutional actions agreed between the Bank and the client.

➢ *Council of Europe Development Bank*

The CEB finances projects concerned with environmental protection, incl.:

- ✓ Reduction and treatment of solid and liquid waste;
- ✓ Clean-up and protection of surface and underground water;
- ✓ Decontamination of soils and aquifers /water cleaning.

Projects must be implemented by SMEs. Business investment is allowed as well to create infrastructure for the treatment of solid and liquid waste and sewage that are not manufactured by the companies themselves. The projects must benefit the population at local and regional level.

Method of financing:

- Financing of specific projects;
- Financing programs, financing certain type of projects;
- Co-financing of investments that are financed by the EU at the country level in the sectors prioritized for CEB;
- financing Product for the public sector - to cover temporary financial gap in the public sector and to facilitate future investment and reform programs in the sectors prioritized for CEB;
- May require a state guarantee for funding.

➢ *KFW via KfW Entwicklungsbank*

KfW Entwicklungsbank allows funding of the environment measures in the following programs:

- ✓ Program "Climate, Environment and Development" - primarily for developing countries; for industrialized countries - gives opportunity to finance projects to reduce emissions of carbon dioxide and projects for the transformation of industrialized countries in the sense of 'green'

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economies; applying their own tool set for analysis so to be sure the projects comply with the relevant international standards.

- ✓ Financing projects in the Environment sector - waste management, energy, natural resources and tropical forests, urban development, transportation, water resources, biodiversity, recycling systems;

KfW applies a set of programs and instruments, some with a grant element, technical assistance; The Bank has extensive experience in financing such projects. Opportunities to raise Environmental funds for Bulgaria are more limited as far as Bulgaria is not among the priority countries of the Bank. It is possible to be required collateral, government guarantee, for the funding.

➢ *LIFE + program*

LIFE + is a financial instrument which main priority is to contribute to the implementation, updating and development of Community environmental policy. The program includes a single scheme of fund management: centralised direct management by the Commission. A final decision on the selection and funding of a project proposal is to be taken by the European Commission, assisted by a Committee composed of representatives of all member counties (Articles 13 and 14 of Regulation № 614/2007). National competent authorities in individual member countries have the task to collect all proposals and then submit them to the European Commission for evaluation and approval.

LIFE + has three main components:

- ✓ Nature and Biodiversity
- ✓ Policies and management in the environment sector
- ✓ Information and Communication

➢ *Special fund for climate and environmental protection of the Central European Initiative (CEE)*

The fund was created in 2007. All private, governmental and non-governmental organizations from 18 member countries of the CEI, whereas the beneficiaries should be countries which are members of the CEI, but not members of the EU - Albania, Belarus, Bosnia and Herzegovina, Croatia, Macedonia, Moldova, Montenegro, Serbia and Ukraine. Activities in the following areas will be supported:

- ✓ energy efficiency
- ✓ Improvement and dissemination of environmentally friendly technologies
- ✓ Promote research and development in energy efficiency
- ✓ Implementation of new technologies for sustainable development
- ✓ Waste Management
- ✓ Drinking water supply, water management
- ✓ Increasing awareness of objectives achievement through educational measures
- ✓ Public and private sector, non-governmental or international organizations can apply for funding.

➢ *National Trust Eco Fund (NTEF)*

The Fund was established as an independent legal entity with the Law on Environmental Protection for the management of funds, donated to Bulgaria by the Government of Swiss Confederation through the first Debt-for-Environment Agreement between the Swiss Confederation and the Republic of Bulgaria.

NTEF Priority Areas are:

- ✓ Clean-up of past pollution
- ✓ Air-pollution reduction
- ✓ Water pollution protection
- ✓ Protection of the biodiversity

The greatest total amount of funding for completed projects and projects in progress is for projects submitted by municipalities, followed by projects of national institutions, by companies and science institutes.

Under the Law on Environmental Protection NTEF is responsible for the recruitment, approval and award of project implementation for green investments which are to be financed from the returns of international trade with Assigned Amount Units (AAUs), as required by Law on Environmental Protection and by the sales contracts terms.

1.4.2. Analysis of the inquiry addressed to municipalities, potential beneficiaries under the OPE 2014–2020 as a basis for seeking of financial instruments

✓ *Introduction*

The analysis is based on responses to a questionnaire addressed to municipalities, potential beneficiaries of the OPE 2014- 2020. The survey was made in two parts - general information and specific questions. The questionnaire instructions explained the purpose of the survey presented a definition of "financial instruments" (According to Art. 130 of the Financial Regulation).

The survey is addressed and sent to all municipalities in Bulgaria (264). Responses were received from 109 municipalities - 41% of all potential respondents. The survey is addressed to mayors, deputy mayors, Heads of Directorates, head of department (or experts) in the respective municipalities. From the responses received, the breakdown of respondents is as follows: 37% of respondents are deputy mayors, 40% are heads of Directorates, 8% Heads of department, surveys have been completed by the deputy mayors, 2% by mayors and 12% - by experts. This speaks to the commitment of the respondents and the importance of the issue for them. Responses were received from 26 districts in the country - no answer from Sofia - city and Targovishte.

44% of municipalities responded are small (with a population of 20,000 Residents), 9% are medium sized - with a population of between 20 and 50 000 people, and 7% are large - with a population of over 100,000 people. This distribution shows good coverage taking into consideration the total number of municipalities by type.

Table 22. Type of municipalities responding to the survey (based on population)

What type of municipality you represent, according to the population: base: 109

	Percentage

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Up to 10 thousand Residents	33.9
Between 10 and 20 thousand Residents	29.4
Between 20 and 50 thousand Residents	20.2
Between 50 and 100 thousand Residents	9.2
Over 100,000 thousand People	7.3
Total	100.0

➢ *Project experience of municipalities*

Out of all municipalities respondents, 64% have performed projects funded by OPE 2007-2014 under "Water" sector, 40% have implemented projects under "Waste" sector, and less than 1% have performed projects under "Biodiversity" and in relation to the quality of air.
It is a great diversity of projects implemented by source of funding - IISPA, EMEPA, NTEF, EEA FM, RDP, OPRD, ETC, PHARE – CBC, etc.

Table 23. Source of funding by areas

Source of funding	Water	Waste	Air
OPE 2007-2014	**64%**	**36%**	**1%**
IISPA	**15%**	**6%**	**N/A**
EMEPA	**62%**	**46%**	**2%**

Other programs in the environmental sector:

- NTEF - 12%
- EEA FM - 5%
- RDP - 21%
- OPRD - 16%
- CBC programs (Bulgaria - Serbia, Bulgaria - Turkey, Bulgaria - Macedonia, Bulgaria - Romania), PHARE - CBC

➢ *Experience in working with financial institutions*

In terms of municipalities' previous experience of working with financial institutions, the largest percentage of them reported experience with FLAG - nearly 70%. This can be justified, since the majority of respondents are small and medium-sized municipalities, working with FLAG to provide financing or co-financing of major projects implemented by municipalities. 22% say they have experience with investment funds, 39% - with Bulgarian commercial banks, 24% - with the World Bank, nearly 6% - with EBRD.

Figure 20: Experience with financial institutions

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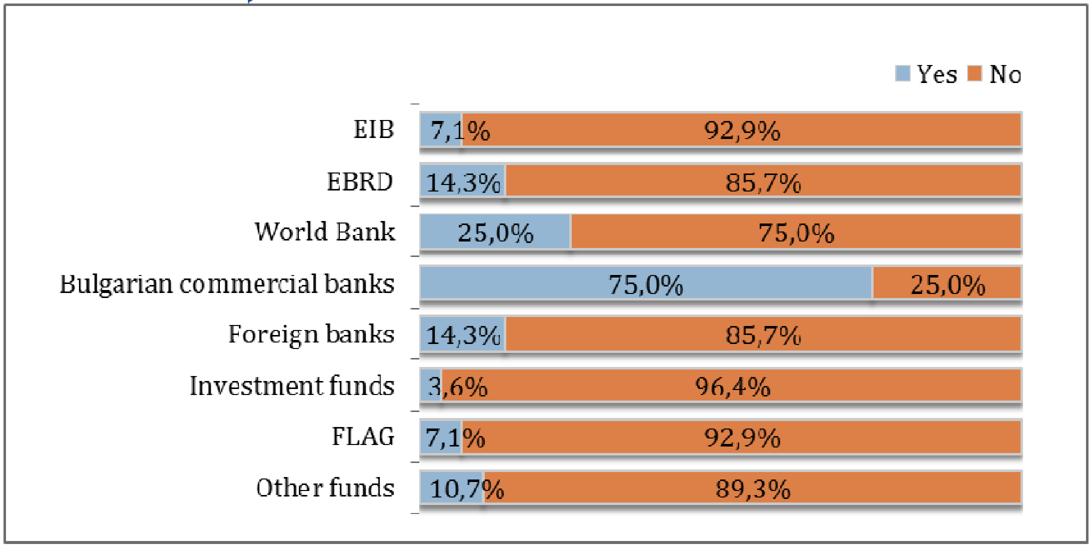
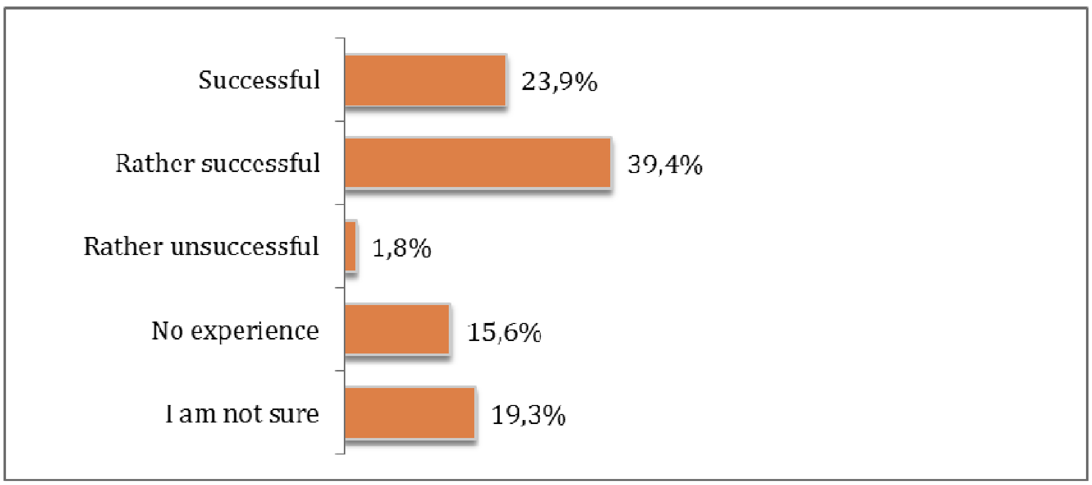


64% of respondents indicate that they have experience with JASPERS and nearly 29 % - with JESSICA, whereas 29% indicated their experience with other financial instruments.

63% of respondents indicated that their experience in using financial instruments is successful, nearly 16% say they have no such experience, and 2% indicated that their experience was rather unsuccessful; 19% indicate that they cannot make judgement.

Figure 21: **How successful was experience in using financial instruments**



Out of respondents who answered the survey, almost 58% say they have sufficient experience in the management of investments financed through financial instruments (FI), and almost 26% - they have no experience. This is supported also by the responses to a question about the experience of municipalities in the management of investments financed via GDP - 72% have experience in this regard, while only 9% say they have no such experience.

Figure 22: Experience in management of investments financed by grant

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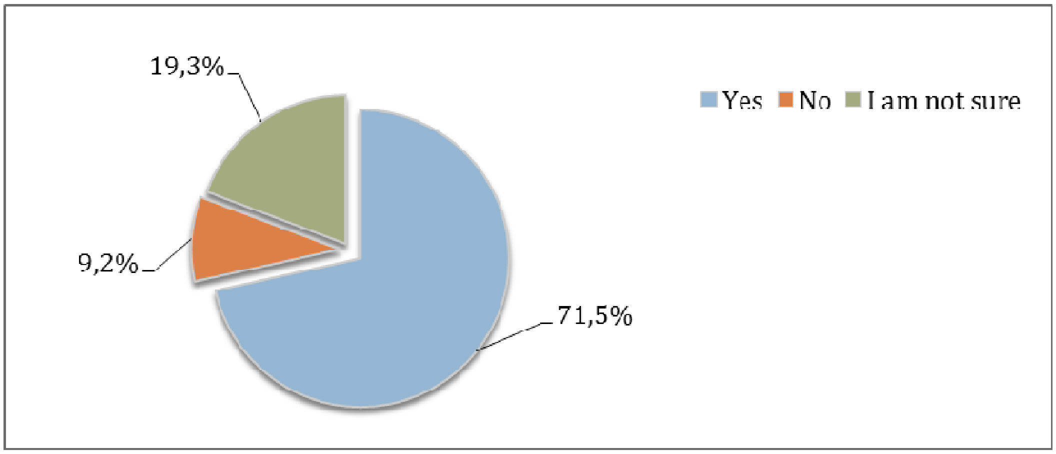

However, 75% of respondents said that they need technical support for management of financial instruments and only 16% that do not need such help.

Attitudes on the use of financial instruments

Asked about the availability of sufficient information about financial instruments, the advantages and possibilities of their use, 53% of respondents considered that the information is available and accessible, 32% say it is not, and another 15% cannot make judgement. This rather points to the need to provide easily accessible and clear information on financial instruments, as well as about the advantages and opportunities of their use.

However, a large proportion of municipalities respondents - nearly 84%, said they intend to use financial instruments versus the 2% who say they will not use and another 14% who cannot make judgement. This emphasizes the need to provide universal and comprehensive information on financial instruments.

This is determined by shared by the municipalities difficulties in obtaining or securing investment financing - 64% indicate that they have such difficulties (17% do not believe they have such difficulties). When asked about the reasons for these difficulties with the largest share was the answer: "Insufficient revenue to cover the cost of funding" - 90% of respondents, followed by the answer: "Unable to provide the collateral required by the respective bank / financial institution" - 33%.

Other reasons given are:

Table 24. Problems concerning the provision of financial resources

Reason	Percentage
The investment is valued by financial institutions as a high-risk	13%

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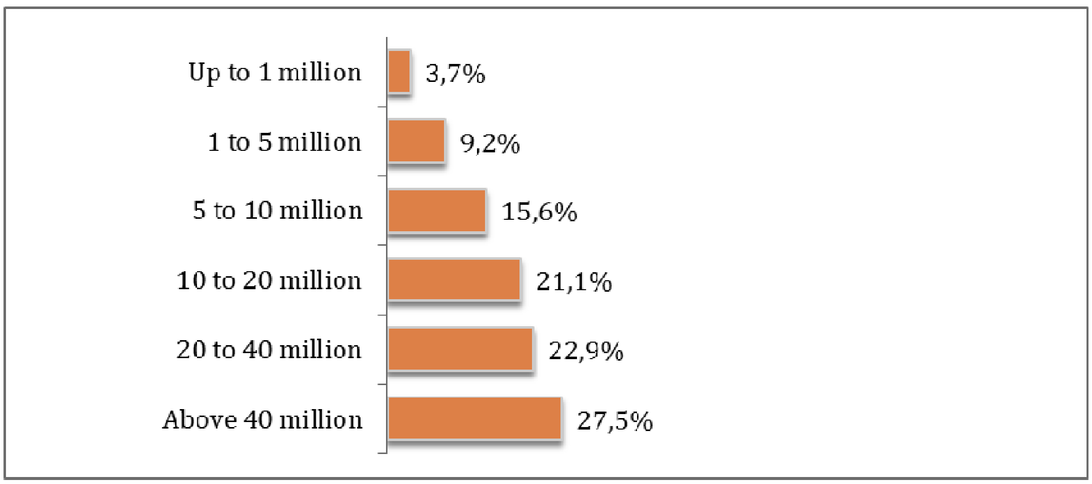
Delayed payments on behalf of the Managing Authority to beneficiaries; delayed opinions on feasibility studies	20.0
Delays in the verification of claims	20.0
In preparing the Detailed design for the reconstruction of water supply network and Bill of Quantities for it is found that the real implementation cost is higher than the one budgeted by the project, which forms a gap of funds the beneficiary should provide himself.	20.0
Suspended payments under contracts with FLAG under OPE	20.0
Cannot make judgement	20.0
Total	**100.0**

Attitudes about future investment / financing

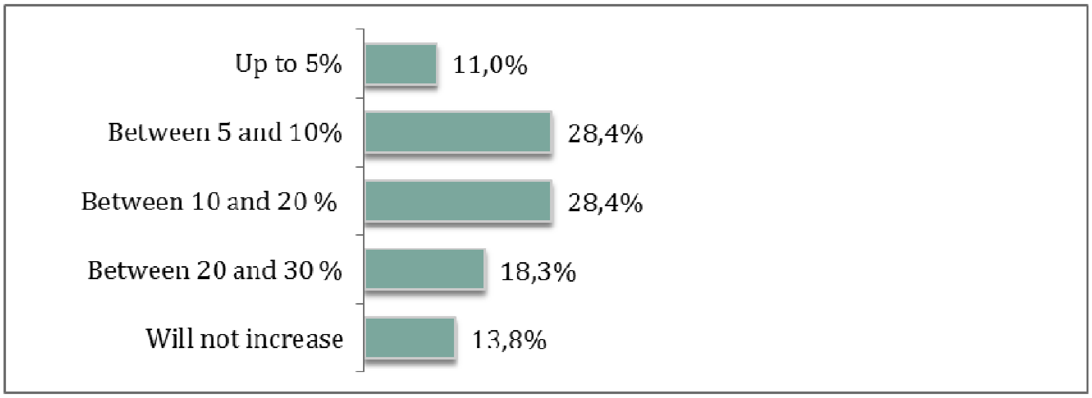
Municipalities have various answers in relation to their investment programs for 5 years period, whereas most have indicated the need for financial resources BGN 20 to 40 million (23%).

Figure 23: Necessary financial resources



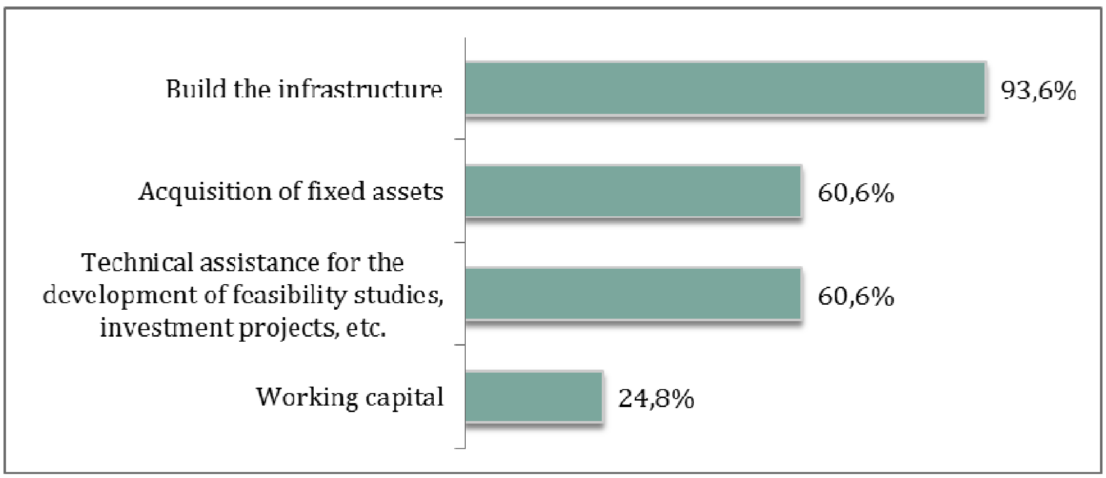
Meanwhile, a significant proportion of the respondents said they would increase their investment if they have access to finance. Access to finance is described as grant and / or financial instruments in the form of loan, guarantees or equity. The greatest concentration of responders is in the groups: 10 to 20% and 5 to 10% - 28% in each of these groups. Nearly 14% consider, however, that they would not increase their investment program:

Figure 24: Expressed attitudes for increase in % of the investment program



When asked about the purpose of the additional funding, the largest share of respondents municipalities have indicated they need additional funding to build the infrastructure (nearly 94%); a substantial share (almost 61% in both categories) have answers that they need additional funding for the acquisition of fixed assets, including equipment, and technical assistance for the development of feasibility studies, development of investment projects. 25% indicated that they need working capital.

Figure 25: The aim of the additional funding



Attitudes towards the use of financial instruments

The survey included questions about the attitudes towards the use of financial instruments and its objectives related to the protection of the environment in sectors: Water, Waste and Air quality.

When asked about the reasons for the small number of facilities for further treatment and recycling waste in the country, municipalities indicated several answers:

Table 25. The reasons for the shortage of facilities for waste treatment

Base: 109, * opportunity for more than one answer

Reason	Percentage*
Lack of funds for the purchase and installation of machinery and equipment	60.6%
Lack of effective regulation of waste management	47.7%
Insufficient funds to purchase equipment for waste landfills	46.8%
Lack of sufficient volume of separately collected (separated) waste (raw materials)	45.9%
Lack of a market for the product from the recycling and componing process	13.8%
Other	**3.7%**

Other responses with very low relative share were difficulties with the legal framework; unnecessary procedures required by MA; lack of awareness among the population about the benefits of separate waste collection; difficulties in application and implementation of projects under OPE; mismatch between the policy objectives of the central and local level, etc.

When asked for the purpose of the use of financial instruments, municipalities respondents gave answers that can be classified as follows:

Table 26: Purpose of the use of financial instruments

Base: 109 * opportunity for more answers

	Percentage*
Sites and facilities for pre-treatment of household waste	***57.8%***
Anaerobic and / or composting facilities for biodegradable and / or green waste, incl. equipment for waste separation	***51.4%***
Re-use and recycling centres for household waste, including equipment and related facilities	30.3%
Installations for the re-use of waste	24.8%
Plant for waste treatment	17.4%
Other	4.6%
Total	**186.2%**

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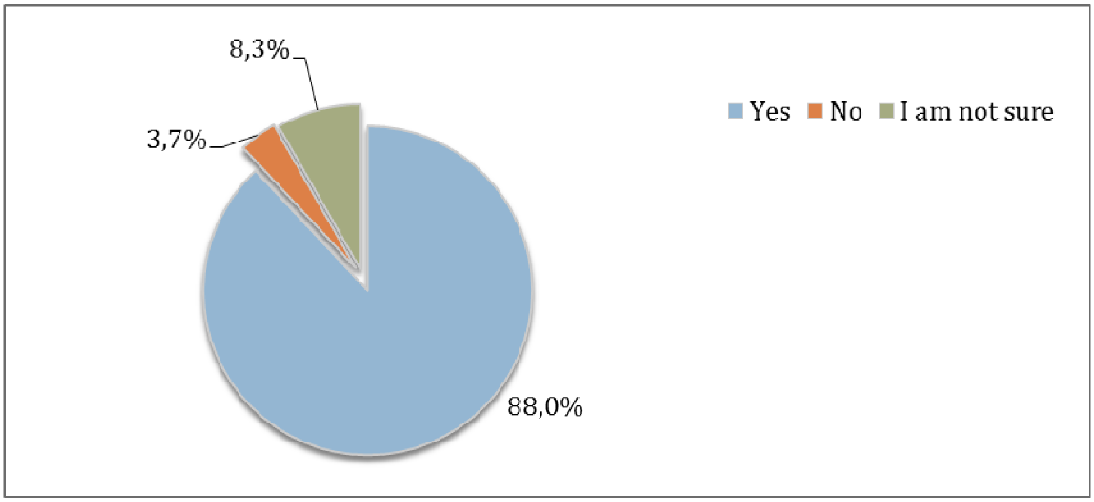
Basic needs, which are referred to are **Sites and facilities for pre-treatment of household waste and Anaerobic and / or composting facilities for biodegradable and / or green waste, incl. equipment for waste separation.**
Other specified needs with a smaller share: Completion of Drinking Water Treatment Plants, Construction of sewerage for the waste water; Rehabilitation of the water supply network, sewage and drinking water Treatment Plants, reconstruction of sewerage network.

In terms of the Clean Air and possible measures questions were asked about the attitudes of municipalities - potential beneficiaries.

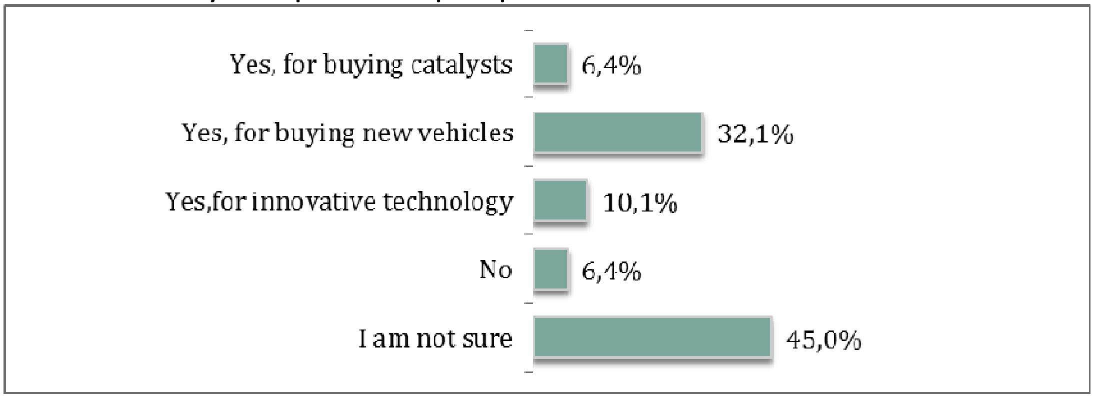
Figure 26: **Use of financial instruments for cleaning equipment If you are able to use financial instruments, will you purchase cleaning equipment to wash driving lanes, squares and sidewalks?**
Base: 109



The major share (88%) confirmed that they would use the funding to purchase cleaning equipment to wash driving lanes, squares and sidewalks.

Another possible funding for conservation of clean air is associated with transport operators in municipalities. Asked in this regard, respondents indicated the following:

Figure 27: Investments by municipalities' transport operators



The main share of respondents indicated that they will use the funding to purchase new vehicles (32%), another 10% - innovative technologies and only 6% - buying catalysts for the current vehicles.

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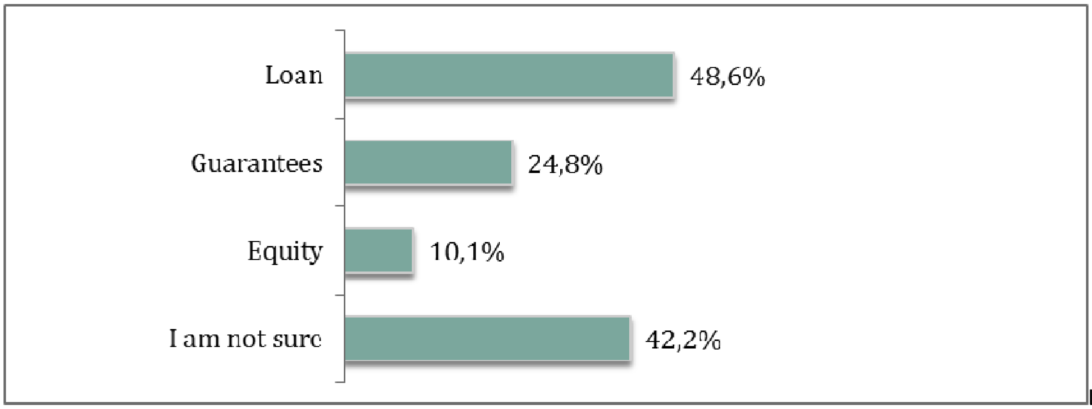
➢ Attitudes regarding the use of financial instruments by type

The last group of questions concerns the attitudes / preferences of the respondents regarding the type of financial instruments, as well as the expected effects and prerequisites that must be met to make this possible.
When asked what financial instrument would they use to finance investments, the highest proportion of municipalities respondents indicated that would be a loan, followed by Guarantee - 24%; However, 42% cannot decide about that.

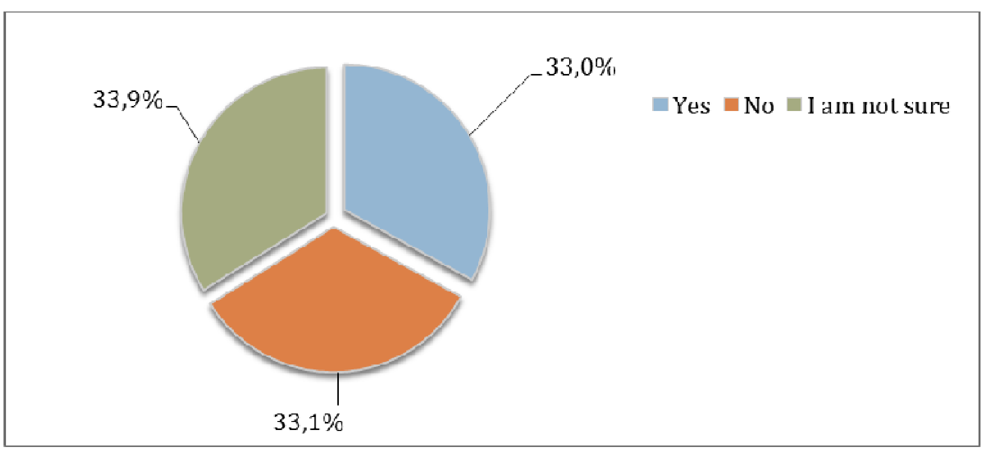
Figure 28: Preferred financial instrument



Loan

In the long term positive effect is expected of the use of financial instruments (90%).
Of course, it is necessary to have certain conditions. 33% of respondents believe that appropriate administrative procedures are present (including laws and regulations) so to ensure effective and efficient use of financial instruments in the environmental sector. Equal share indicates that there are no such procedures and again an equal share cannot make judgement. This generally indicates lack of accessible and clear information about the financial instruments and the legal and institutional framework related to their use.

Figure 29: Presence of clear administrative procedures for financial instruments in the environmental sector



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Specifically, when asked to evaluate the weight of certain conditions for the successful use of financial instruments, the highest score (with equal weight - 4.2) have two conditions: Availability of financial instruments and the availability of Sufficient funding for the approved project activities. The next in weight condition with an average score of 3.9 is the transparency of the project assessment procedures; then follow two other conditions with the same weight (3.7): Good promotion of financial instruments and the Availability of technical assistance in the use of financial instruments.

1.4.2. Analysis of the questionnaire addressed to companies, potential beneficiaries under OPE 2014 - 2020

➢ Introduction

The analysis is based on responses to a questionnaire addressed to companies. The scope of the respondents was determined after preliminary discussions with OPE MA regarding the scope of the OPE 2014-2020, and possible beneficiaries in terms of priority axes Water, Waste and Air Quality.

The survey is made in two parts - general information and specific questions. In the instructions to the survey the purpose of the questionnaire was explained, as well as a definition of "financial instruments" presented (According to Art. 130 of the Financial Regulation).

The survey is addressed and sent to 211 respondents covering different companies - with state and municipal ownership, and also private companies operating in various sectors: Water Supply and Sewerage, public transport, waste disposal and waste collection, recycling, trade with various goods, retailers - supermarkets, household appliances, clothing.

In the survey addressed 211 respondents, while 15% were received back after multiple (more than 5) reminders by phone and email.

Profile of respondents:

36% of respondents are private companies, 25% are companies with municipal ownership, 18% - state owned trade companies and 14% - companies with mixed ownership - state and municipal.

In terms of sectorial distribution, respondents are distributed as follows:

Figure 30: **Distribution of respondents by sector**

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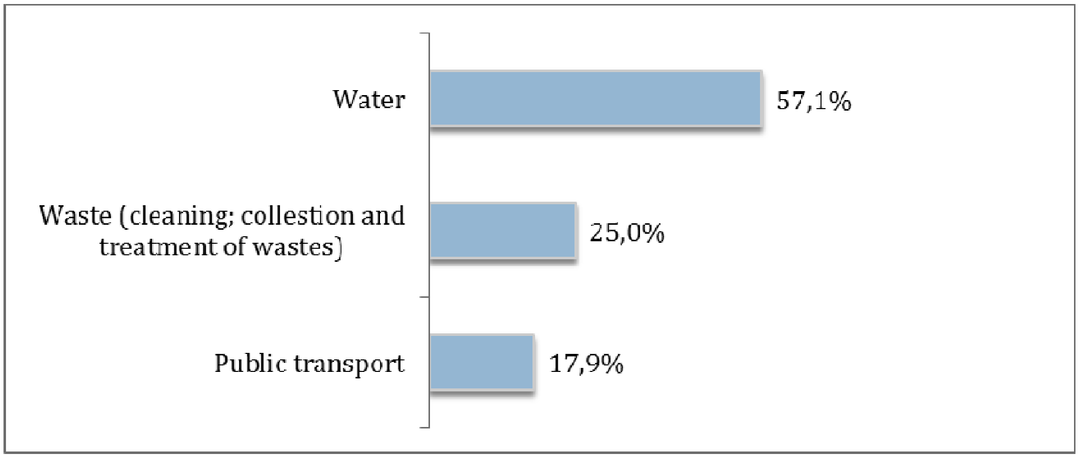

The largest share of respondents are operating in the Water sector - 57%, followed by the Waste sector (including cleaning and waste collection) - 25% and the lowest share of the companies are operating in the sector of Public Transport.

The profile of the respondents, according to the position they occupy: 7% are owners, 4% - commercial directors, 18% - CFO and 71% other positions. Among other positions are also: Manager or Director - 45%, Chief Accountant - 30% and others.

Distribution of respondents by area: base: 28

	percentage
Blagoevgrad	10.7
Burgas	10.7
Varna	3.6
Lovech	7.1
Montana	7.1
Pazardzhik	7.1
Pleven	3.6
Plovdiv	3.6
Razgrad	3.6
Ruse	3.6
Sliven	3.6
Smolyan	3.6
Sofia City	17.9
Sofia region	3.6

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Stara Zagora	3.6
Targovishte	3.6
Yambol	3.6
total	**100.0**

Experience in working with financial institutions and beneficiaries

Out of all Respondents potential beneficiaries, only 8% have used funding from Enterprise for Management of Environmental Protection Activities (*EMEPA*). - 4% of EMEPA Waste and 4% of EMEPA Air quality, 7% have used funding from the EEA Financial Mechanism and 25% indicated other funding.

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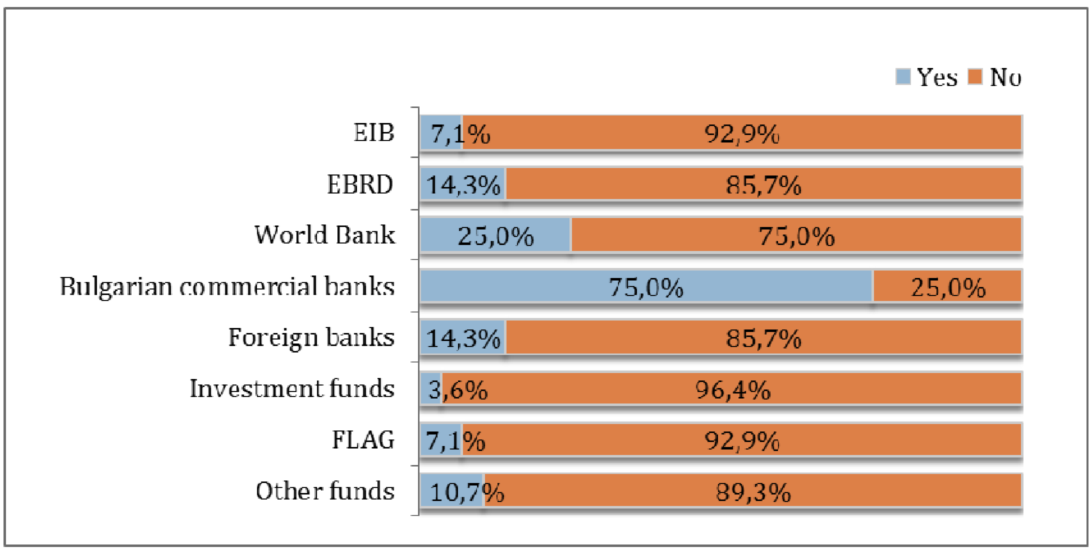
When asked to specify the source of funding, distribution of responses was as follows:

Funding source	**percentage**
bank credit	57.1
Ministry of Regional Development and Ministry of Environment and Water	14.3
Operational programs	14.3
EU Operational programs - Competitiveness, OPHRD, etc.	14.3
Total	**100.0**

In terms of experience with various financial institutions, potential beneficiaries indicated differing experiences, but mainly Bulgarian commercial banks – 75%; less experience - 25% with the World Bank; 14% with EBRD and other foreign banks. Small share pointed experience with FLAG and EIB - 7%.

Figure 31: **Experience with financial institutions**



54% define the experience of their organization in using financial instruments as successful, while 36% cannot decide.

➢ Attitudes regarding the use of financial instruments

Relatively small proportion of respondents are positive that funding through financial instruments is carried out under favourable conditions and has advantages over the common ground crediting – these are about 29%. 32% cannot make judgement, and 39% are positive that this is not so.

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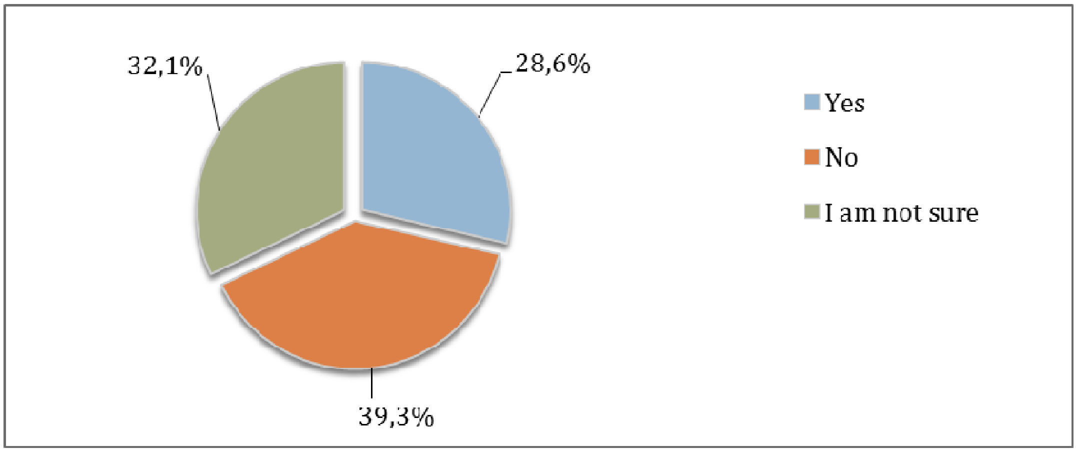
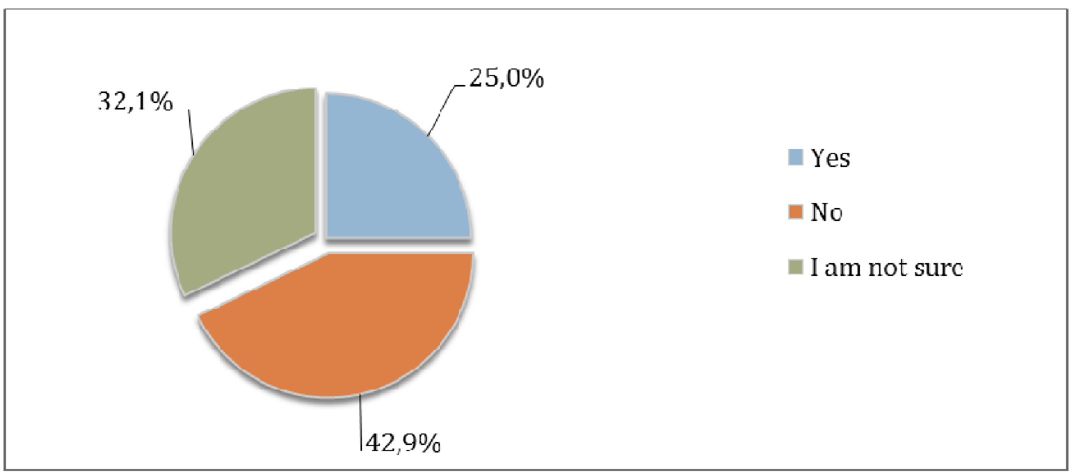
Figure 32: Funding through FI is under favourable conditions



However, nearly 43 percent plan to use financial instruments for the period 2014-2020, whereas the negative responses here are less concentrated - 21%, while more are those who cannot decide.

There is interesting distribution of answers to the next question. When asked whether information about the benefits and opportunities for the use of financial instruments is sufficient, available and accessible, only 25% agree with this statement, while nearly 43% do not agree. Again serious group (32%) could not tell.

Figure 33: Sufficient, available and accessible information on FI



The companies were asked also to qualify for the main obstacles to the use of financial instruments:

*With the possibility of multiple responses

	Percentage*
Lack of information about funding opportunities	42.9%
Difficulties in the preparation of application documents	39.3%

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Longer period for the examination of documents	39.3%
Difficult and complicated reporting to financial institutions Difficulties in preparing a business plan and financial projections for applying	35.7%
Difficulties in preparing a business plan and financial projections for applying	25.0%
Lack of information on the benefits of financial instruments to bank lending	25.0%
Lack of necessary statistical information, studies, analyses of the respective sector, etc.	3.6%
Presence of favourable terms of financing from private or commercial investors	3.6%
Total	**214.3%**

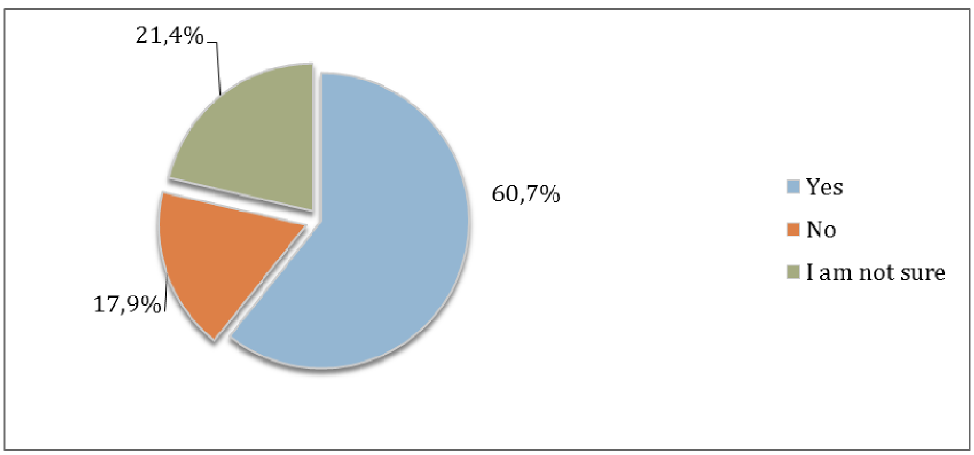
Again those with the largest share are who believe that there is not enough information - 43%, and with an equal share of 39% are responses, sharing difficulties in the preparation and reporting of similar projects.

- **Financing of investment activities**

A group of questions aim to establish more information about the investment activities of trade companies.

Asked whether they face difficulties in obtaining or securing investment financing, 61 % are adamant that they face such difficulties.

Figure 34: **Difficulties in financing**



Among the stated reasons, the largest share find themselves *unable to provide the required collateral* – 41 %, and *insufficient revenues to cover the costs* – 35 %.

	Percentage
Inability to provide the security requested by the funding bank / institution	41.2 %
Insufficient revenue to cover costs of financing	35.3 %

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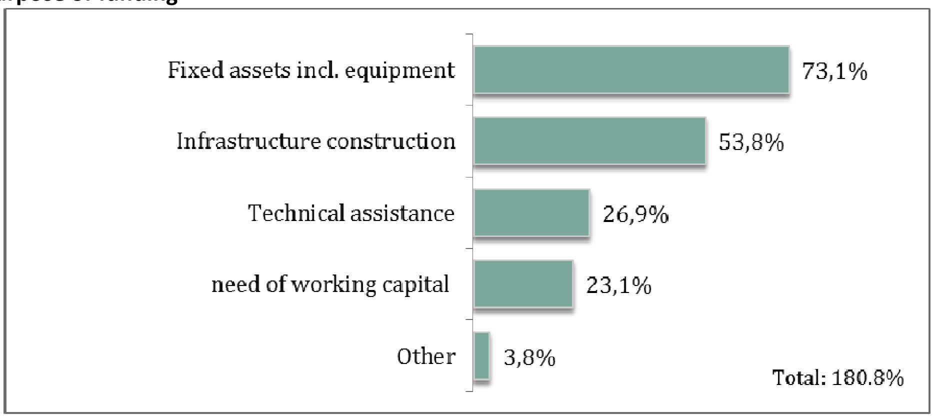
The investment is valued by financial institutions as high risk	17.6 %
Other	17.6 %
Total	**111.8 %**

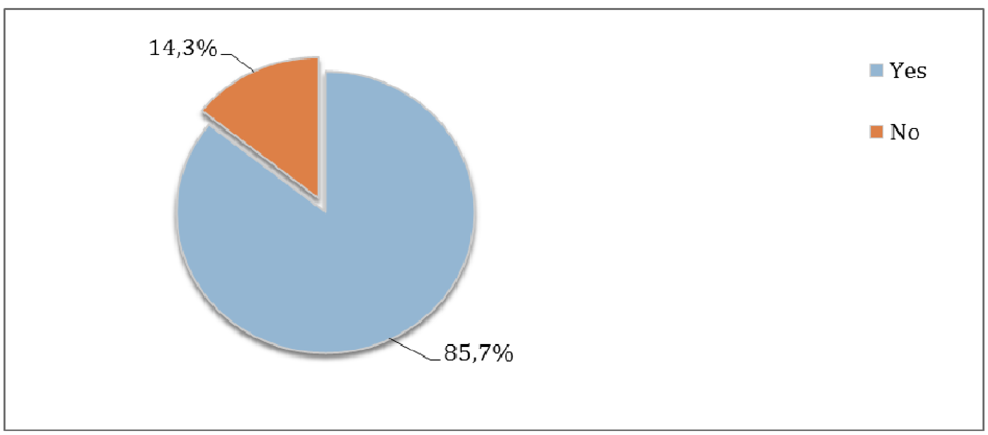
The additional funding requirements, especially for the purpose of acquiring fixed assets, incl. equipment – this was pointed out by 73 % of the respondents; infrastructure construction – 54 %, and the smaller units – need of working capital (27 %) and technical assistance (23 %).

Figure 35: **Purpose of funding**



The majority of respondent companies say they have a strategy or plan of development that cover a portion or the entire period 2014 - 2020.

Figure 36: Do you have a development strategy/plan?



At the same time, 64 % of the respondents have an investment program. Most often it covers a period of 2 years (56 % of cases), 22 % of the respondents – the program covers a 5-year period, 11 % – a 3-year period.

Figure 37: What period does your investment programme cover?

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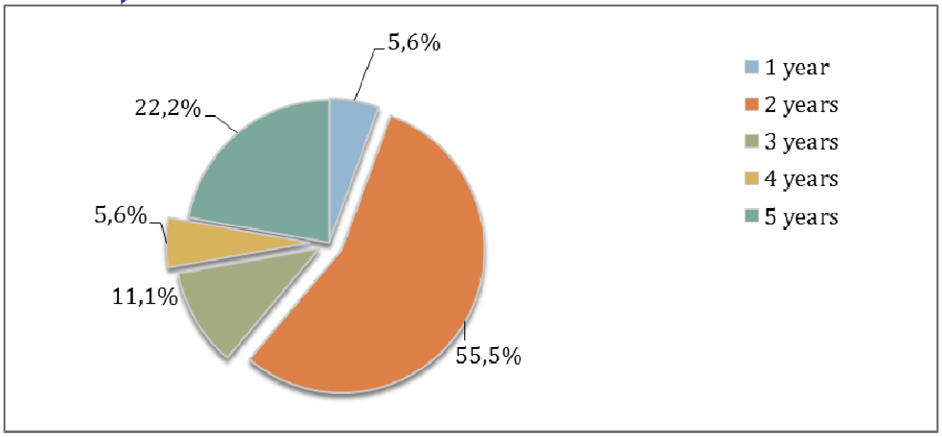

Nearly 77 % of the respondents indicate that their investment programme is in line with the key strategic documents that are relevant for the sector.

Provided investment per years, according to the investment programme:

Table 27: Distribution of the investment program, according to the largest share of respondents

	Scale of investment, thousands of BGN (50% of the respondents)	Scale of investment, thousands of BGN (50% of the respondents)
First year 2013)	462	500
Second year (2014)	756	1500
Third year (2015)	744	1500
Fourth year (2016)	2000	
Fifth year (2017)	2000	

Following are the specific questions broken down by major sectors: Water, Waste, Air Quality.

Water Setor

The following questions were addressed to the respondents who indicated Water sector to the question. 2 – total 16

Ownership of assets. Nearly 62.5 % of the respondents indicated that the assets for the business of providing water and wastewater services are owned by the company, 25 % – owned by the municipality and 12.5 % – owned by the state. This confirms the diversity of ownership in the sector.

Figure 38: Ownership of assets

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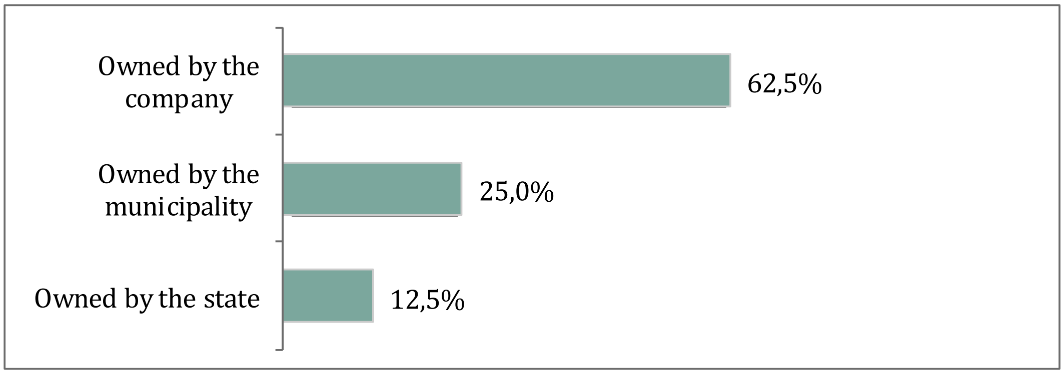
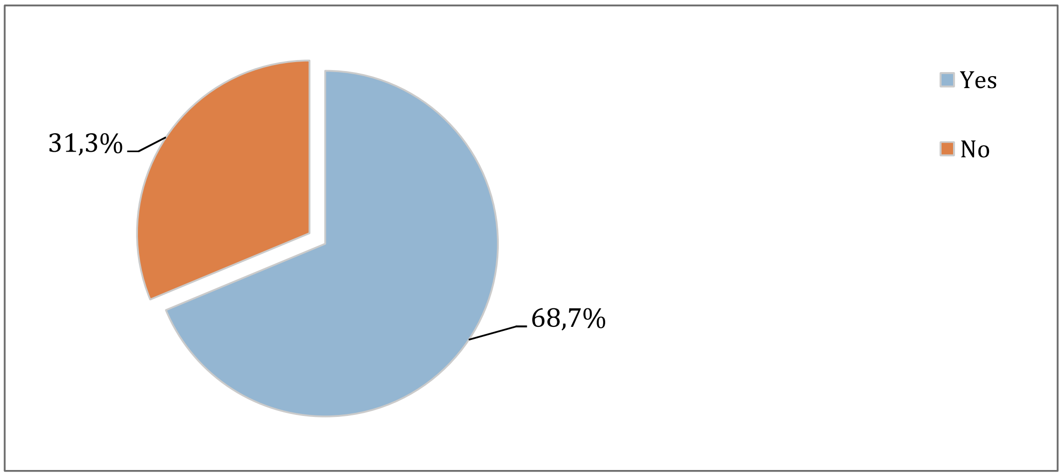


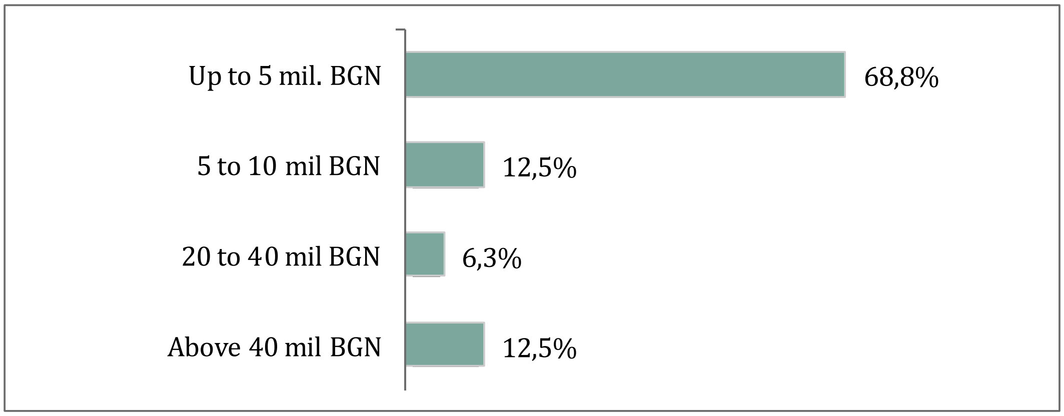
69 % responded that there is a registered WSS association in the region in which they operate. The negative responses amount to 31 percent.

Figure 39: Existence of WSS association in the region of activity



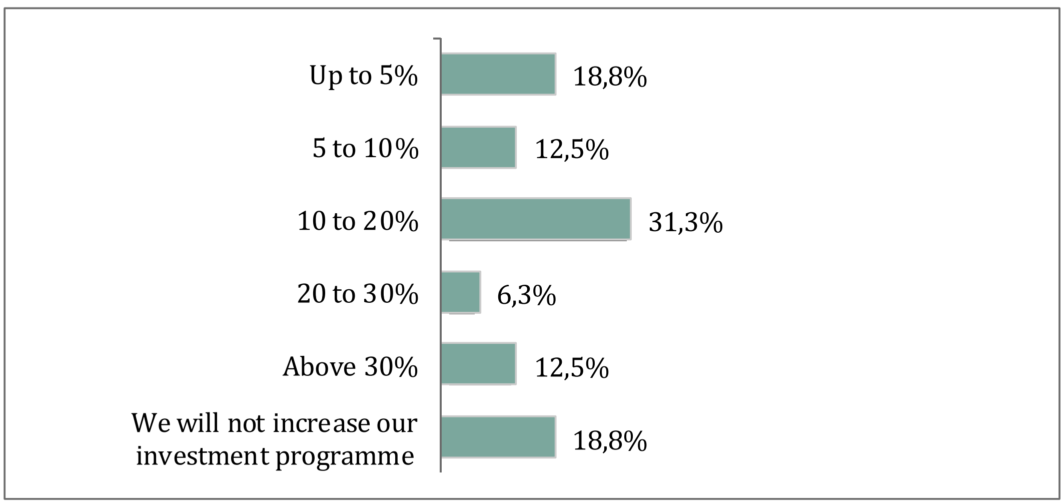
When asked about the necessary financial resources for the implementation of their investment program, the largest share of respondents (69 %) indicate that the amount is up to BGN 5 million, 12.5 % say the amount is between 5 and 10 million, and other 12.5 % indicate that the sum amounts to more than BGN 40 million.

Figure 40: Scale of the investment programme



Asked how much % they would increase their investment program over the next 5 years, if they have access to finance through financial instruments (in the form of loan guarantees or equity), the largest share of respondents (31 %) indicate between 10 and 20 percent, followed by nearly 19 %, who would increase the programme by 5 %. Nearly 19 percent, however, share that they would not increase their investment programme.

Figure 41: How much would you increase your investment programme if you have access to financial instruments



A group of follow-up questions are set seeking reasons for the difficulties for investments.
56 % of the respondents believe that the coverage of large water losses is one of the reasons, followed by 37.5 % who believe that these are the commercial losses and 25 % take into account legal restrictions.

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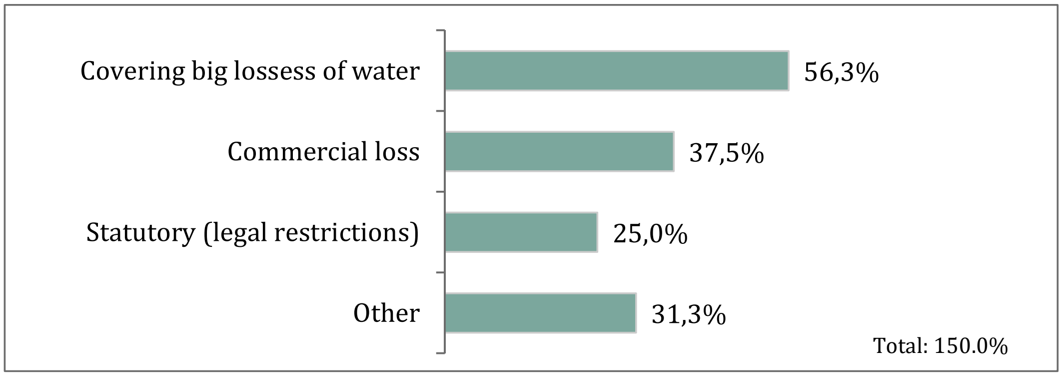
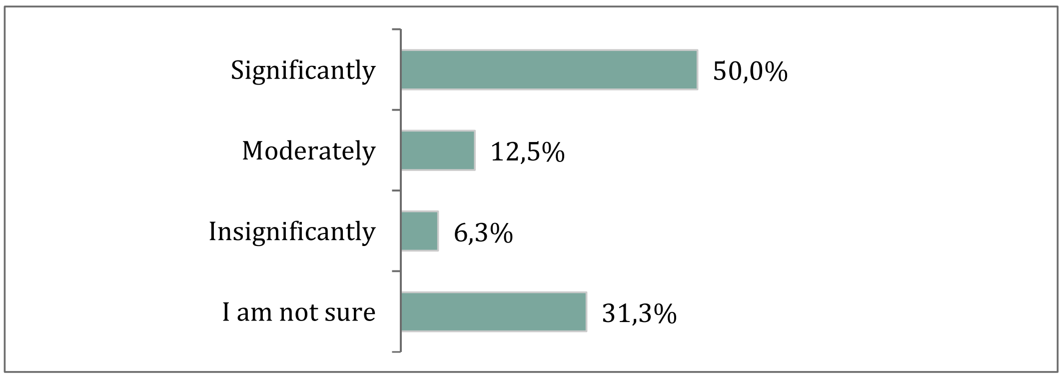
Figure 42: Reasons for reducing investment



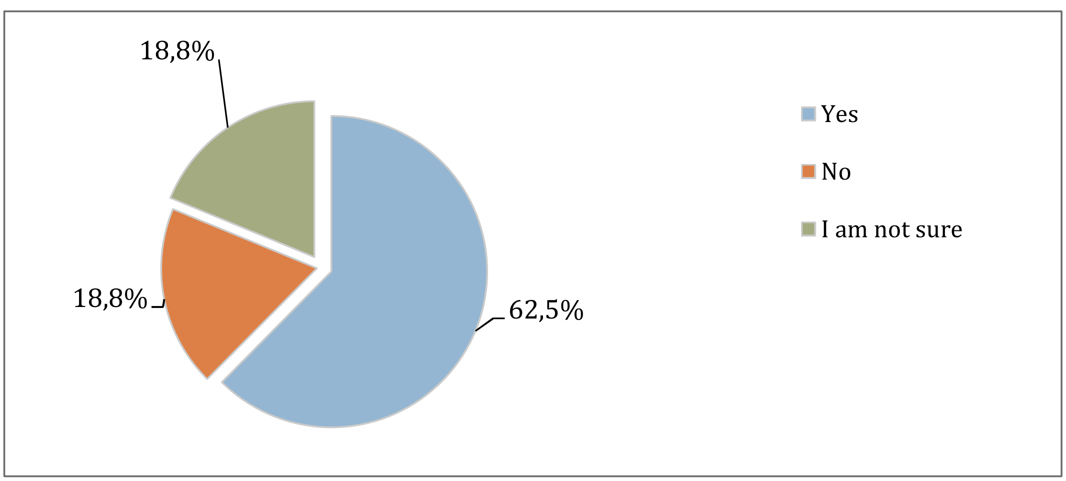
At the same time, 50 % of the respondents indicate that the SEWRC significantly limits the opportunities for investment in the WSS infrastructure, considering the regulatory ceiling prices for WSS services.

Figure 43: To what extent the SEWRC restricts the investment



For that matter, nearly 53 % believe that price liberalization in the WSS sector will contribute to increase investment, but there are 19 % who do not think so, and another 19 % who cannot decide.

Figure 44: Do you think that price liberalization in the WSS sector will contribute to increasing investment



The respondents have been asked two questions regarding the term of return on investment in the WSS infrastructure and equipment and accordingly adjust their use of financial instruments for the purpose:

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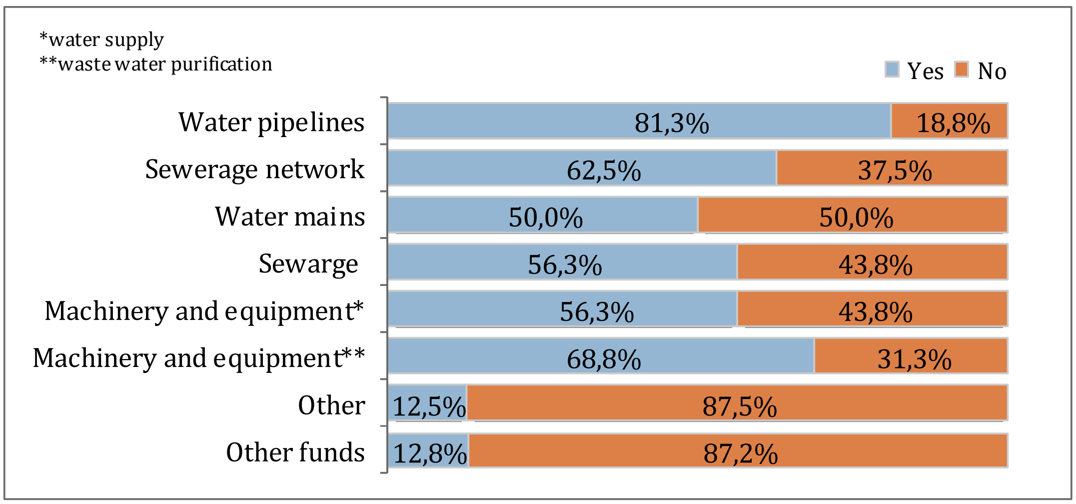
Type of investment	Would you use financial instruments	
	Yes	No
Water supply network	81.3	18.8
Sanitation network	62.5	37.5
Main water supply pipelines	50.0	50.0
Sewerage collectors	56.3	43.8
Water supply machinery and equipment	56.3	43.8
Wastewater treatment machinery and equipment	68.8	31.3
Other	**12.5**	**87.5**

Figure 45: What investments would you use financial instruments for?



Please, indicate the period of return / payback in number of years by type of investment: Water supply network; *base: 16*

	Percentage	
5	6.3	
15	6.3	
25	12.5	
30	6.3	
50	18.8	
I do not know	50.0	
Total	**100.0**	

Please, indicate the period of return / payback in number of years by type of investment: Sanitation network; *base: 16*

	Percentage
15	6.3
25	12.5
30	6.3
50	25.0
I do not know	50.0
Total	**100.0**

Please, indicate the period of return / payback in number of years by type of investment: Main water supply pipelines; *base: 16*

	Percentage
10	6.3
25	12.5
50	18.8
60	6.3
I do not know	56.3
Total	**100.0**

Please, indicate the period of return / payback in number of years by type of investment: Sewerage collectors; *base: 16*

	Percentage
25	12.5
50	18.8
60	6.3
I do not know	62.5
Total	**100.0**

Please, indicate the period of return / payback in number of years by type of investment: Machinery and equipment for water supply; *base: 16*

	Percentage
10	6.3
25	18.8
30	6.3
I do not know	68.8
Total	**100.0**

Please, indicate the period of return / payback in number of years by type of investment: Machinery and equipment for wastewater treatment; *base: 16*

	Percentage
15	6.3
25	12.5

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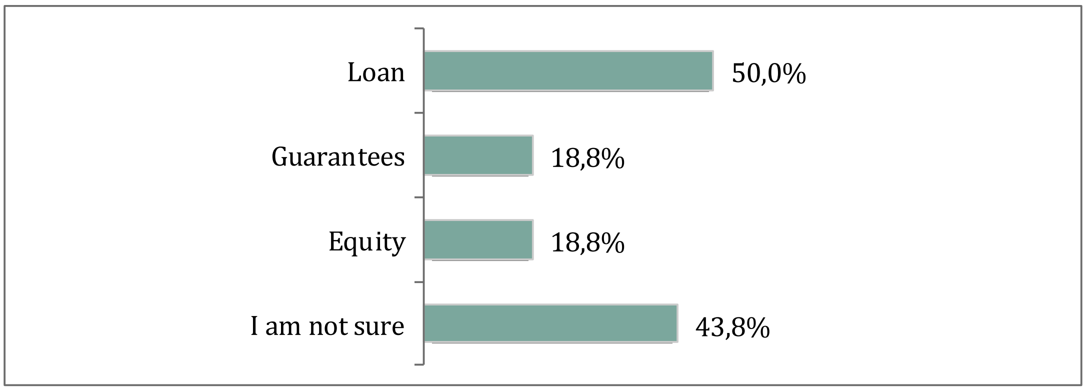
I do not know	81.3
Total	**100.0**

Please, indicate the period of return / payback in number of years by type of investment: Other; *base: 16*

	Percentage
10	12.5
I do not know	87.5
Total	**100.0**

With regard to the preferences of the respondents what type of financial instruments they would use to finance their investments, 50 % indicate that this is a loan, followed by 19 % for guarantees and equity. However, 44% cannot decide what the appropriate financial instrument would be.

Figure 46: Attitudes to the use of various types of financial instruments



This is supported by the answers to the question how far the respondents' organizations have experience in managing investments financed through financial instruments and / or grants. Only 31 % say they have had such experience, while nearly 63 % have not. Appropriate is the share of those who think that they need technical assistance – 63 %. 12.5 % are adamant that they do not need such technical assistance, but 25 % are irresolute and cannot decide.

About the expectations related to the use of financial instruments for the realization of the investment programme, nearly 38 % believe it will increase.
The long term effect from the use of financial instruments is expected to be positive (81 % of the respondents).

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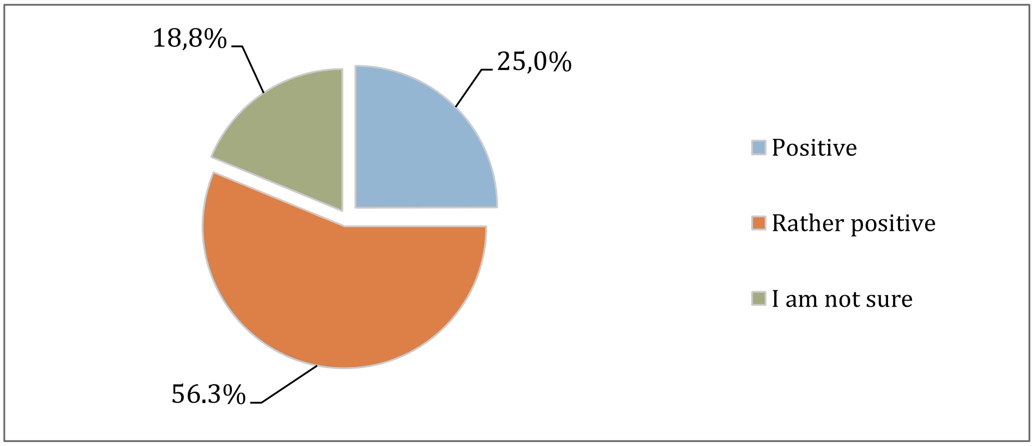
Figure 47: Effect of using FI



Waste sector

The respondents in the Waste sector were asked the following questions, a total of 7

According to respondents, the main reasons at the time in the country, the number of facilities for recycling and utilization of waste to be still small are the absence of funds for investment in facilities and the lack of effective regulation (by 57 %). Followed by the lack of a sufficient volume of separated waste and insufficient financial resources to purchase installations for landfills (by 43 %).

When asked, for what purpose they would use FI (loans, guarantees, etc.), the respondents indicated the following opportunities:

** more than one onswers are possible*

Activities	**Percentage***
Sites and facilities for pre-treatment of household waste	85.7 %
Anaerobic and / or composting facilities for biodegradable and / or green waste, incl. equipment for waste separation (according to the provisions of the Ordinance on separate collection of biodegradable waste of 6th December 2013)	42.9 %
Reuse centers for household waste, including equipment and related facilities	28.6 %
Installations for re-use of waste	28.6 %
Waste treatment plant	28.6 %
Total	**214.3 %**

In similar order are arranged responses to the question as to which investments could be financed entirely through the use of a financial instrument.

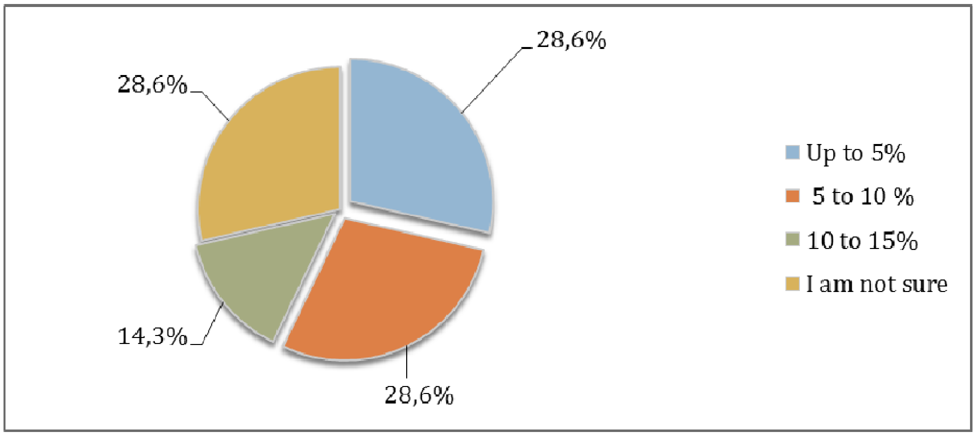
** more than one answers are possible*

Activities	**Percentage ***
Sites and facilities for pre-treatment of household waste	85.7 %
Anaerobic and / or composting facilities for biodegradable and / or green waste, incl. equipment for waste separation	57.1 %
Waste treatment plant	57.1 %

Reuse centers for household waste, including equipment and related facilities	28.6 %
Installations for re-use of waste	28.6 %
Cleaning equipment for washing lanes, squares and sidewalks	14.3 %
Total	**271.4 %**

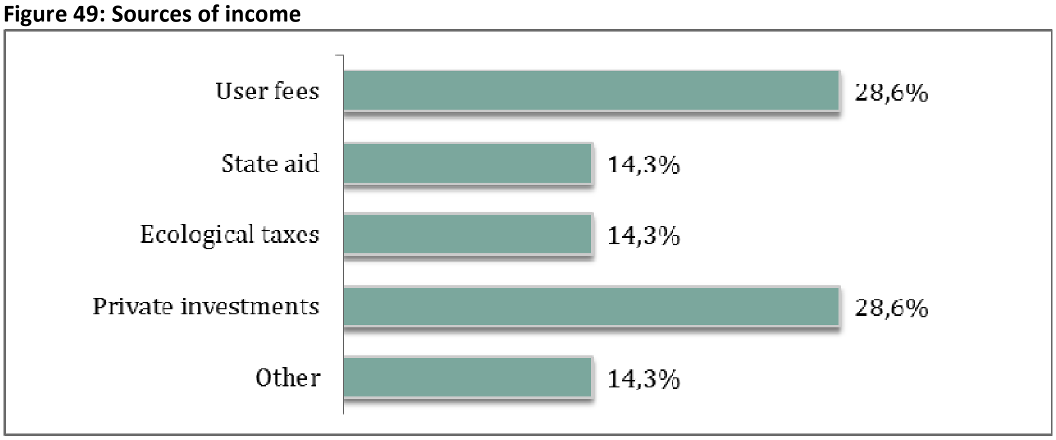
Respondents indicated a relatively large range of the return on their latest investment, and with equal share are the ones of 5 % and 5 to 10 %.

Figure 48: Return on investment



On how to finance their activities the respondents indicated the following sources of income:

Figure 49: Sources of income



The largest is the share of revenues from user fees and those of private investment - nearly 29% each.
Respondents are also interested in PPP (57 %) and concession (43 %) in their field of activity.
Respondents indicate that they are interested in the use of financial instruments in order to implement activities in waste recovery.

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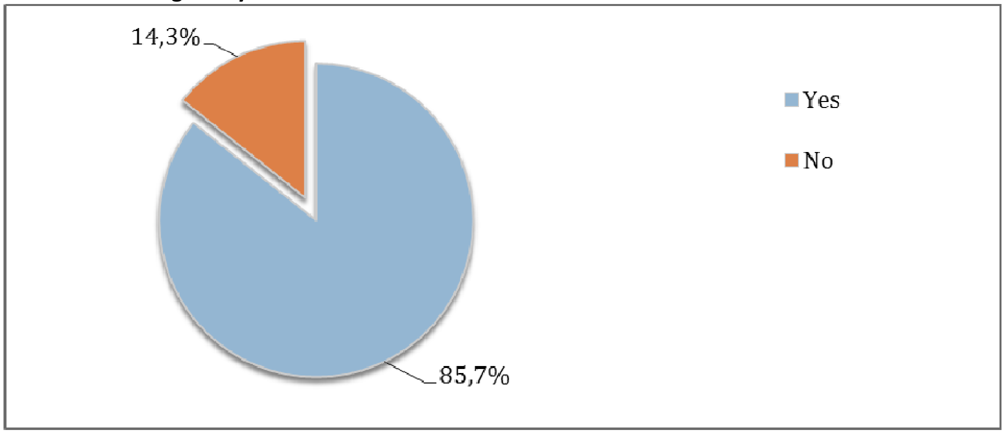
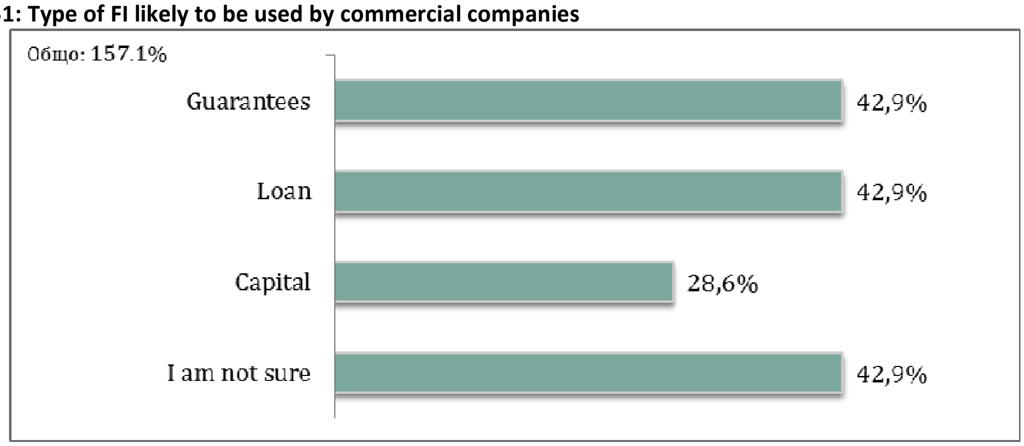
Figure 50: Interest in using FIs by resondents in the Waste sector



When asked to specify what type of financial instrument would use the respondents indicated the following distribution:

Figure 51: Type of FI likely to be used by commercial companies



57% of the respondents indicate that the use of financial instruments for the realization of the investment program will increase the free financial resources (liquid resources of the company) which they will have. Respectively, in the long term, respondents have indicated that they expect the effect of the use of financial instruments to be positive (57 %).

Equal share of respondents indicate experience and the lack of experience in managing such investments financed through financial instruments and / or granted aid – by 43 %.

Accordingly, 57 % think that they need technical support for management of financial instruments.

In this area, was asked a question on the propensity to invest in cleaning equipment:

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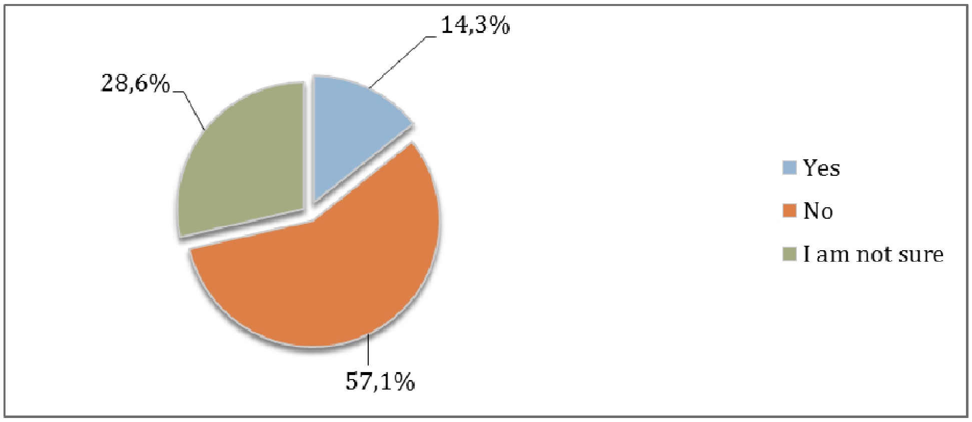
Figure 52: If you can use financial instruments, would you purchase cleaning equipment to wash lanes, squares and sidewalks?



57 % answered that they would not make such an investment, 29 % could not decide, and only 14 % agreed. Of them have indicated that they would invest up to BGN 5 mil.

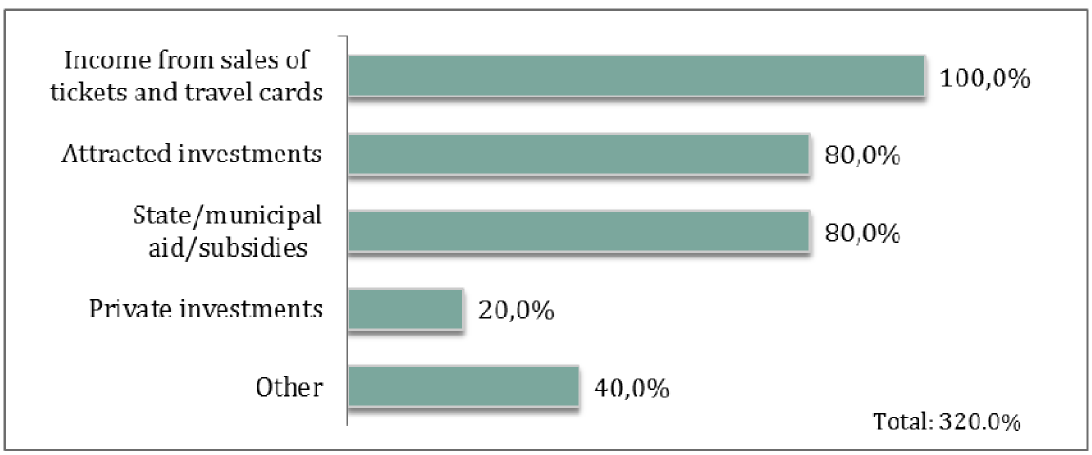
Transport (urban)

** Questions 45 to 51 are given to the respondents indicating "transport sector" of q.2.*

Firms operating in the transport sector (urban) have also been asked specialized questions.

Respondents have answered that their activities are funded by several sources:

Figure 53: Sources of revenue for financing activities



The main source is the revenue from the sale of cards and tickets, followed by attracted funds and grants.

Asked whether they would use FI to reduce emissions of greenhouse gases emitted by vehicles in the air, 100 % said they would use financial instruments to purchase new vehicles. In regard of what FI they would use, 20 % prefer Equity capital and 100 % - the use of a loan.

40 % of respondents of respondents said they have experienced in the management of investments financed through financial instruments and / or granted aid.
However, only 20 % say they need technical assistance in the management of FI, and the other 80 % either hesitate, or feel that they do not need such assistance.
Still, 100 % of respondents believe that the long term effect of FI implementation will rather be positive.

- **Conclusions**

Lack of interest on the part of the respondents is indicative of ignorance of the subject and the lack of interest in the topic.

The bulk of respondents are from the Water sector, less – in Waste sector and the least – in the sector of Public transport. This is determined by the relatively structured operators in the Water sector – the WSS companies, which have diverse ownership. In the Waste sector companies are diverse in form and activity.

In terms of experience with various financial institutions, potential beneficiaries declare differing experiences, but mainly with Bulgarian commercial banks – 75 %, less – 25 % with the World Bank, 14 % with the EBRD and other foreign banks. Small share point experience with FLAG and EIB – 7 % each.

Respondents are not familiar with the opportunities of using FI, especially in terms of the environment, and do not know what the advantages and potential impact are. Many respondents say that there is not enough information.
Although not a large majority of respondents are familiar with the FI and their benefits, in case of good dissemination and conditions FI have the potential to attract potential beneficiaries.
This is due to the fact that 61 % of respondents face difficulties in providing financing for investments, mainly due to failure to provide the required security or insufficient pathways.

The bulk of respondents (84 %) have a development strategy agreed with the main strategic documents in the sector. For most companies, the strategy is supported by an investment programme.

Water sector

Respondents indicate that they have investment needs and would use financial instruments, most of them supporting loan capital, and a smaller part – guarantees and equity.
Only 31 % of the respondents have experience in managing investments financed through financial instruments and / or grant aid and 63 % are in need of technical assistance in this regard.

Waste Sector

86 % of respondents indicate they would use financial instruments to cover their investment needs, and equal shares indicated Guarantees and a Loan. Equal share of respondents indicate a lack of experience in managing such investments financed through financial instruments and / or granted aid - by 43 %. Accordingly, 57 % think that they need technical support for management of financial instruments.

Transport Sector

100 % indicate that they would use FI to purchase new vehicles. In this regard, what FI they would use, 20 % prefer Equity capital and 100 % - the use of a loan.

40 % of respondents share that they have experienced in the management of investments financed through financial instruments and / or granted aid.

However, only 20 % say they need technical assistance in the management of FI, and the other 80 % either hesitate, or feel that they do not need such assistance.

Still, 100 % of respondents believe that the long term effect of FI implementation will rather be positive.

1.4.3. Summary of supply and demand of financial instruments in the environmental sector in Bulgaria

First, it should be noted that as of presend date in the environmental sector as a whole there aren't demand and supply of financial instruments that could be implemented in the period 2014–2020 considering the requirements under Regulation 1303/2013[35]. Loan funding for investment has been insured for some projects in the Water sector and Waste sector in the pre-accession period, as in 2007–2013 period, but this can be considered a tool of financial engineering in the sense in which the financial instruments in this report are analyzed.

Considering this fact, as well as the specifics of each of the Water and Waste sectors and the potential beneficiaries of financial instruments in both sectors, it can be concluded that the most suitable for application in the field of environment are tools for **debt financing**, particularly *loans* and *guarantees* for the following reasons:

- ✓ Ownership of WSS companies and the statute of municipalities as local authorities do not allow the use of equity financing, connected with acquiring ownership and management;
- ✓ Even in case of a private company beneficiary (the Waste sector) the assets acquired as a result of the projects would not be accepted by banks as collateral because they are not liquid [36];
- ✓ In both sectors the projects that need to be implemented are related to public services, i.e. equity as mezzanine or share capital shall not be considered an adequate tool.

A more detailed assessment of the possible forms of support provided through financial instruments is made in the following section.

2. Added value of financial instruments

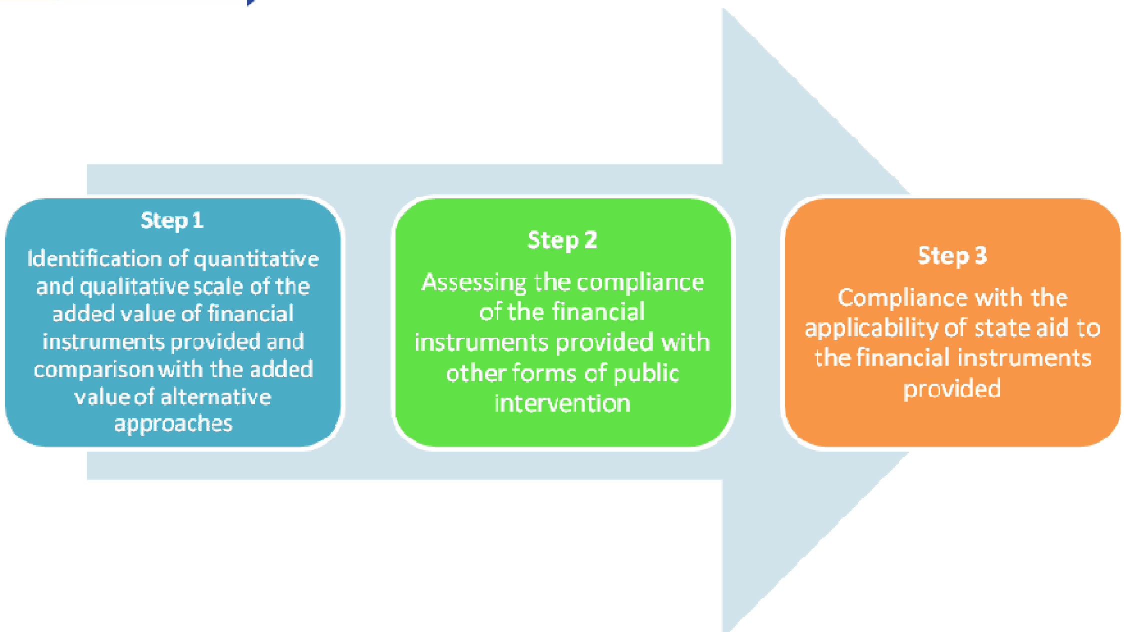
2.1. Analysis of the possible types of support forms provided through financial instruments - loans, equities, guarantees, etc., as well as their specific sub-types according to the area of intervention under the OPE (qualitative and quantitative nature of the added value of each of the possible types of financial instruments)

The main steps that the assessment of value added financial instruments need to pass according to a methodology for estimating their applicability are:

---

[35] Article 37, paragraph 9 reads that financial instruments cannot be used to pre-finance the grant, such a financing being provided by the FLAG Fund at present, for example.

[36] This reasoning is given on the basis of interviews with national and international banking institutions.



2.1.1. General characteristics of possible financial instruments

"**Financial Instruments**" means measures of the Union for financial support provided as additional support from the budget in order to implement one or more specific policy targets of the Union. Instruments may be in the form of equity or quasi-equity investments, loans or guarantees or other instruments for risk sharing, and where appropriate, they can be combined with grants [37].

Most commonly, financial instruments (excluding grants) can be attributed to two categories – equity financing and debt financing. The characteristics of each of the two categories are summarized as

[37] Regulation (EC, Euratom) № 966/2012 THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 25 October 2012

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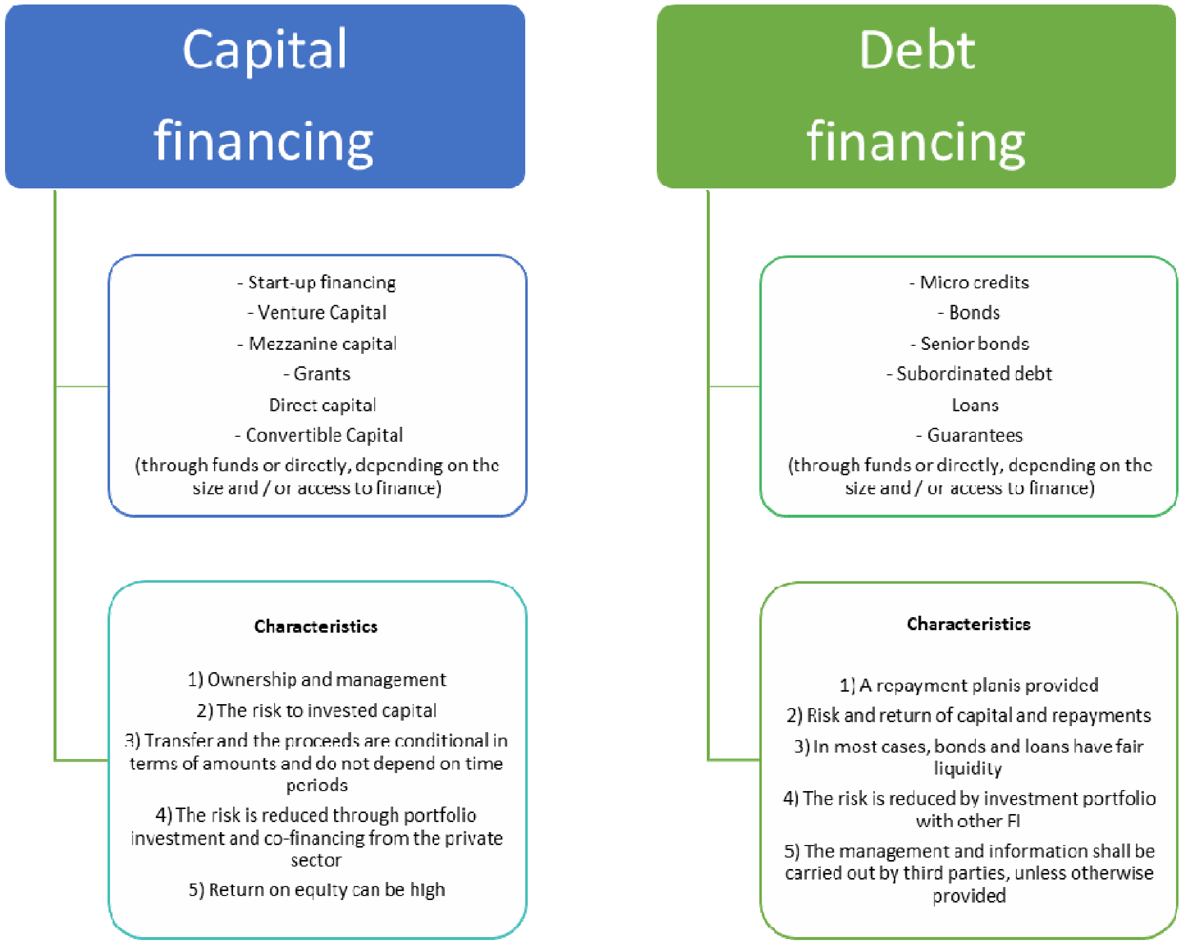
follows:



Considering the financial instruments defined in item 1.4.3. above most applicable to the Environmental sector within the meaning of Regulation (EC, Euratom) № 966/2012 THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 25 October 2012 on the Financial Regulation applicable to the general budget of the Union and repealing Regulation (EC, Euratom) № 1605/2002 of the Council (financial regulation), they are defined as follows:

- ✓ "**Loan**" means an agreement that obligates the lender to provide the borrower an agreed sum of money for an agreed period, according to which the borrower is obliged to pay back this amount within the agreed period
- ✓ "**Guarantee**" means a written commitment to take responsibility for all or part of the debt or obligation of any third party or for the successful implementation by the third party of its obligations, in the event that leads to the filing of a claim for payment under the guarantee, as such as failure to pay loan

In addition, Regulation (EC) № 1303/2013 THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 divided financial instruments to support the activities and final recipients that are in line with the programme into two types:

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- ✓ Financial instruments corresponding to the standard conditions set by the Commission (off-the-shelf), or
- ✓ Existing or newly created financial instruments (tailor-made), which are specifically designed to achieve the specific targets set out within the relevant priority.

Possible instruments in terms of their nature and type, for the Waste sector and WSS sector, as well as the grounds of that are given in the following table:

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Sector	Financial instrument	Type of instrument	Grounds
Water sector	Loan	Existing or newly created financial instrument (tailor-made)	Given the extremely high investment gap in the sector, it is necessary part of the costs under individual projects (20-25 % depending on the scope of the project and the financial potential of the WSS company) to be financed through a loan granted to the relevant water companies - OPE beneficiaries. Since Bulgaria's water sector is regulated, the financial position of the WSS operators do not allow them to get credit from commercial banks at market prices. This determines the need a financial instrument to be proposed through which the WSS companies will be able to provide most of the necessary co-financing of projects under preferential conditions. On the other hand, because of the specific nature of the sector and the fact that at present the country has no existing financial instrument within the meaning of Regulation 1303/2013, it is necessary to create a separate one that is consistent both with the conditions set by the European Commission and the specific needs of WSS operators, being public commercial entities.
	Guarantee		To increase the so-called leverage effect, and considering the fact that the banking system in the country is with enough liquidity, it is possible to provide parallel financing by creating a security mechanism. Through it, the commercial banks will get incentives to lend (average size – 1.5 million euros) under favorable conditions to WSS operators, through which the latter will complement the portfolio of resources for co-financing of projects in the sector.
Waste sector	Guarantee for SMEs *	Financial instrument corresponding to the standard conditions set by the Commission (off-the-shelf)	To finance investment in the waste sector it is possible a security to be implemented as a financial instrument corresponding to the standard conditions laid down by the EC. The principles of this type of financial instrument are: • Compliance with state aid rules, i.e. no need for notification; • General harmonized conditions for the credit; • Lack of overlap with existing financial instruments; • Implementation in accordance with market practice. The main features of the so-called Limited Warranty are as follows:

Sector	Financial instrument	Type of instrument	Grounds
			• Coverage of credit risk to a certain limit, which allows financial intermediaries to facilitate SMEs' access to financing on preferential terms; • The contribution of the program to the instrument is usually between EUR 5 and 30 mln.; • Upper limit of warranty – up to 80 % depending on the loan (credit risk in the amount of not less than 20 % is taken by the financial intermediary); • The level of the guarantee limit (the so-called "Cap rate") is fixed in advance in the risk assessment, but not more than 25 %; • Leverage – between 4 and 6 times; • It is not considered State aid at the level of the financial intermediary, and at the level of SMEs de minimis regime is applied; • Purpose of the loan – financing of tangible and intangible assets and working capital related to financing investment; • Repayment period – between 1 and 10 years; • Amount of the loan – up to EUR 1.5 mln.; • Advantage for SMEs – access to financing at preferential conditions (lower interest rates and service charges).
	Guarantee	Existing or newly created financial instrument (tailor-made)	It is possible a guarantee mechanism to be created whose parameters are different from those of the above guarantee for SMEs in relation to the value of the loan (e.g. Average of 2 mil. euros) and the potential beneficiaries as municipal enterprises " Chistota " could also be potential beneficiaries of measures in the Waste sector, but security corresponding to the standard conditions of the Commission is not applicable to them, because these companies are companies with public participation and not treated as SMEs. In this case, it will be necessary to apply the procedure for notification of State aid, as described in item 2.4. below.

*The proposed guarantee for SMEs as off-the-shelf tool is applicable in the event it is applied for certain specific measures / OPE Waste sector, which will potentially be profitable for beneficiaries SMEs – individually or through participation in PPP with a municipality. In the case of PPP the borrower should also be SMEs as it will be the entity that will operate with existing infrastructure and realize revenues from business.

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2.1.2. Assessment of the quantification of value added

Quantification of value added should be analyzed in terms of:

- ✓ Leverage effect of the EU contribution to additional contributions to the investment projects at all levels, incl. the level of the final beneficiary. The higher is the leverage of the financial instrument, the higher the added value shall be;
- ✓ Subsidy intensity of the financial instrument. The smaller is the intensity of subsidy for a project or group of projects, the higher the value added is;
- ✓ Revolving effect allowing the recycling of funds; and
- ✓ Additional contribution to the final beneficiaries, as it is excluded from the calculation of the leverage effect.

Operational Programme "Environment 2014–2020" is in the third scenario, as described in item 4.1.1. in Volume 1 of the Ex-ante assessment methodology, namely:

A financial instrument compared with a grant in the less developed regions of the EU
The aid of the ESIF supports 85 % of eligible costs, and national funding – 15 %

According to the Financial Regulation, the leverage effect from financing by EU funds equals the amount of financing the final beneficiaries divided by the value of EU funding, i.e.:

Leverage effect = Total cost ÷ Contribution of EU

On the grounds of this formula, the leverage effect has been calculated for Water and Waste sectors, which together with the intensity of the subsidy, revolving effect and additional contribution to the final beneficiaries for the types of financial instruments, are given below.

Water sector

For the purposes of calculating the leverage effect, the following assumptions are made:

- ✓ Three types of projects have been considered[38]: 1) the amount of co-financing from other sources[39] – 15 %; 2) the amount of co-financing from other sources – 20 %; and 3) the amount of co-financing

[38] Regulation 1303/2013 enables the application of a uniform rate of up to 25 % of eligible direct costs, provided that the rate is calculated on the basis of fair, equitable and verifiable calculation method or a method applied under schemes for granting financed entirely by the Member State for a similar type of operation. Furthermore, a requirement under the Regulation is that flat rates should be based on retrospective data, the potential for recovery of costs and the 'polluter pays' principle, where applicable.
In this case, the application of flat rates for co-financing of projects is not applicable as the financial status of individual beneficiaries is different and if this approach is applied co-financing through financial instruments will be limited to beneficiaries who can afford to ensure such one, respectively the expected effect of the implementation of the program could not be achieved.
More applicable approach is to produce a separate cost-benefit analysis for each project, but in the absence of completed projects at present it is not possible to predict what will be the average value of the expected co-financing by the beneficiaries. Furthermore, experience shows that the preliminary determination of a minimum amount of co-financing distorts the results of the financial analyses, as in such a situation the beneficiaries are not willing to provide a larger amount of their own contribution.
Because of these reasons three options for co-financing by the beneficiaries are discussed, which would be possible under realistic predictions made in cost-benefit analyses.

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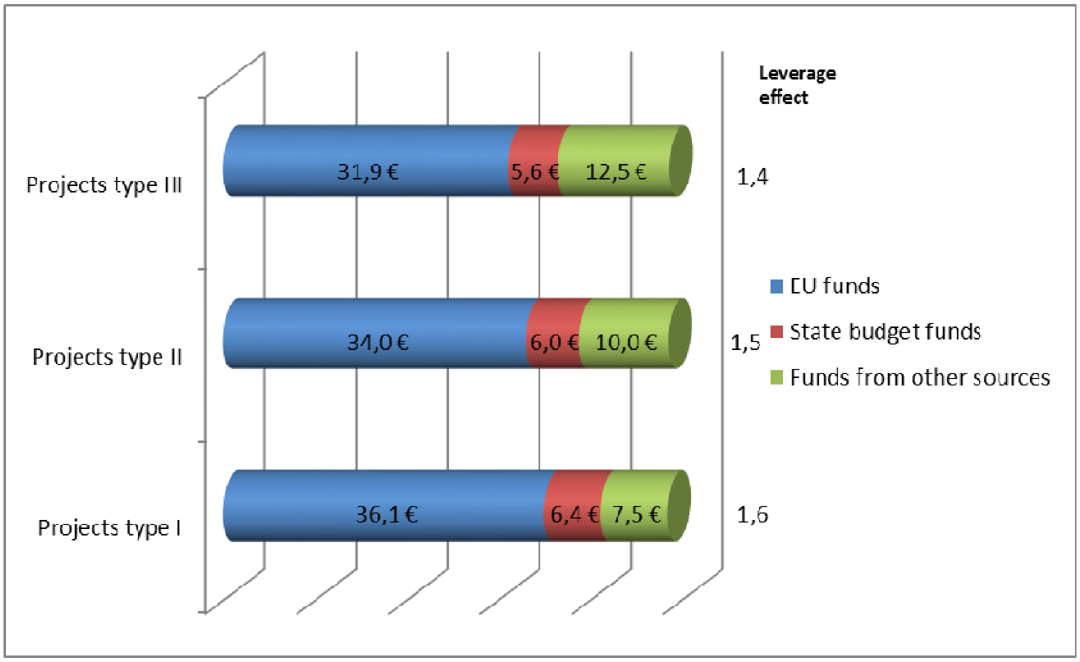
from other sources – 25 %. This assumption is made based on a review of the analysis of the financial status of the WSS companies and interviews with potential beneficiaries and banking institutions; the conclusion resulting from that is that the WSS companies couldn't co-finance more than 25 % of the total investment value.

- ✓ An average project cost of 50 mil. euros has been adopted[40].

The results of the calculations are presented in the following figure:

Figure 54: Leverage effect of projects in the WSS sector



As evidenced by the information presented, the leverage effect of EU aid for the three types of projects in the WSS sector is between 1.4 and 1.6.

Waste Sector

For the calculation of the leverage in this sector the following assumptions are made:

- ✓ At relatively lower initial costs (2-3 mil. euros) projects could be implemented entirely by commercial entities through debt financing;
- ✓ At a greater amount of the initial costs (25 mil. euros) two types of projects are considered: 1) grant and debt financing at 50:50 ratio; and 2) grant and debt financing at 75:25 ratio.

The results of the calculations are presented in the following figure:

39 Funding from other sources can be a loan, equity or a combination of both.

40 In the opinion of the consultant, based on the necessary investments according to the short-term programs to regional master plans an average amount of projects of 50 mil. euros has been fixed.

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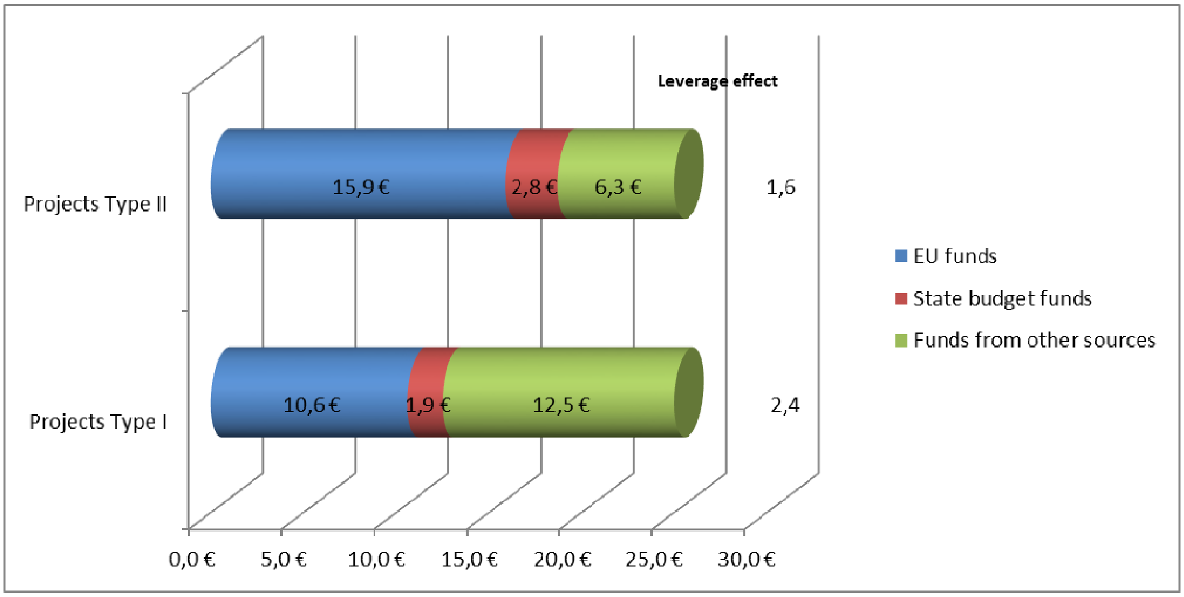
Figure 55: Leverage of projects in the Waste Sector



As seen from the above figure, the Waste Sector could get more leverage of the grant for the projects where 50 % of the necessary resource is provided through debt financing.

As regards the intensity of the subsidy in each of the proposed financial instruments, the following is calculated:

Loans

In order a loan be proposed under more attractive conditions, part of the credit risk shall be covered by a grant from the EU. In this case the study shows that when structuring of the fund in which the grant plays the role of subordinated capital, the optimal ratio between the grant and external financing from international financial institutions is between 15 % and 35 %. I.e. for a project in the WSS sector at average value of 50 mil. euros, the different scale of intensity in the structure of the loan gives the following results:

Table 28: Intensity of the subsidy in the structure of the loan for projects of WSS sector

Total project value	**Grant**			**Co-financing from an attracted external resource**			**Overall amount of EU funding**
	CF 85 %	**SB 15 %**	Total	**CF as subordinated capital 15 %**	**Other sources of funding 85 %**	**Total**	
50	36,13	6,38	42,50	1,13	6,38	7,50	37,25
50	34,00	6,00	40,00	1,50	8,50	10,00	35,50
50	31,88	5,63	37,50	1,88	10,63	12,50	33,75

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Total project value	**Grant**			Co-financing from an attracted external resource			**Overall amount of EU funding**
	CF 85 %	**SB 15 %**	Total	**CF as subordinated capital 25 %**	**Other sources of funding 75 %**	Total	
50	36,13	6,38	42,50	1,88	5,63	7,50	38,00
50	34,00	6,00	40,00	2,50	7,50	10,00	36,50
50	31,88	5,63	37,50	3,13	9,38	12,50	35,00

Total project value	**Grant**			Co-financing from an attracted external resource			**Overall amount of EU funding**
	CF 85 %	**SB 15 %**	Total	**CF as subordinated capital 35 %**	**Other sources of funding 65 %**	Total	
50	36,13	6,38	42,50	2,63	4,88	7,50	38,75
50	34,00	6,00	40,00	3,50	6,50	10,00	37,50
50	31,88	5,63	37,50	4,38	8,13	12,50	36,25

Note: All values are in mil. euros. Calculated by the following formulas:

TGV = (TPV *85 % + TPV *15 %)
AER = (РЗФ*РПК % + РЗФ*OSF %)

Where:

TGV - Total grant value
TPV - Total project value
AER - Attracted external resources
LFA - Loan financing amount
SCA - Subordinated capital amount
OSF - Other sources of funding

From here it is clear that the more intense the contribution of CF in the loan and the smaller the amount of external debt financing, the less the value of attracted external funding is. The average value of the attracted external resources for the three types of projects with different intensity of the subsidy in the loan structure is summarized in the following graph:

Figure 56: Average value of the attracted external resource for projects of the WSS sector

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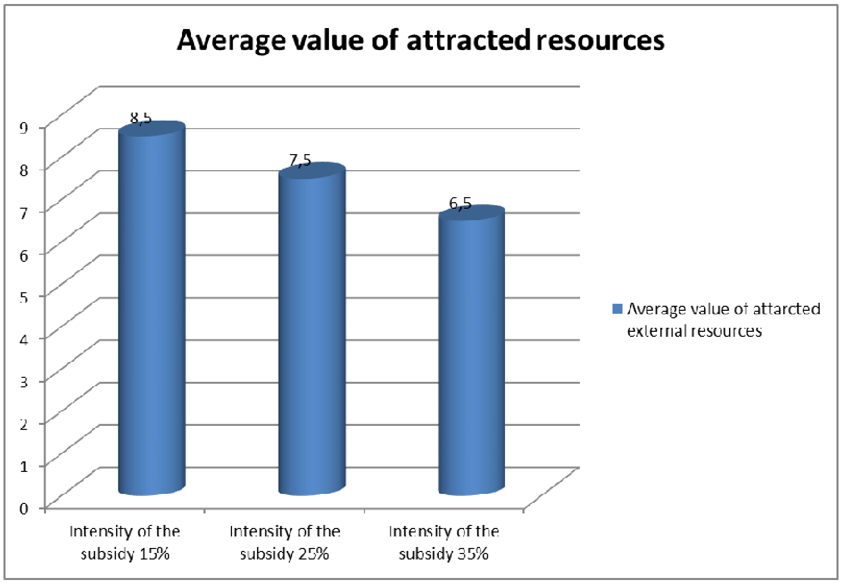

In order to optimize risk and provide favorable conditions of loan financing for projects in the WSS sector, it is advisable to adopt an approach to a share of the grant in the total value of the loan as a financial instrument in the range 20–25 %, which will achieve leverage effect of 1: 3 or 1: 4.

Guarantees

The guarantees that can be used for projects by both sectors to attract funding from commercial banks to the principle of currently offered guarantees for SMEs[41]. Here a distinction can be made regarding the types of beneficiaries (WSS companies for water sector and SMEs or municipal enterprises for waste sector) and the amount of credits:

- ✓ For the Water sector – guarantees for loans to average amount of 1.5 mil. euros as parallel financing of loans from an investment fund in the WSS sector
- ✓ For the waste sector:
  - Guarantees for loans of up to 1.5 mil. euros to finance SMEs' investments in waste management projects (off-the-shelf financial instrument)
  - Guarantees for loans of an average of 2 mil. euros to fund municipal enterprises in the field of sanitation (tailor-made financial instrument) [42]

In any case, the intensity of the grant in the structure of the financial instrument depends on:

- ✓ the upper limit of the warranty – up to 80 % depending on the loan (the credit risk amounting to not less than 20 % is taken by the financial intermediary

[41] A financial instrument corresponding to the standard conditions set by the Commission (off-the-shelf).

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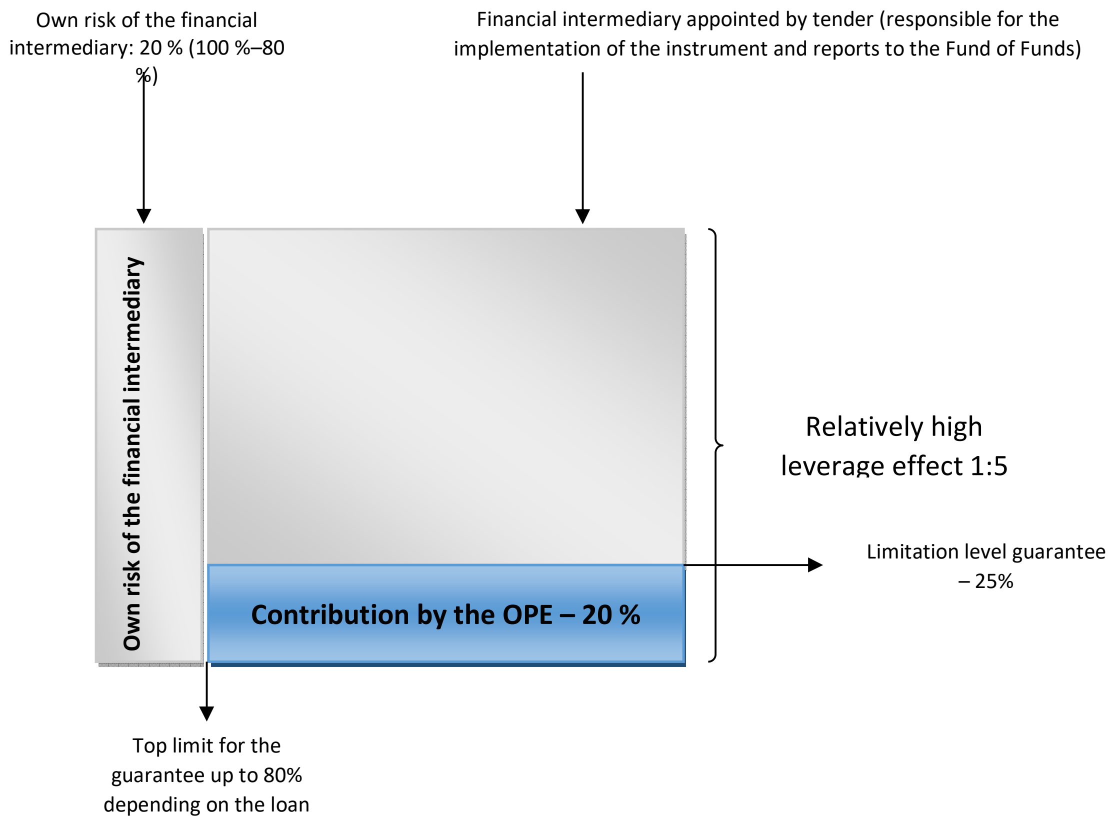
- ✓ the level of guarantee restriction (the so-called "Cap rate") is fixed in advance in the risk assessment, but not more than 25 %

This effectively means the following:



Since municipal corporations do not fall within the scope of SMEs in terms of the instrument of limited guarantees.

<u>*Source:*</u> *Directorate-General for Regional and Urban Policy*

I.e. if the contribution of the OPE represents 20 % or 30 % of project financing in the form of a guarantee, the intensity of EU assistance in both cases would be as follows:

Figure 57: Intensity of the EU aid in a guarantee mechanism

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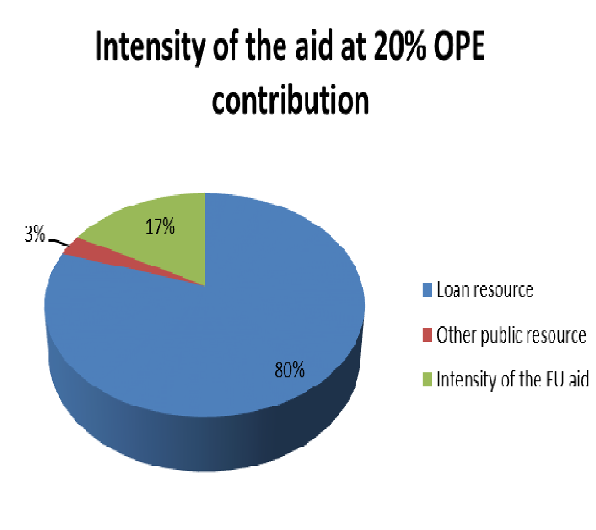

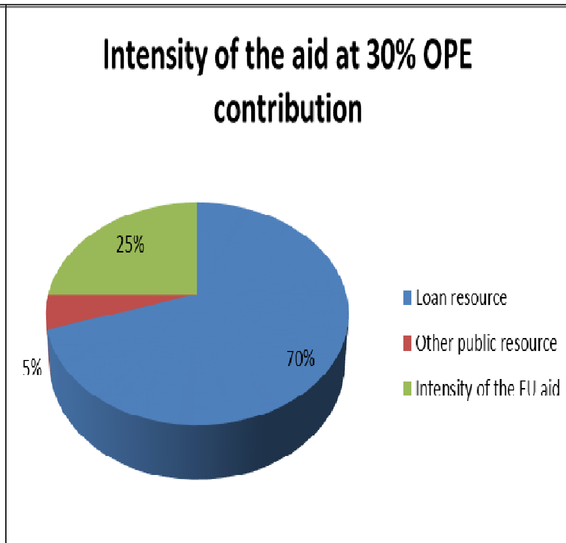

Recycling of funds depends on several factors:

- ✓ The deadline for implementation of investment projects, which should be equal to the grace period for debt repayment;
- ✓ The repayment term of the loan, which in turn depends on the size of the investment and the period of its repayment.

Considering that the projects in the Water and Waste sectors have different characteristics with respect to the above factors, the recycling of funds in both sectors will be different.

Water sector

Past experience shows that the deadline for completion of projects in the WSS sector is on average three years; considering the scale of investment projects, repayment of debt should not be shorter than 10 years. On the basis of these assumptions, for a project worth 50 mil. Euros, the value of loan financing averagely amounting to 20 %, each year are recycled ~ 12% of the funds from the CF or complete recycling of the grantis for a period of ~ 8 years:

Figure 58: Sample repayment plan of loan financing for a project in the WSS sector

mil EUR	Investment period			Repayment period									
50	1 year	2 yrs	3 yrs	year 1	year 2	year 3	year 4	year 5	year 6	year 7	year 8	year 9	year 10
40													
10				1 202 414	1 202 414	1 202 414	1 202 414	1 202 414	1 202 414	1 202 414	1 202 414	1 202 414	1 202 414
2,5				300 603	300 603	300 603	300 603	300 603	300 603	300 603	300 603	300 603	300 603
7,5				901 810	901 810	901 810	901 810	901 810	901 810	901 810	901 810	901 810	901 810
3,5%													

Actually, this means that half of the funds from the CF can be invested twice during the term of the programme if the financial instrument is structured in the first two years of the programme period.

Waste sector

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The measures provided for funding from the Waste Sector under the OPE 2014-2020, differ from those funded in the 2007-2013 period. However, the average time for the project implementation is expected to be similar to that of the investments in the Water Sector, i.e. 3 years. Assuming, however, that the average size of the projects in the Waste Sector is 2 mil. euros that will be paid entirely through a financial instrument and the repayment period of debt financing - 5 years, then the result is as follows:

Figure 59: Sample repayment plan of debt financing for a project in the Waste Sector

Investment project in the Waste Sector	mil euro	Investment period			Repayment period of the loan				
Total investment		year 1	year 2	year 3	year 1	year 2	year 3	year 4	year 5
Debt financing – 100 % of the project	2				442 963	442 963	442 963	442 963	442 963
Grant in the structure of the loan – 20 %	0,4				88 593	88 593	88 593	88 593	88 593
Resources of banks in the structure of the loan – 80 %	1,6				354 370	354 370	354 370	354 370	354 370
Interest on the loan – interest + taxes and fees	3,50%								

i.e., the total amount of ERDF funds can be invested twice during the effective period of the programme if the financial instrument is structured in the first two years of the programme.

The additional contribution of the final recipients to be mobilized as a result of the implementation of projects in both sectors can be attributed to two categories:

- ✓ Own funds for co-financing of projects;
- ✓ Interest paid back to the funding agency.

For the Water Sector projects it can be argued that the additional contribution of the final recipients to be mobilized will come primarily from interest as a small part of the WSS companies will be able to provide their own funds for co-financing. That is, assuming that the average cost of the debt financing of the investments is 3.5 %, in case of 25 % grant in the loan structure, the additional resources to be mobilized by the final recipient within a project at an average value of 50 mil. euros is equivalent to 2 mil. euros, of which 0.5 mil. euros could be reinvested back into the fund:

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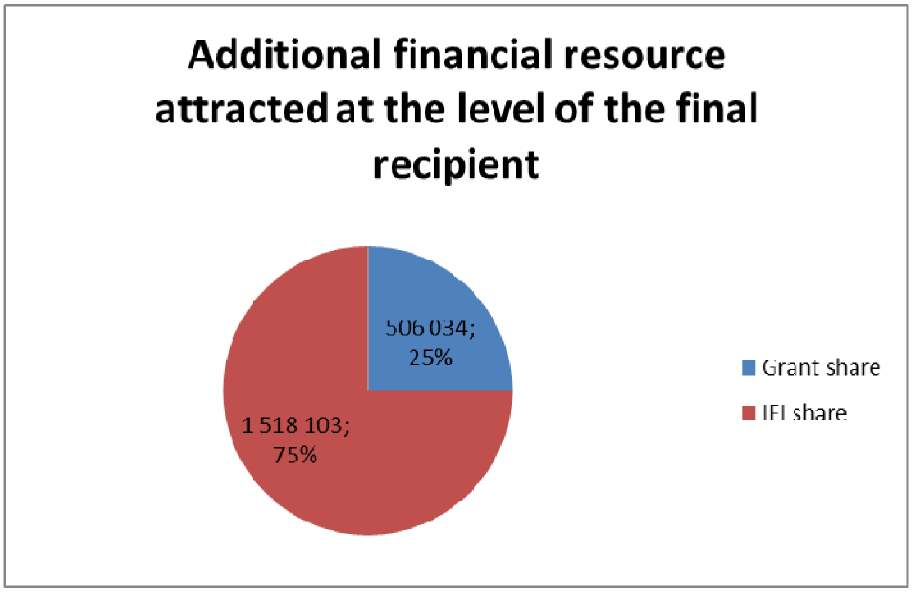
Figure 60: Additional financial resource at the level of the final beneficiary in the WSS sector



This means that the next cycle of grant funding recycling, which would be invested in the loan portfolio is 20 % more, which at leverage effect of 1: 4 means that for 1 euro grant funding additional 4 euros from international financial institutions will be mobilized.

For the Waste Sector two cases can be considered in which additional financial resources will be mobilized: 1) by own means of co-financing of projects; and 2) the interest to be paid back with the repayment of the loan.

In the first case, it may be assumed that on average 25 % of the total investment value can be provided by the beneficiary's own funds. This means that for a project of an average of 2 mil. euros 1.5 mil. will be financed through a loan. Again assuming that 3.5 % is the average cost on the loan financing of the investment, hence, at 20 % grant funding in the loan structure, the additional resources that will be mobilized by the final beneficiary within a project of an average amount of 2 mil. euros, of which 75 % debt financing, is equal to 0.661 mil. euros (0.5 mil. own contribution and 0.161 mil. euros repayment of the increased costs of the loan), of which 0.032 mil. euros could be reinvested back:

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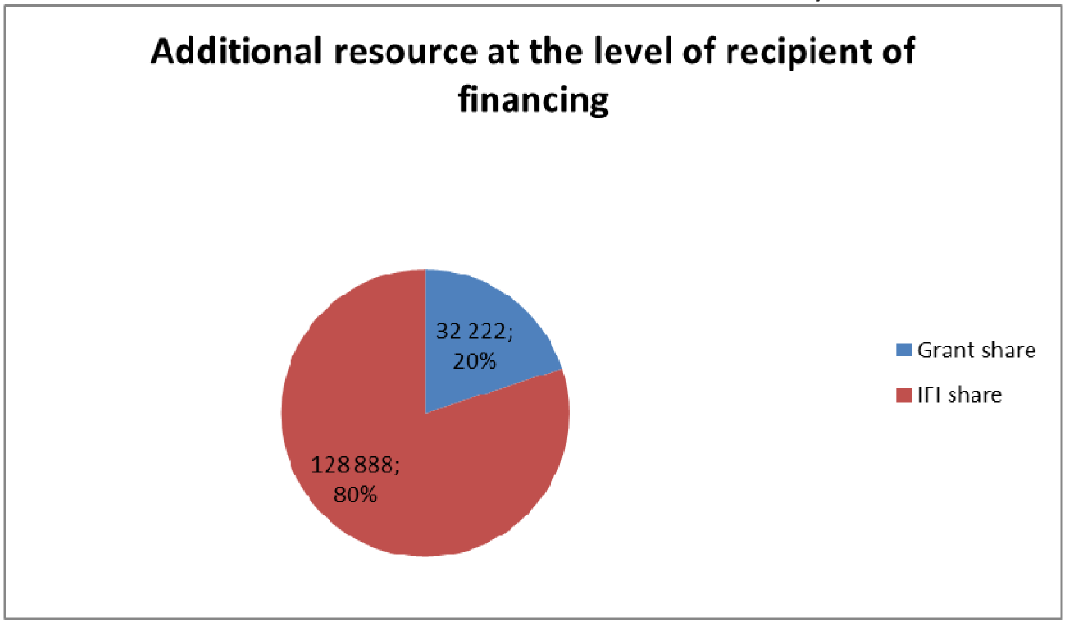
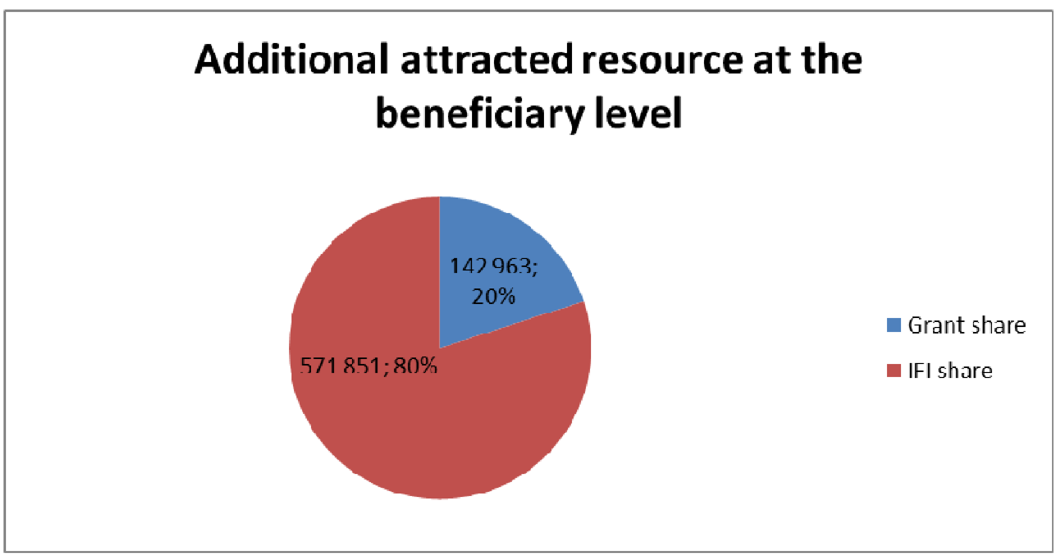
Figure 61: Additional financial resource at the level of the Waste Sector final beneficiary



This means that the next recycling cycle the grant funding, which could be invested in the loan portfolio is 10.5 % more which, at the leverage effect of 1: 5 means that for 1 euro grant funding additional 5 euros will be mobilized from financial institutions.

In the latter case, the entire investment resource is mobilized through debt financing, which means that at 3.5 % average cost on the loan financing and 20 % grant financing in the loan structure, the additional resource that will be mobilized by the final beneficiary within a project of an average value of 2 mil. euros is equal to 0.714 mil. euros of which 0.143 mil. euros could be reinvested again:

Figure 62: Additional financial resource at the final beneficiary level of Waste Sector



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2.1.3. Qualitative assessment/assessment of the qualitative dimension of the value added

The qualitative dimension of value added may include, for example[43]:

- ✓ Offering a financial product that exactly meets the market gap without jeopardizing competition;
- ✓ Development of a new financial product in the form of a financial instrument that has not been offered before;
- ✓ Support for reforming and capacity building in the sector;
- ✓ Giving priority to a financial instrument that provides liquidity in the form of pre-financing of the investment;
- ✓ Overcoming a specific market failure;
- ✓ Attracting additional sources of expertise and know-how in supporting the final beneficiaries.

The assessment of the qualitative dimension of the value added for both sectors is given in the table below:

[43] Here are only the categories for quality dimension of added value that are applicable to the sector

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Qualitative dimension of the value added	Water sector	Waste sector
Offering a financial product that exactly meets the market gap without jeopardizing competition	As mentioned in the market analysis in the WSS sector there is a false monopoly due to the ownership of WSS operators and regionalization of services. This means that a WSS company serves a given area without competition. In this sense, the financial product in the form of investment fund that can provide debt financing and parallel financing through guarantees will respond to market gaps without jeopardizing competition because the latter is actually missing in the Water Sector now.	In Waste sector the guarantee mechanism would help the private sector to mobilize additional resources for the realization of investments. Depending on the form to be selected (off-the-shelf or tailored-made financial instrument) competition should not be compromised, as in the first case, the European Commission has already authorized granting of state aid under certain conditions, and in the second one a notification procedure will be held ans as a result of it, the permissible state aid parameters will be defined.
Development of a new financial product in the form of a financial instrument that has not been offered before	At present there is no provision in the sector of financial instruments within the meaning of Regulation 1303/2013. The structuring of a new financial product will increase the leverage ratio at least 1: 3 and will help the significant funding gap in the sector to be at least partially met.	A guarantee mechanism in support of the access to finance for private and public enterprises to implement projects on waste management does not currently exist in the country. The development of such a product according to the model of the existing SME Guarantee Facility will mobolise five times more financing from financial institutions and will help the dependence on grant funding to achieve the objectives in the sector to be overcome.
Support for reforming and capacity building in the sector	Establishing a financing instrument in the WSS sector will speed up the implementation of reforms, as it will	Although there are already some entries of private operators in the sector, most measures for waste

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Qualitative dimension of the value added	Water sector	Waste sector
	impose certain conditions for financing WSS operators and will discipline their management. This way financial condition improvement of WSS operators will start and through the implementation of large-scale investments (until now primarily the responsibility of the municipalities and the state) they will accumulate capacity for effective implementation of investment programmes in the future, incl. through the use of external financing.	management are still carried out mainly by the municipalities in the form of public services, leading to inefficient use of resources. By creating incentives through financial instruments for the active uptake of business, including by establishing a PPP, the capacity of the private sector will be mobilized for the implementation and management of investments and pave the way towards the transition to the circuit economy in which the majority of waste is recycled and returned to production.
Giving priority to a financial instrument that provides liquidity in the form of pre-financing of the investment	Loan co-financing of projects in both sectors can be provided prior to awarding of a grant, in the event that within the relevant project such one has been planned. This way liquidity for the execution of investments will be provided and their pre-financing will accelerate the implementation process, which means that the period in which a project starts repaying can be drawn earlier or, respectively, be extended. This will bring extra additional value to the final beneficiary who will be able to take advantage of reinvesting the extra financial resource mobilized from the earlier revenue.	
Overcoming a specific market failure	The introduction of a financial instrument in the sector will allow WSS operators to use a credit resource they haven't access to on a market-based principle due to their weak financial performance arising from the regulation of the sector. Thus conditions will be created for at least partially filling the financial gap, as well as for disciplining the sector as a whole.	As mentioned in the market analysis, the main market failure is the lack of cooperation between the public sector and businesses, making it difficult to achieve compliance with European and national legislation. By creating incentives for the private sector to enter more actively in the activities of waste management, the lack of effective liaison between the owner of the waste (the municipalities) and the subject who would be able to

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Qualitative dimension of the value added	Water sector	Waste sector
		utilize them (the business) will be overcome, and both parties could earn revenue from it.
Attracting additional sources of expertise and know-how in supporting the final beneficiaries	Structuring financial instrument involving international financial institutions and providing technical assistance to final beneficiaries in implementing the investment will attract the capacity of banking institutions for more effective management of the financial resource. As a result from the ex-ante assessment of the financial status of the WSS companies for the purpose of structuring the financial portfolio of projects, measures to improve the long-term capacity of final beneficiaries will be identified.	Through the mobilization of commercial banks on the Bulgarian market by implementation of a security mechanism for projects in the Waste sector, their expertise in structuring the funding scheme of individual projects will be attracted. This will support the final beneficiaries to prepare and evaluate investment strategy and combine different investment opportunities.

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2.2. Comparison between the financial instrument as a specific form of providing financial assistance to achieve the targets and outcomes, and other alternative forms of providing financial assistance (grants, awards and repayable assistance) under the rules of the various funds, which can be implemented to achieve the same goals and results, the implementation of which the financial instrument pursues.

There is close connection between the assessment of the added value needed to ensure consistency with other forms of public intervention, incl. grant aid. The main aspects of the assessment are related to overlap or conflict with other forms of public intervention in the same segment, incl .:

- ✓ Legal / regulatory requirements, incl .:
  - Laws implementing the target of the proposed financial instruments that can make these instruments unnecessary;
  - Laws excluding the target of the financial instruments;
- ✓ Fiscal interventions, such as:
  - Reduction or exemption from fees;
  - State transfers;
- ✓ Other forms of public intervention, such as:
  - Donor programs;
  - Other financial instruments;
  - Activities of other funding sources and other levels of administration;
  - Support offered by the governing bodies of all existing revolving funds.

The results of the evaluation regarding consistency of the proposed financial instruments with other forms of public intervention are presented in the following table:

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Categories of public interventions		Financial instruments in the Water Sector	Financial instruments in the Wastes Sector
Legal / regulatory requirements	Laws implementing the target of the proposed financial instruments that can make these instruments unnecessary	Under the Law on WSS services the prices of these services are regulated by the Regulator. However, this regulation cannot be assessed as meeting the target of the proposed financial instruments in the sector, but rather the opposite, because it limits the financial potential of WSS operators, respectively, the amount of investment and creates the investment gap in the sector.	The economic incentives and instruments under the law In the country are, as follows: ✓ ***Disposal and treatment fees*** ▪ Collaterals to cover subsequent costs on closing landfills and waste disposal deductions ▪ Household waste fee and costs on waste management of municipalities ✓ ***Environmental taxes*** ✓ ***Manufacturer responsibility schemes*** ✓ ***Financial guarantees and insurance*** However, neither of these instruments, achieves the target of the envisaged financial instruments, but rather some of the economic incentives would generate resource for the financial instruments payment or provide additional financing.
	Laws excluding the target of the financial instruments	No	No
Fiscal interventions	Reduction or exemption from fees	The Law on regulation the WSS services introduces the concept of "social affordability" of tariffs, which is fixed at 4	At present, waste tax is not formed on the "polluter pays" principle. The regulations provide that from 2015 on this problem shall be

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Categories of public interventions		Financial instruments in the Water Sector	Financial instruments in the Wastes Sector
		% of the household net disposable income. This means that the fees paid by users of WSS services have a limit, but consumers are not exempt from them. This means that the investment resource is regulatory constrained, yet it can be argued that liberalization of tariffs will generate sufficient financial resource for investment in the sector, respectively the financial instrument cannot replace market financing due to excessive financial gap. On the contrary, properly applied in the current situation, the financial instrument will act as a catalyst for future investment income through the discipline of the sector, but that can be expected in a longterm prospect.	overcome. However, these fees are mainly used for collection services and disposal of waste generated by households and similar sources. Market failure in the sector, coupled with the poor attendance of business in the activities of the waste resource utilization suggest introducing further incentives through financial instruments that would not replace market-based financing, proof of which is the lack of investment interest in such activities, due to underfunding of the sector and the inability of the public sector to create conditions for successful partnership with business.
	State transfers	No	No
Other forms of public intervention	Donor programs	Funding for projects in Water and Waste Sectors is also available under other donor programs, incl. the EU as a source of financing. Under effective regulations, however, funding the same activities from various sources (i.e. duplication of costs) is not eligible, which requires prior verification of double funding before signing the agreement / contract to be performed. In this sense, financial instruments for both sectors will rather complement the investment portfolio.	
	Other financial instruments	In the WSS sector other financial instruments within the meaning of	Financial instruments under the Jeremie initiative are potentially a source of funding for projects in

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Categories of public interventions		Financial instruments in the Water Sector	Financial instruments in the Wastes Sector
		Regulation 1303/2013 are not offered.	the Environment Sector. At present, however, due to the larger amount of investment activities in waste recovery, there aren't any projects in the sector funded by this initiative.
	Activities of other funding sources and other levels of administration	ПУДООС collect financial resource predominantly from: ✓ Fees established by the legislation in the sphere of the environment; ✓ Targeted funds provided from the state budget; ✓ Fines and property sanctions under the EPA; ✓ Incomes from portfolio investment in short-term government securities and bonds; etc. EMEPA/ ПУДООС beneficiaries are mainly public institutions – municipalities, and funding is provided mainly in the form of grant funding or financing of projects or in the form of interest-free loans to bridge funding. With regard to the planned financial instruments EMEPA could be used as complementary financing, but it should not be believed that financial instruments would replace this type of financing resource.	
	Support offered by the governing bodies of all existing revolving funds	No	No

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2.3. Assessment of the possibilities of combining financial instruments and other forms of support (grants, awards, repayable assistance) to achieve a synergistic effect for the relevant intervention area

As a result of comparison between the planned financial instruments and other forms of public intervention made in the preceding paragraph of this analysis, it can be concluded that the combination of the grant and financial instruments has the potential to achieve a synergistic effect. The synergistic effect is directly dependent on the size of the grant under the priority axis of the OPE 2014-2020, which will be allocated to financial instruments. This means that the larger amount of resources under the priority axis are set aside for financial instruments, the larger synergistic effect will be achieved, given the expected leverage effect for the Water Sector of 1:4, and Waste Sector – 1:5.

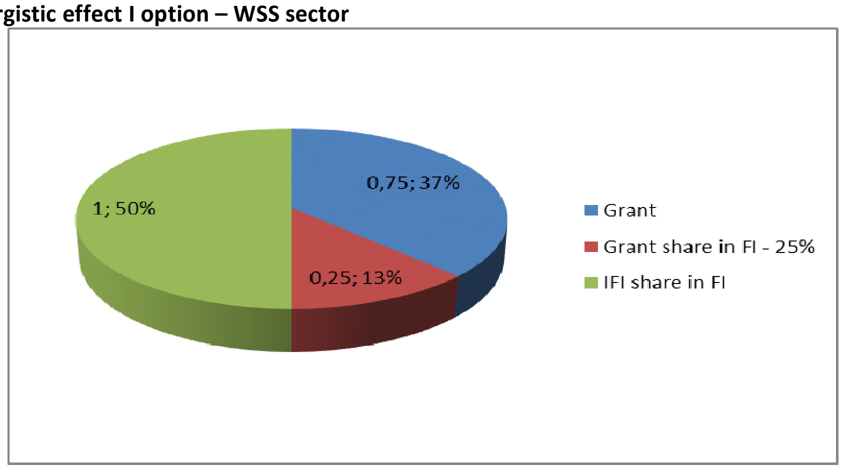
The synergistic effect for each of both sectors, which might be generated depending on the grant funding, which would be separated as a resource from each of the concerned priority axes, is represented in the following figures:

Water sector

<u>**Option I**</u>

Financial gap	**7,5 bil. Euros**
Resources available for investment under OPE	1 bil. Euros
Leverage effect	1:4
Grant	75 %
Grant share in the FI – 25 % of the Priority axis	25 %
IFI share in the FI	1 bil. Euros
Total investment portfolio	2 bil. Euros
Remaining financing gap	5,5 bil. Euros

Figure 63: Synergistic effect I option – WSS sector



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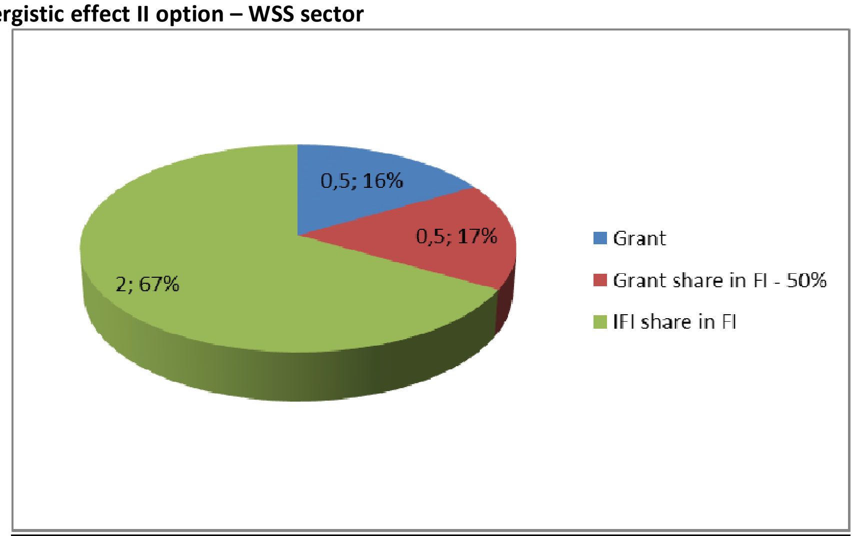
Option II

Financial gap (bil. euros)	**7,5 bil. Euros**
Resources available for investment under OPE (bil. euros)	1 bil. Euros
Leverage effect	1:4
Grant	50 %
Grant share in the FI – 50 % of the Priority axis	50 %
IFI share in the FI	2 bil. Euros
Total investment portfolio	3 bil. Euros
Remaining financing gap	4,5 bil. Euros

Figure 64: Synergistic effect II option – WSS sector



Option III

Financial gap (bil. euros)	**7,5 bil. Euros**
Resources available for investment under the OPE (bil. euros)	1 bil. Euros
Leverage effect	1:4
Grant	25 %
Grant share in the FI – 75 % of the Priority axis	75 %
IFI share in the FI	3 bil. Euros
Total investment portfolio	4 bil. Euros
Remaining financing gap	3,5 bil. Euros

Figure 65: Synergistic effect III option – WSS sector

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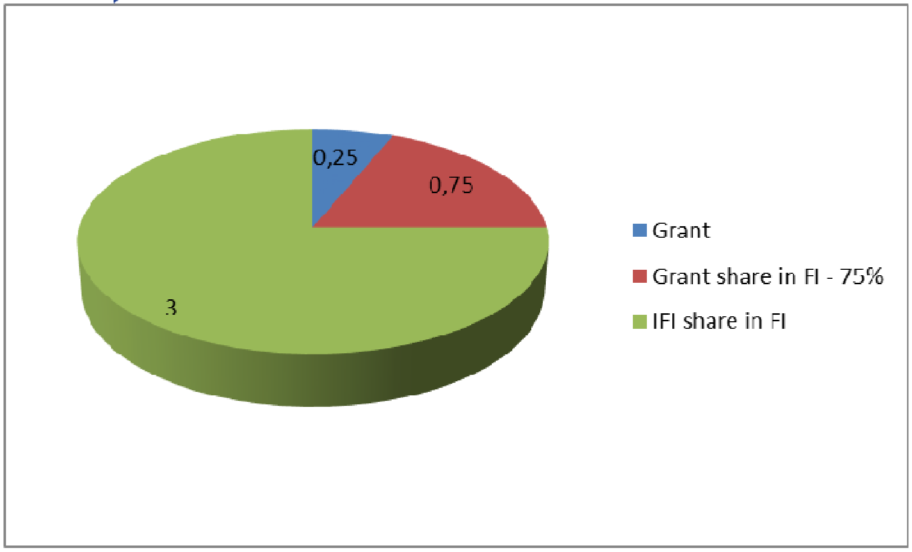

Waste sector

<u>Option I</u>

Financial gap (bil. euros)	**1,254**
Resources available for investment under the OPE (bil. euros)	0,504
Leverage effect	1:5
Grant	0,454
Grant share in the FI – 10 % of the Priority axis	0,050
Financial institutions' share in the FI	0,252
Total investment portfolio	0,756
Remaining financial gap	0,498

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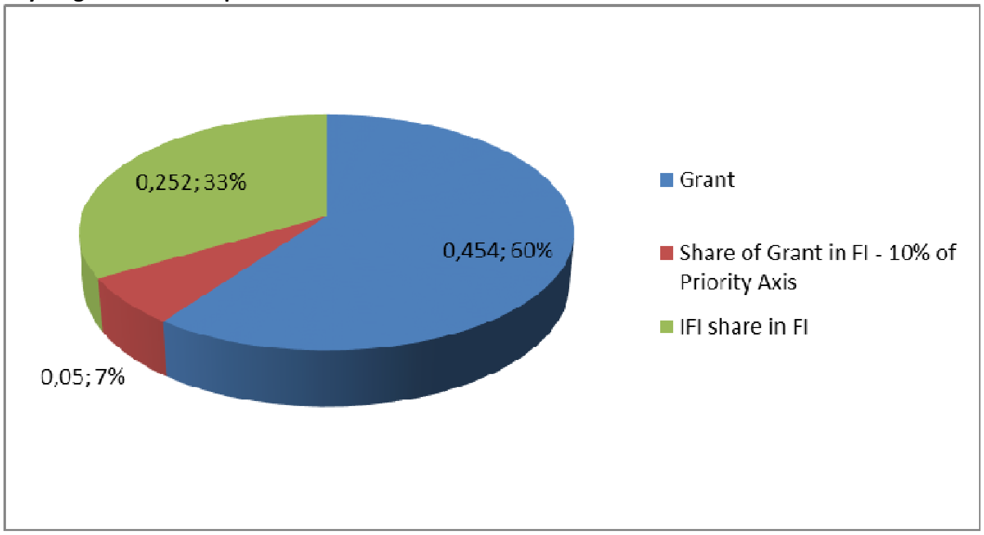
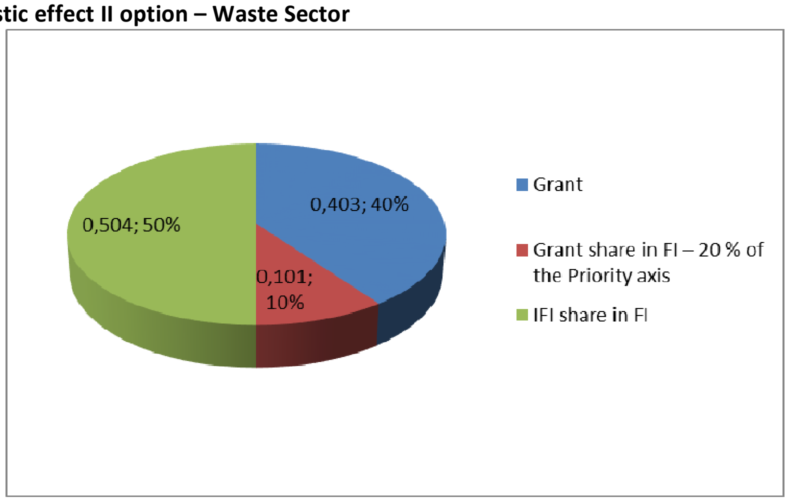
Figure 66: Synergistic effect I option – Waste Sector



<u>Option II</u>

Financial gap (bil. euros)	**1,254**
Resources available for investment under the OPE (bil. euros)	0,504
Leverage effect	1:5
Grant	0,403
Grant share in the FI – 20 % of the Priority axis	0,101
Financial institutions' share in the FI	0,504
Total investment portfolio	1,008
Remaining financial gap	0,246

Figure 67: Synergistic effect II option – Waste Sector



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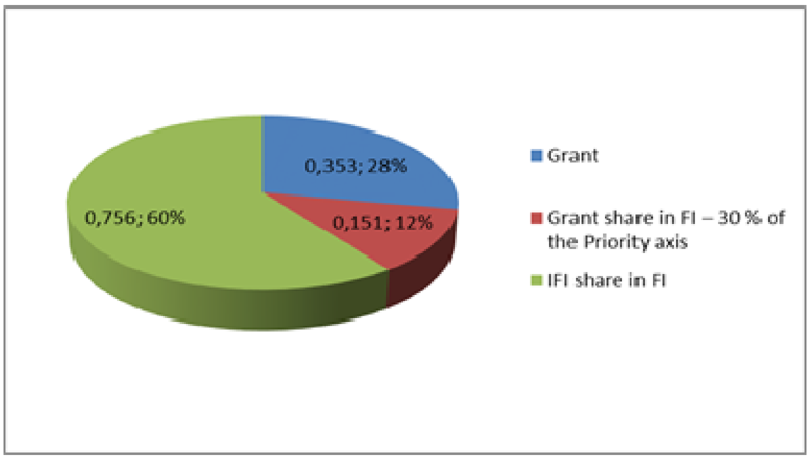
Option III

Financial gap (bil. euros)	**1,254**
Resources available for investment under the OPE (bil. euros)	0,504
Leverage effect	1:5
Grant	0,353
Grant share in the FI – 30 % of the Priority axis	0,151
Financial institutions' share in the FI	0,756
Total investment portfolio	1,260
Remaining financing gap	0,000

Figure 68: Synergistic effect III option – Waste Sector



As evident from the above graphs, due to the large investment gap in the Water Sector, it is necessary a larger resource to be set aside from the budget on Priority Axis I under the OPE for financial instruments which will be used for the segregation of an investment fund. Financing by this fund may be further supplemented by parallel financing from banks through the provision of guarantees by the fund, which will further enhance the synergistic effect.

For the Waste Sector 30 % of the budget will be enough from the budget along the Priority Axis II under the OPE to be provided for financial instruments, in order the investment gap to be filled in.

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2.4. Analysis and assessment of the applicability of state aid rules, the proportionality of the planned interference and measures to minimize the effects of market distortion

Applicability of state aid rules can be viewed in 5 separate steps:

These steps are discussed in more detail below.

2.4.1. General provisions

The European Commission and most Member States see the future of the European Structural and Investment Funds (ESIF) increasingly supportive to the financial instruments (FI), that are used to support viable investments that cannot generate sufficient funding from market sources. When the FI implementation is programmed, it is imperative that everyone involved in the planning and implementation of these instruments shall comply with applicable law, and especially in terms of state aid and public procurement.

According to Article 37 paragraph 2 under Regulation 1303/2013, the preliminary assessment for the support of a financial instrument for the purposes of a priority should be accompanied by an assessment of the presence or absence of state aid.

The ex-ante assessment is an integral part of the programming document and is binding for the Managing Authority (MA), the overall assessment of state aid should be provided in each separate case before the Managing Authority has decided to grant a contribution from the program of a given financial instrument – art. 37, para. 3 under Regulation 1303/2013.

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This way, Regulation 1303/2013 explicitly refers to the legal regulation of state aid in the EU legislation as a major component of the free competition policy.44

Granting State aid is generally prohibited. In art. 107(1) under TFEU, respectively §1, item 1 of AP under the State Aid Act (SAA) is given a legal definition of state aid as "any aid granted by the State or municipality or on behalf of the state or municipal resources, directly or through other persons in any form whatsoever which distorts or threatens to distort free competition by favoring certain undertakings, manufacture and marketing of certain goods or the provision of certain services, insofar as it affects the trade between Member States'.

According to the established case law of the EU General Court in Luxembourg[45] in order state aid to br found (i.e. test for state aid), the presence of the following cumulative conditions is necessary:

a) support should be provided by the state or municipal resources;
b) recipient (beneficiary) must be single undertaking [46];
c) aid should provide an economic advantage to the beneficiary;
d) economic priority should be given to a particular undertaking or certain enterprises (selection criteria);
e) the aid must affect or pose a risk of prejudice on trade between EU Member States;
f) the aid affects or may affect competition on the relevant product and geographic market.[47]

From the above definition of state aid, it is apparent that the main assessment criterion relates to the impact of government intervention on the market and on the competitive relationship in it.

In this regard, it should be noted that disposition of state / municipal resources should not be limited to the orders of public funds by state / municipal authorities or public / community organizations under the control of the state / municipality. Associations, non-profit organizations, which are entrusted with public functions, foundations with public participation, etc. legal entities that spend public funds are also liable to control on the disposition transactions, if they fall within the effective scope of Article 107(1) under the TFEU.

In Article 2 item 15 under Regulation 1303/2013 is given the possible most volumetric definition of public expenditure, such as: any public contribution to the financing of operations, the source of which comes from the budget of the national, regional and local public authority, from the related European and investment funds budget of the Union, from the budget of public law bodies or the budget of

[44] Article 2 item 13 of Regulation 1303/2013, the explicit reference to state aid rules defining state aid blanket - help falling in Article 107 (1) TFEU, for the purposes of this regulation it includes the rule deminimis, under: Regulation (EEC) №1998 / 2006 of the Commission, Regulation (EEC) №1535 / 2007 of the Commission, Regulation (EEC) №875 / 2007 of the Commission.

[45]Case 30/59, Steenkolenmijnen v High Authority 1961 ECR 1, at p.19.

[46] According to §1 item 7 under the Law on Protection of Competition "entity is any natural or legal person, and unincorporated formation, doing business, regardless of its legal and organizational form".

[47] As per §1, item 15 under the DR LPC the relevant market consists of:

a) product market – which covers all goods and services that may be considered interchangeable in terms of their characteristics, prices and intended use, and

b) geographic market – covering a specific territory in which the respective interchangeable goods and services are offered, and the competitive conditions are identical and differ from those in neighboring areas.

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associations of public law bodies and for the purposes of determining the rate of co-financing for the programs and priorities of the ESF may also cover funds raised jointly by employers and employees.

It is particularly important for the Managing Authority, that the control of State aid does not include an assessment for the purpose / intention of the public authorities to grant specific aid. The presence or absence of State aid in a particular state intervention does not depend on the objectives pursued by the authorities - for example, improving the water supply of a settlement, protection of ambient air quality, etc. socially useful purposes. The evaluation is done by publicly disclosed criteria stipulated under EU legislation and on the basis of judicial precedent from the practice of the Court in Luxembourg.

Specified by the donor (public authority) targets will be significant only at the discretion of the regulator in the EU state aid, the European Commission regarding the preconditions for exemption from the prohibition on state aid stipulated in Art. 107 (2) and 107 (3) TFEU exceptions.48 Moreover, the obligation to prove the existence of comprehensively listed in alternative order exceptions from the ban, is an exclusive obligation of the Member State as a donor of state aid.

Also irrelevant for the assessment is the form / type of state aid that the state intends to provide. All types of benefits are "equated" by certain methodology to a certain amount of money that is equal to any value of the government subsidy (grant aid (GA).

For example, when providing a loan to a beneficiary without interest / or at interest rate lower than the market one, the nominal amount of the aid shall be calculated as the difference between the normal market interest rate that will be charged to the beneficiary (usually determined based on the credit rating of the recipient – risk premium) and any interest on this loan. In certain cases, however, the entire loan can be considered to constitute State aid if the collaterals and guarantees due to the rules of the donor are not provided, or if the loan is provided to an economic operator in difficulty.

In the case of aid granted by a public guarantee of getting a loan by a market operator (credit institution, fund, etc.), the amount of state aid equals to the difference between the fees that would be required by the credit institutions based on the credit rating of the beneficiary and charges that will actually be paid by the beneficiary; the rule is public security not to exceed 80 % of the loan amount.

In cases of support to enterprises through capital "injection / share installment / cash in the subscribed capital of the company", the nominal amount of state aid is the total amount of the installment as recorded or registered capital.49

Similar rules exist for cases of state aid in the form of tax incentives or tax exemptions for the sale of public lands with or without tenders, etc. manifestations of state aid.

The development of risk financing market to which the use by Member States of various types of financial instruments belongs, is a relatively new endeavor, which required the timely adoption of new regulations by the European Union in terms of assessing the compatibility of the applicable financial instrument with the State aid rules at EU level.

[48] so-called "compatible with the common market state aid".
[49] See Guidelines on State Aid to promote risk finance investments – 2014/C19/04, passed on 15th January 2014.

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In the Commission Communication "Europe 2020 – strategy for smart, sustainable and inclusive growth"50 a new strategic framework for industrial policy is defined, including the policy on environmental protection, which should put the EU economy on the path of dynamic growth by strengthening its competitiveness, emphasizing the importance of facilitating the access of businesses, especially of small and medium enterprises (SMEs) to the financial markets. "

Specifically, in terms of the legislation governing state aid for environmental protection, on 26th June 2014, the European Commission published specific Guidelines on State aid for environmental protection and energy 2014–2020.51. The Commission reaffirms its constant position that during the new programming period for all forms of state support and in order situations in which State aid measures can harm the environment to be avoided, "Member States shall in particular also ensure compliance with EU law in the field of the environment, to assess the impact on the environment as required by EU law, and to ensure the issuance of all relevant permits".52

On the grounds of Article 107 (1), letter "c" under the TFEU, the Commission may adopt compatible with the internal market, state aid, which are intended to facilitate certain economic activities where such aid does not adversely affect trading conditions to an extent contrary to the common interest.

With the aim to better define the priority of the EU related to enforcement activities in the field of state aid and achieving simplification, and to ensure transparency, more effective assessment and control in compliance with the rules on state aid at national and EU level for the new programming period 2014-2020, the EU adopted a new Regulation for exemption from the obligation of notification for the provision of State aid by the Member State (General block exemption Regulation 53 (GBER).

According to par. 5 and 6 under the GBER, aid granted by a Member State which meets all the conditions in the Regulation, namely: the general conditions and the special conditions for individual categories of aid should be exempt from the obligation to notify the Commission, established in Article 108 (1) under the TFEU.

In art. 4 under the GBER a system of "thresholds" is described in detail – that is, in case of their excess as an amount of aid, GBER shall apply. In such cases, the Member State is obliged to send a notification to the European Commission, drawn up on the ground of the requirements under the Procedural Regulation.

The aid for risk financing of an entity, whether provided by one or more financial instruments, shall not exceed the threshold of 15 mil. euros.54 In addition, the assistance provided by the selected financial instrument shall meet the requirements of the "Third Section" under the GBER, and for the ais provided for environmental protection, compliance with the requirements of the "Seventh Section" under the GBER is also necessary55.

[50] Com (2010) 2020, final, 3rd March 2010.
[51] 2014/C 200/01
[52] Guidelines on state aid for environmental protection and energy for the period 2014–2020, par. 7.
[53] Regulation (EC) № 651/2014 of the Commission of 17th June 2014 declaring certain categories of aid compatible with the domestic market and the application of Art. 107 and 108 under the Treaty.
[54] Art.4b, letter „g" under the GBER.
[55] Grants for Environmental Protection – Art. 36, 37, 38, 39,40, 41,42,43,44,45,46,47,48,49.

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In Art. 2, item 101 under the GBER a legal definition of activities relevant to environmental protection – i.e. 'any activity which aims to restore or prevent damage to physical surroundings or natural resources by the beneficiary's own actions, to reduce the risk of such damage or to ensure more efficient use of natural resources, including energy saving measures and utilization of renewable energy sources. "

It is particularly important to be emphasized that the Regulation GBER is applicable only to risk support schemes in favor of SMEs56. Providing a State aid to a beneficiary outside the scheme of state-aid – adhoc support57, is not subject to assessment under the Regulation GBER and should be notified according to the general order before the EC.

2.4.2. EU structural and investment funds

2. In case of support of financial instruments by the European structural and investment funds[58] (ESIF), it should be considered that the funds allocated to certain beneficiaries, appointed by the Managing Authority, should be assessed in the light of the State aid rules – i.e. the fact that these funds are available for implementation of the European meaningful goals and for meeting common European interests in specific topic areas or policies, **does not exclude these financial transactions from the scope of Article 107 (1) under the TFEU.**

ESIF, intended for a Member State, which is spent through national public authorities (generally, contracting authorities) are treated as public funds because managing authorities have the power to determine the directions of their spending and to choose suitable for the aid beneficiaries.[59]

In this sense, the contracting authority (Managing Authority or Intermediate Body), acting as an administrator of state aid within the meaning of §1, item 4 under the SAA is required to indicate in the application guidelines, the type of state aid that will be provided by referring explicitly to specific EU legislation on the type of state aid.[60]

In view of the accuracy of the selected financial instrument ex-ante assessment, when such a financial instrument is supported by EU structural and investment funds, for compliance with the rules on state aid is extremely important, the donor of aid shall determine in advance the range of possible beneficiaries of state aid.[61] Provided that the potential beneficiaries of the different priorities of the Operational Programme "Environment" (OPE) (Water, Waste, Air Quality Protection) are limited liability companies, joint stock companies or in general, traders within the meaning of Art. 1 under the Law on Commerce, it is undeniable that persons are businesses and as such ones should meet the criteria for an economic operator who carries out business.

[56] Identified as such in Art. 2 of Annex №1 under the GBER, as follows: in the category micro, small and medium enterprises are included – SMEs, which employ fewer than 250 persons and whose annual turnover not exceeding 50 million euro, and / or an annual balance sheet not exceeding 43 million euro.

[57] Art. 2 , item 14 б"I" under the GBER.

[58] Art. 37, item 1 under the Regulation 1303/2013.

[59] Case C-290/83, Commission v France, 1985, ECR 439.

[60] In this sense, are "Updated methodological guidance on the application of the rules on State aid in connection with financing under the operational programs co-financed by the Structural and Cohesion Funds", item 1.

[61] The rule of Art. 37.1. b "b" under Regulation 1303/2013.

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As noted, the criterion for determining an entity as a beneficiary of state aid is not its legal form, but whether or not it does business. It is possible, however, non-profit organizations to be also defined as beneficiaries. Art. 3 under the NGOs Act does not preclude non-governmental organizations to do business (to provide goods and services). When beneficiaries are organizations established by law whose business or part of it can be classified as an economic activity, whether explicitly stated or not in the law on the establishment, they are treated as businesses. In these cases, state aid rules are also applicable to them. This approach is widely advocated in the practice of the Court in Luxembourg, stating "that if a person is registered as a foundation or non-profit organization, this fact does not prevent it from doing business and as such one, it should be determined as an undertaking within the meaning of the rules on state aid ".[62]

In cases where the beneficiaries of the programs financed by the EU funds are representatives of the central government, local government and secondary authorizing officers, state aid rules do not apply to them as they do not carry out business and do not make profit. Provided that the authorities above subsequently spend public funds, including EU funds, by selecting a contractor, partnership actions with private entities, assignment of normal activities, etc., these actions must be carried out on the basis of open, transparent and non-discriminatory procedures – Art. 37 (1), par. 2 under Regulation 1303/2013.

In Art. 2, item 10 under Regulation 1303/2013 a legal definition of a beneficiary is given – this is a public or private organization in the context of the rules on State aid granted by a State aid scheme, is the recipient of the aid, and in the context of the implementation of financial instruments, it is an organization that applies a financial instrument or fund of funds, as appropriate.

An essential part of the ex-ante assessment on the feasibility of the selected financial instrument is whether it is possible, by applying it, to provide **an economic advantage**, expressed most often as cost reduction or minimization of financial obligations (taxes, charges, insurance installments, etc.) of an undertaking or group of undertakings.

In this direction, based on the applicability of EU law and on the basis of the relevant case law of the ECJ, the Commission has developed a methodology for assessing the impact on the market of any state intervention – the so-called market investor principle in the economy.[63]

In general, the assessment includes an answer to the question: Is public investment accomplished in a manner similar to the behavior of a private investor in a specific economic context. According to that principle, public authorities can provide grants, loans, guarantees, capital "injections", etc. in the same manner and under the same conditions under which a private, market investor would provide these funds.

Provided that the certain financial instrument is provided under the "market" conditions set by the beneficiary determined by the managing authority, despite the compliance with an administrative procedure for the selection of beneficiary, there will be no state aid.[64]

In a particular case, it is possible for the State to derogate from the obligation to act as a market investor when providing certain public aid, which fall within the exception under Art. 107 (3) under the TFEU. As compatible with the internal market may be adopted:

[62] Case C-475/99 Ambulanz Glockner [2001] ECR I 09089.

[63] See Common principles on the economic assessment of the compatibility of State aid under Article 87 §3 under the ДЕО.

[64] Case C-482/99 France v Commission (Stardust Marine).

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a) aid to promote the economic development of areas where the standard of living is abnormally low or where there is serious underemployment, and of the regions referred to in Art. 349, taking into account the structural, economic and social situation in them;

b) aid to promote the execution of an important project of common European interest or to remedy a serious disturbance in the economy of a Member State;

c) aid, intended to facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the common interest;

d) aid to promote culture and heritage conservation where such aid does not affect trading conditions and competition in the Union to an extent contrary to the common interest;

e) such other categories of aid as may be decided by the Council on a proposal by the Commission.

Besides the above-mentioned item e) additionally art. 109 under the TFEU provides for the application of this provision, that the Council, on a proposal by the Commission and after consulting the European Parliament, shall adopt appropriate regulations.

2.4.3. Assessment of compatibility

Assessment of the compatibility of the proposed state aid according to the exemptions of the text under the TFEU shall be made by the EC by applying the so-called "**balancing test**"[65] – in these cases, the compatibility of aid mainly affects balancing the negative impact on trade and competition in the common market with positive effect in terms of contribution to the achievement of clearly defined objectives of common interest.

The Commission shall seek answers to the following questions from the Member State in assessing the compatibility of aid:

1) Is the aid measure targeted to a clearly defined objective of common interest?

2) Is the measure appropriately prepared to achieve the objective of common interest, i.e. is the proposed aid to addressed to market failures or for other purposes. Is the measure a suitable means to measure achievement of the relevant objectives of the state policy; is there an incentive effect – i.e. does the measure change the behavior of the beneficiary; is the aid measure proportional to the problem to be solved – i.e. could the same change in behavior of the beneficiary be achieved with less help?

3) Are the breaches of competition and effect on trade restricted, as if the overall balance is positive.

The State may entrust the implementation of important public obligations, such as a supply of goods or provision of services, which are essential for citizens and which are not declared to be of any private

[65] in this sense Common principles of EC on the economic assessment of the compatibility of State aid as per Article 87 §3 under the ДЕО.

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interest due to low potential profits of private subjects or subjects owned by it. In these cases, companies that perform these functions of general, public interest should receive compensation for the excess costs, including through relevant applicable financial instruments.

The EC in all cases of assessment of such compensation made by state / local funds apply a clear and understandable criteria derived from case law.[66]

The monetary compensation offered to businesses must meet the following requirements:

1) The entity receiving compensation must perform specific preset by the state public works;

2) The parameters of monetary compensation should be calculated in advance in an objective and market-oriented method;

3) Monetary compensation should not exceed the necessary costs to implement public works, taking into account a reasonable profit from these activities;

4) Provided that the entity which public affairs are assigned to is not selected by a public procurement procedure, the level of compensation will be determined on the basis of the cost of other typical company in the same field at the appropriate reasonable profit.

Subject to these conditions, it is assumed that no State aid has been given and there is no breach of the principle of the private market investor.

Altmark precedent can be also used in the assessment of financial instruments such as venture capital schemes, provided that the activities of general, economic and public interest are financed and public and private investors have equal participation in the scheme, both in terms of paid-up capital and in terms of the level of risk taken, the duration of the scheme, the conditions for obtaining revenue from its application and the conditions for market outcome of the scheme.

The latter condition, which is subject to assessment is the presence or absence of impact (effect) on trade between EU Member States and the associated breach of competition on the EU internal market.

The effect on trade cannot only be "direct" - through government support the trade in the Union is affected by providing non-market advantage of local economic operator to enable it export to the European market, but also "indirect" - for example, by stabilizing a firm in difficulty, allowing the said firm to acquire a dominant position in the relevant market and thus, to affect trade by restricting imports into the Member State of certain goods or services by an enterprise located outside the country. [67]

The fact that aid is granted to an undertaking which does not export subsidized goods is also irrelevant for the assessment. In addition, without regard to the assessment in view of the presence or absence of this criterion is the amount of aid provided and the purpose of the aid.

[66] Case C-280/00, Altmark Trans, 2003, ECR-I 7747.
[67] Case 730/79 Philip Morris v Commission 1980, ECR 2671, at para 11.

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2.4.4. Assessment steps and applicable law

According to the mandatory provisions of Art. 38, letter "c", paragraph 2 under Regulation 1303/2013, at the execution of the financial instruments, organizations ensure compliance with applicable law, including State aid rules of the Union.

Therefore, the assessment whether by applying the selected financial instrument state aid rules will be complied with, will be made only by the authority of state aid control as per Art. 108 under the TFEU, the European Commission. [68]

The Commission is entitled to pass Regulations[69] on state aid assessment, as well as forms – standard for notification of individual aid and State aid schemes which are binding on Member States.

The EC system of assessment for the presence of State aid elements in the proposed aid or aid scheme generally involves three elements:

1) Assessment related to the existence of the elements of the State aid concept within the meaning of Article 107 (1) under the TFEU. In this particular case, if we assume that the financial instrument will be controlled by the managing authority and the instrument will be used in a specific area without affecting the international markets, the setting for the assessment of presence or absence of state aid (state aid test) will be whether a selective economic advantage is provided , regardless of the aid donor (it would be a managing authority spending EU public funds or fund of holding type[70] with private or state participation). Regarding the second approach to the use of financial instruments, the Commission has developed a methodology which is built on the grounds of the above mentioned Guidelines on State aid to promote risk finance investments (Guidelines on State Aid to promote risk finance investments). Subject to compliance with the market investor principle, the state participation in the fund shouldn't be treated as state aid[71]. Selectivity study is performed at different levels:

- ✓ <u>at level</u> - Investment Fund if the intermediate unit for transfer of public funds to the end-users;
- ✓ <u>at level</u> - remuneration of fund managers [72];
- ✓ <u>at level</u> - participation of private investors in the fund [73], as well as the relationship between selectivity and the Community dimension of state aid.

[68] Art. 108 (1) under the TFEU, the Commission in cooperation with Member States, keep under surveillance all systems of aid existing in these States.
[69] Regulation № 659/1999 of the Council laying down detailed rules for Art. 93 under the EC Treaty (Procedural Regulation) and Regulation № 794/2004 of the Commission of 21.04.2004 laying implementing Regulation № 659/1999 of the Council (Implementation Regulation).
[70] In this direction – State Aid SA. 35040(2012/N) – Bulgaria, JESSICA Holding Fund Bulgaria.
[71] Item 187-199 under the EC decision on notification of the Republic of Bulgaria State Aid SA. 35040(2012/N) – Bulgaria, JESSICA Holding Fund Bulgaria.
[72] In this case, concluded management contracts with the fund managers are analyzed and whether they correspond to market levels.
[73] In the case examined in detail is the existence of the principle of "paripassu" – that requires equality of contribution performed (transaction) by public and private investor in the fund, including the terms and conditions for the realization of the investment.

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In certain cases where there are grounds for assessment, it is possible to develop a situation of market failure (in which the market is not functioning properly), the financial instrument may provide preferential payment to the private investor or preferential conditions for the private investor.

1) Compatibility assessment of the proposed measures of state support to the principles of safeguarding the common market and trade among Member States – Art. 107 (2) and Art. 107 (3) under the TFEU. This assessment is applied only if it is established that there is State aid according to the above criteria.

1) Assessment of the presence or absence of notification of the measure of state intervention – the so-called rule of prior advice (notification) of the regulator for each project or intention of the Member State to provide state help- Art. 107 (3) under the TFEU.

According to Art. 7 under the SAA, the administrator of State aid must notify the EC of any one individual or scheme of State aid before it is applied to the selected beneficiaries. According to the objective of State aid the administrator of the aid shall fill in the forms of Annex № 1 under Regulation № 794/2004 of the Commission of 21st April 2004 on the implementation of Regulation № 659/1999 of the Council (Regulation of Procedure)[74]. In fact, the notification as per Art. 7 under the SAA is prepared by the administrator by using SANI[75] interactive system, a copy of the final version on paper shall be also sent to the Minister of Finance as the monitoring authority of the Member State in State aid. [76]

The following benefits shall not be subject to prior notification:

1) "De minimis" aid. According to Art. 3 (1) and (2) under the Regulation № (EU) № 1407/2013 of 18th December 2013 on the application of Articles 107 and 108 under the TFEU to de minimis aid, the EC assumes that State aid measures of total amount not exceeding € 200,000 for a period of three fiscal years for an enterprise are exempted from the obligation to be notified in advance of conformity assessment by the European Commission. This "limit" of the assistance apply regardless of the form / type of aid provided. According to Art. 11, par. 1 under the SAA, the administrator of the aid is obligated to publish on its website information on State aid de minimis granted, and under Art. 11, par. 3 under the same Act, the administrator shall inform the Minister of Finance within 3 days after signing a contract with the beneficiary.

2) Grants that fall under the General Block Exemption Regulation of the obligation of prior notification to the European Commission for state aid by the Member State (GBER) (ABER for the agriculture and fishery sector). According to Art. 4, letter "S" under the new Block Exemption Regulation is not subject to prior notification investment aid for environmental protection amounting to 15 mil. Euros, for each entity, and for each project. The type of allowable aid that is subject to exemption is detailed in Art. 5 under the Regulation. The aid must also meet the specific requirements for environment protecting support, laid out in Chapter 7 under the Regulation.

For de minimis and GBER / ABER aid MA should do self-assessment and comply with all the requirements stipulated under the Regulation in support schemes and / or individual aid.

[74] Amended by Regulation № 734/2013 of 22 .07.2013 г. on the amendment of Regulation № 659/1999 of the Council.
[75] State Aid Notification Interactive
[76] Detailed information about SANI system is indicated on the website of the State Aid Department at the MF – www. stateaid-bg.com

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In cases of state aid schemes falling within the scope of GBER, the aid administrator (MA) must develop self-aid scheme in compliance with all requirements and criteria in the way defined under GBER for the particular type of aid . As a general rule, the scheme should include parameters in terms of the aid intensity, eligible costs, the scope of aid, a reference to the relevant EU regulations for the particular type of aid.

Secondly, before you assume that GBER is applicable to developed by the administrator assistance is compulsorythe administrator to coordinate the conditions of aid with national supervising authority - the Minister of Finance under Art.9 par.1 of SAA.

The notification must comply with the provisions of Section III under the Implementing Rules of the State Aid Act[77] (Implementing Rules), in particular, Part II of Annex № 1 of the form to provide summary information under the reporting obligation laid down in Art. 9 paragraph 1 under Regulation №800 / 2008. Aid administrator (MA) should indicate the type of state aid scheme, which, in his opinion falls within the scope of GBER, potential beneficiaries, the amount of state support and the maximum aid intensity in % or the maximum aid amount in national currency. If bonuses are provided for MCP they should be specified in order to ban exceeding the aid intensities fixed in GBER for different types of aid. Pursuant to Art. 3, par. 5 under the Implementing Rules the aid administrator shall send summarized information sent through official channels. To the notification to the MF shall also be enclosed all the appropriate documents proving for the applicability of GBER to a particular measure of state aid. Provided that the Minister of Finance finds discrepancy between the proposed measure with the rules of the BER and the aid administrator does not bring the measure in line within the time limit under Art. 9, par. 3 of the SAA, the aid administrator of can't apply the measure and must file a notice as per Art. 7 under the SAA to the EC in order the measure compatibility to be evaluated by the European Commission. Only after receiving a favorable opinion from the Ministry of Finance, the aid administrator can actually help the measure implementation, but according to Art. 9, par. 5 under the SAA it is required within three days after the entry into force of the measure the Ministry of Finance to be informed. The Administrator is obliged promptly to submit to the Ministry of Finance reports on the implementation of the measure as required by the Regulation № 6 on procedures for monitoring and ensuring transparency of state aid. State aid must be included in the annual report for granted state aid, which until 31 March of the current year shall be submitted to the supervising state aid authority of the Republic of Bulgaria – the Minister of Finance. Also, the administrator of the aid shall build and maintain their own state aid register, which shall reflect any change to an already approved State aid scheme or change of the beneficiaries under the scheme. According to Regulation № 6 the aid administrator is required to notify the Ministry of Finance periodically for any changes in European legislation and practice concerning state aid in the sphere the latter is responsible for.

Secondly, before you assume that GBER is applicable to the aid developed by the administrator is required, the administrator shall coordinate the aid conditions with the national supervising authority - the Minister of Finance as per Art. 9, par. 1 under the SAA. The notification to the Ministry of Finance shall be complemented by any appropriate documents proving the applicability of GBER to the measure of state assistance. After receiving a favorable opinion from the Ministry of Finance the administrator can actually implement the measure, but according to Art. 9, par. 5 under the SAA the latter is required within three days after the entry into force of the measure to inform the Ministry of Finance. The Administrator shall promptly submit to the Ministry of Finance reports on the implementation of the measure

[77] Approved by Decree № 61/ 2007 of the CM, last amended SG, No. 3 /2010.

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In assessing the applicability of the deminimis rule and GBER, including when funds are used with source – EU Funds, the following rules should be considered:

1) Deminimis aid shall not be cumulated with State aid for the same eligible costs if as a result of such cumulation, the aid intensity would exceed the eligible costs for certain specific circumstances of each case with GBER or individual decision for the European Commission on state aid eligibility.
2) State aid may be cumulated with other aid for the same eligible costs if such cumulation would not result in an aid intensity exceeding the applicable maximum limit against the particular measure.

Provided that the envisaged aid measure that will be granted through a specific financial instrument does not fall within the scope of the above exceptions, the Member State by its national body – for the Republic of Bulgaria, according to Art. 5 par. 2 item 3 under the SAA, the Minister of Finance[78], shall notify the Commission by a notification form of its intention to grant State aid. The notification shall be made by the aid administrator, verified by the Ministry of Finance and sent to the Commission for assessment and decision. The aid is lawful and permissible following a favorable decision by the EC that the aid may be granted. The aid administrator can not grant aid before the Commission's decision. The latter shall be liable in their personal capacity if execute notified aid[79].. The above procedure applies to both cases of individual aid granting and of the provision of aid under a State aid scheme[80].

2.4.5. Compatibility assessment of various types of financial instruments

Aid, regardless of the financial instrument chosen, provided to final beneficiaries directly or through financial intermediaries is subject to appropriate compatibility assessment under the State aid rules in the EU.
For aid compatible with the provisions under GBER, the European Commission will assess compliance. In cases of state aid schemes falling within the scope of GBER, aid administrator (MA) must develop the aid scheme itself, and in compliance with all requirements and criteria in the way defined in GBER for the particular type of aid. The administrator is required to coordinate the conditions of aid with the national supervising authority - the Minister of Finance, pursuant to Art. 9, par. 1 under the SAA.

2.4.5.1. Risk financing

For the aid measures for risk financing that a Member State or a public body of a Member State shall take as a direct investment in enterprises, without the participation of financial intermediaries, GBER rules or specially issued by the Commission for the new programming period: **Guidelines on state aid to promote investment in venture capital financing** (2014 / C 19/04), do not apply. For these forms of

[78] According to Art. 5 paragraph 3 under the SAA, monitoring authority of the Republic of Bulgaria to aid in the agriculture and fisheries is the Minister of Agriculture and Food.
[79] According to Article 17 under the SAA, administrator of state aid which does not fulfill its obligation as per Art. 8 paragraph 6 under the SAA shall be punished by fine or penalty from 4,000 to 10,000 BGN.
[80] According to §1, item 7 under the SAA, state aid scheme is any act on the basis of which, without requiring additional enforcement measures, can provide individual State aid to undertakings defined in a general and abstract manner, in each act on the basis of which aid which is not linked to a specific project may be granted to one or several undertakings for an indefinite period of time and / or in an unlimited amount.

state support also apply, like using adhoc, common procedural rules on notifying the EC of the intention to grant State aid[81].

Aid for risk financing may not be available to large enterprises, to companies listed on the stock exchange or regulated market, because "the fact that they are quoted, proves their ability to attract private funding[82].."

The Commission refuses to consider funding schemes where there are no private investors[83]; furthermore, the latter should take the same level of commitment as the state economic risk, as well as in cases where the benefits of the investment risk is borne entirely by the private investor.

Aid for risk financing will not be considered compatible with the common market if it is granted to firms in difficulty or to entities who have received unlawful State aid that has not been repaid in full.

In certain cases it is possible the particular state support scheme not to constitute State aid within the meaning of Art. 107 (1) under the TFEU. Typically, these are the cases where the aid meets the criteria of an operator under market economy conditions or because it fulfills the conditions of the applicable "deminimis" Regulation.

In the first case it is necessary the economic operations performed by public authorities to be committed according to the paripassu principle – i.e. public and private investors share the same risk and have the same benefits, but also have the same level of subordination in respect of the same risk [84]. It is also necessary the participation of private investors to be significant. Typically, private investments amounting to 30 % of the total budget of risk investment, regardless of the financial instrument chosen, is considered to be significant. Subject to these terms and conditions, the Commission accepts that the company, where venture capital is invested, is not a beneficiary of state aid as the investment can be regarded as made under market conditions.
We have already noted that the possible financial instruments for risk financing [85] in favor of independent private investors at financial intermediaries level to which GBER or individual mode of compatibility assessment are applied, described in detail under the Guidelines on State aid to promote investment in venture capital financing can be classified into the following categories of financial instruments:

1. Guarantees to cover losses from investments in venture funding, directly or indirectly, to eligible businesses;
2. Loans to provide investment risk financing, directly or indirectly, to eligible businesses;
3. Equity or quasi-equity participation or financial allocation for the provision of investment risk financing directly or indirectly to eligible businesses.

The financial intermediaries that manage the accumulated funds, irrespective of their legal form, must meet various conditions when GBER or the Guidelines on State aid to promote investment in venture

[81] Art. 2 item 19 and item 20 under the Guidelines on State aid to promote investment in venture capital financing.
[82] Art. 2, item 22 under the Guidelines on State aid to promote investment in venture capital financing.
[83] Private investors generally include the EIF and the ECB investing at own risk and with own funds, the banks that invest at own risk and with own funds, private donations and foundations, companies managing assets for wealthy families, corporate investors, insurance companies, pension funds, individuals and academic institutions.
[84] Art. 2.1.1, item 32 under the Guidelines on State aid to promote investment in venture capital financing.
[85] As per Art. 2, item 71 under the GBER "Risk financing investment means capital or quasi-equity investments, loans, including leasing, guarantees and warranties combinations or combinations of these instruments for the benefit of eligible companies for the purpose of new investment ".

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capital financing are applied. There are, however, common imperative conditions to enable the risk supporting scheme to be deemed compatible with the common market. These conditions are:

1. The financial intermediary / intermediaries or fund managers are selected through an open, transparent and non-discriminatory procedure in accordance with applicable Union or national law, which aims to establish appropriate mechanisms for sharing risks and rewards, and for investments that are not in the form of guarantees, preference is given rather to asymmetric distribution of profits, than to the protection against risks of loss;

2. The financial intermediary is managed on a commercial basis. This requirement is met when the financial intermediary, depending on the type of financial instrument, fund manager or other governing body shall meet the following conditions:

   - ✓ to act in good faith and with the care of a professional manager, applying best practices and is subject to regulatory control;
   - ✓ remuneration of the manager or the governing body in line with market practices;
   - ✓ remuneration is tied to financial results;
   - ✓ the manager has presented and defended an investment strategy, criteria and schedule of investments; investors are entitled to be represented in the managing bodies of the fund such as supervisory or advisory committee.

2.4.5.2 *Providing a guarantee*

The assessment of financial instruments which may have an element of state aid - a measure of risk financing by **providing guarantee**, covering the losses from investments, directly or indirectly, to eligible enterprises, is based on the rules spelled out in the Guidelines on State aid to promote investment in venture capital financing, GBER and based on the purposefully issued **Commission Notice on the application of Articles 87 and 88 under the EC Treaty to State aid in the form of guarantees**. [86]

Guarantee for the needs of analysis and assessment of the regulator should be understood as: "a written commitment to taking up responsibility for all credit risk financing operations by a third party or part thereof, such as debt or lease instruments and quasi-equity instruments[87]". In general, in their most common form, guarantees are associated with a loan or other financial obligation that is negotiated between the borrower and the lender. To be consistent with the requirements of GBER, guarantees should be provided within a certain guarantee schemes[88].

In view of the legal basis, there are various forms of guarantees. Without the list being exhaustive, there are the following types of guarantees:

- ✓ General guarantees – i.e. guarantees provided to undertakings as such, unlike the guarantees relating to a specific transaction, which may be a loan, capital investment, etc.;

[86] Published in OB on 20th June 2008.
[87] Art. 2.3. item xiv under the Guidelines on State aid to promote investment in venture capital financing.
[88] Art. 1.3.,б „a" under the Commission Notice on the application of Articles 87 and 88 of the EC Treaty to State aid in the form of guarantees defines a guarantee scheme as an instrument, based on which, without requiring additional implementing measures may provide guarantees to enterprises by respecting certain conditions of duration, amount, underlying transaction, type and size of enterprise as an SME.

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- ✓ Guarantees provided by a specific instrument as opposed to guarantees relating to the status of the enterprise;
- ✓ Guarantees provided directly or counter guarantees provided by the guarantor, the first level;
- ✓ Guarantees arising from a contractual relationship (formal contracts, letters of guarantee) or other source of title, as opposed to guarantees whose form is less clear (as additional letters, oral commitments).

The starting point for the competitive analysis of the guarantee provided by the Member State of the recipient undertaking is whether state resources are spent. The benefit to the beneficiary of the guarantee is that the risk associated with the guarantee shall be borne by the state. Such risk-taking by the State should normally be remunerated by an appropriate premium. In case the State forgoes all or part of the premium, it is a benefit of the company and leakage of funds from the state. Therefore, even if no payments are made by the State to the allocated state guarantee, it is possible State aid may be involved within the meaning of Art. 107 (1) under the TFEU. ***The aid is granted at the time of the giving of the guarantee, not when the guarantee is invoked or at the moment when any payments are made under the terms of the guarantee*.** Whether a guarantee constitutes State aid or not, and what can be the amount of State aid must be assessed at the time of granting of the guarantee.

In order to be assumed that a granted State aid, through **individual guarantee** to an enterprise is compatible with the EU State aid, it must meet the following requirements:

- ✓ the guarantee should be calculated for a fixed maximum amount, for a specific financial transaction, unlimited in time;
- ✓ the guarantee should not cover more than 80 % of the outstanding loan or other financial obligation;
- ✓ the enterprise, borrower, must not be in financial difficulty;
- ✓ the guarantee should be limited to a maximum of 10 years.

In the provision of guarantee as a measure of risk financing of enterprises under a scheme operated by a financial intermediary to accept that **guarantees under the guarantee scheme** meet the requirements of GBER and the Guidelines on State aid to promote investments in venture capital financing, it is necessary to meet the following conditions:

- ✓ - the nominal amount of the loan for which the guarantee is issued shall be taken into account when calculating the maximum amount of the investment. The guarantee may not exceed 80 % of the loan it was issued for;
- ✓ - the financial intermediary must prove that without the guarantee, the investment would not have been implemented or had been implemented with limitations. The financial intermediary is required to show that using a mechanism that all benefits are

transferred upto the highest possible extent to final beneficiaries in the form of lower guarantee scheme. [89]

The Commission in the **Commission Notice on the application of Articles 87 and 88 under the EC Treaty related to State aid in the form of guarantees** has laid simplified mechanism for individual risk assessment of the borrower uses the guarantee scheme, in view of the fact that the performance of individual risk assessment of each borrower is a costly and difficult process that can not be appropriate where a guarantee scheme covers a large number of loans for which it represents an instrument for risk sharing. In these cases, where a scheme relates to providing guarantees for SMEs and the guaranteed amount does not exceed the threshold of 2.5 mil. euros per company involved in the scheme, subject to other conditions, the Committee considered that the guarantee fell within the scope of the GBER .

In case that guarantees are provided to start-ups, they may not be fully compatible with the market conditions for a period of 10 years, with a maximum amount of the guaranteed loan for a depressed area within the meaning of Art. 107 (3), letter "a" under the TFEU, as is the Republic of Bulgaria, amounting to 3 mil. euros.

2.4.5.3. Loans for investment

It is possible debt instruments to be provided in the form of **loans[90] for investments** at financial intermediaries level or directly and indirectly to eligible enterprises. Debt instruments, including the provision of funds, may have different forms, including subordinated loans and loans with risk-sharing portfolio. Financial intermediaries may receive subordinated loans to strengthen the capital structure in order to provide additional funding for eligible companies. Loans with risk-sharing in the portfolio are designed to provide loans to financial intermediaries that undertake to co-finance a portfolio of new loans or leases to eligible entities to a specified percentage of co-financing in conjunction with the sharing of the application in the portfolio for each loan. In these cases, it is assumed that the credit institutions which share the risk in the portfolio should provide a significant proportion of the investments from the selected financial intermediary. Such a significant percentage should be considered when provided more than 30 % of the value of the underlying loan portfolio.

In order to apply the exception in GBER, while lending by financial intermediaries it is necessary additional funding to be attracted from independent private investors at the level of financial intermediaries or eligible enterprises, so that the overall rate of private participation to reach the following thresholds:

a. 10 % of the risk financing provided to an eligible entity before their first commercial sale at any market;

b. 40 % of the risk financing provided to an enterprise engaged in business for not less than seven years after the first commercial sale;

c. 60 % of the risk financing provided to the eligible entity that is not listed on the stock exchange, which has a business plan, which involves entering a new market, the

[89] Defined in juridical literature as “state aid for end-users”.

[90] Loan should be understood as an agreement that obligates the lender to provide the borrower an agreed sum of money for an agreed period of time, according to which the borrower is required to repay this amount within the agreed term. It may be in the form of a loan or other financing instrument including leasing and is characterized by the fact that it provides the lender with a minimum income. Refinancing of existing loans does not constitute eligible loan. – Art. 2, item 82 under the GBER.

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turnover of this new market will exceed 50 % of my average annual turnover for the previous five years .

In all possible forms of financial instruments, including loans under asymmetric distribution of loss between public and private investors, the first loss borne by the public investor is limited to 25% of the total investment.

2.4.5.4. Equity and quasi-equity investments

Equity[91] and quasi-equity[92] investments are also possible financial instruments for risk financing. Of significant importance for the assessment are different asymmetric characteristics of equity participation, which provide differential treatment to investors, as some investors, in most cases public authorities, have a greater involvement in risks and less participation in benefits. Usually, the conditions for the participation of private investors include protection relating to the distribution of profits (upside protection) – i.e. the public investor waives profit, protection against some of the losses (limiting the losses of the private investor) or a combination of both.

The principle of assessing the described asymmetric characteristics is paripassu, the possible deviations from the limits set under GBER, shall be defined, for example, as the sum of the first loss assumed by the public investor.

For example, in Art. 21, item 13, "c" under the GBER, the measure for risk financing in the form of capital investment cannot predict, in the case of asymmetric distribution of loss between the private and public investor, the first loss taken by the public investor to be over 25 % of the total investment.

2.4.6. Specific requirements for state aid assessment in the implementation of financial instruments for environment protection

It was already mentioned that on 28th June 2014, the European Commission published new **Guidelines on State aid for environmental protection and energy for the period 2014-2020**[93] (the Guidelines). The guidelines are intended to inform Member States, public and private entities operating in the field of environmental protection on the approach that the Commission will use in evaluating projects for state aid that the donors of the aid have deposited in the Commission of evaluation and sanction thereof. Guidelines along with the "Seventh" section under the GBER regulate a new legal framework governing state aid that is definitely geared towards more private investment in the sector and to the phased elimination of direct State aid by replacing it with market, financial instruments, with a defined risk element for public investors.

Pursuant to the regulation of Art. 1.2. under the Guidelines, the Commission will examine and assess state support measures and will announce a decision on the compatibility of the measures with the common market as per Art. 108 (1) under the TFEU for 14 types of state support measures in the

[91] Art. 2, item 74 under thw GBER means provision of capital in favor of an undertaking which capital is invested directly or indirectly in exchange for ownership of the share in the capital of that undertaking.

[92] Quasi-equity investment means a type of financing between equity and debt, which carries a higher risk than senior debt and a lower risk than common equity. Their return to the holder depends mainly on the profits and losses of the relevant targeted company and they are not covered in the event of defaults. Quasi-equity investments can be structured as debt, unsecured and subordinated, including "mezzanine" debt and in some cases, convertible into equity or privileged equity. Art. 2.3 b "XXV" under the Guidelines on State aid to promote investment in risk financing.

[93] OJ, (2014/C 200/1)

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environmental and energy sectors. From these exhaustive measures, 4 measures are relevant to the environment sector, as follows:

a. Aid to exceed the standards of the Union[94] or for upgrading the level of environmental standards in the absence of the Union standards;

b. Aid for early adaptation to future standards of the Union;

c. Aid for research in the field of the environment;

d. Aid for the remediation of contaminated sites.

Guidelines on State aid for environmental protection, similar to the Guidelines on State aid to promote investment in venture capital financing, will be used to assess and adjudicate only for adhoc aid and state aid schemes that have been notified by the Member State and for which the rules of chapter "Seventh" under the GBER[95] do not apply.

The Guidelines on environmental protection shall not depart from the established principles for assessing the measure of state support by the European Commission. To be adopted, the measure of government support, regardless of its form of manifestation and no matter whether provided directly by the Member State or indirectly through venture financing instrument must cumulatively meet the following criteria[96]:

- ✓ contribution of the measure, i.e. the State aid measure shall be aimed at an objective of common interest, in accordance with Art. 107 (3) under thw TFEU;
- ✓ need for state intervention: the measure shall be aimed at correcting the situation in which the provision of assistance can lead to a significant improvement which cannot be achieved only by the market, for example by removing a clear market failure;
- ✓ expediency of the state aid measure;
- ✓ stimulating effect: the aid must change the behavior of the relevant undertaking in such a way that it would launch a further activity that would not have taken place without the aid or would occur in a limited or different way;
- ✓ proportionality of the aid: the aid amount is limited to the necessary minimum in order to stimulate additional investments or activities in the area;
- ✓ avoidance of undue negative effects on competition and trade between Member States: the negative effects of the aid are sufficiently limited so that the total effect of the measure is positive;
- ✓ aid transparency: Member States, economic operators and the public can gain access to all the documents and the information relating to the aid granted under these acts.

[94] As per item 1.3 Definitions, (3) of the Guidelines standards of the Union means: a) compulsory standard of the Union, specifying the levels that any enterprise should achieve related to the environment.

[95] GBER release from the obligation to notify the Commission for the following types of aid for environmental protection:
- Investment aid enabling enterprises to exceed EU standards for environmental protection or increase the level of the Union for environmental protection in the absence of a standard of the Union – Art. 36 under the GBER.
- investment aid for adapting to future standards of the Union – Art. 37.

[96] Art.3.1. under the Guidelines.

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As regards state aid for the efficient use of resources and, in particular, aid for waste management, in item 3.5 under the Guidelines, specific requirements are provided for the grantor, irrespective of the state aid type. For example, the Member State must demonstrate quantifiable benefits in this work, in particular, the amount of saved resources and increased resource efficiency. Specifically for wastes, it is required the state to submit a plan for waste management that is consistent with the principle of the waste hierarchy, according to the Seventh Action Programme in the field of environment.[97] State aid for waste management will be authorized only when the state aid measures include the re-use and recycling of water and minerals that would otherwise be treated as unused waste. In particular, in the context of the PPP companies that generate waste should be exempted from the costs for their treatment. Furthermore, the proper functioning of markets for secondary raw materials should not be detrimental.

The Commission will consider that the waste management aid serves purposes of common interest if the following cumulative conditions:

a. The investment is aimed at reducing pollution caused by other entities and does not cover pollution caused by the recipient of the aid;

b. The aid should not indirectly relieve the polluters from a burden that should be borne by them under Union law and national law;

c. The investment should not exceed modernization – i.e. prevention, reuse, recycling or second use of conventional technologies in an innovative way, in particular, to be directed towards a circular economy, the feast which uses waste as a resource;

d. Otherwise treated materials will need to be disposed of or treated in a manner less favorable to the environment;

e. Investment does not merely increase the demand for materials without increasing their collection.

In accordance with the threshold approach used for different types of aid and aid intensity[98], GBER provides maximum allowable aid intensity at the provision of state investment aid for firms to exceed the standards of the Union. This intensity can be increased by 10 percentage points for aid awarded to medium-sized enterprises and 20% for aid awarded to small enterprises. Additionally for assisted enterprises in the Republic of Bulgaria, the aid intensity may be increased by 15 percentage points.

For State aid for early adaptation to future standards of the Union[99], the aid intensity is limited to 20 % of eligible costs for small enterprises; 15 % of eligible costs for medium enterprises; 10 % of eligible costs for large enterprises if the implementation and completion of the investment have occurred more than three years before the date of entry into force of the new EU standard, or 15 % of eligible costs for small enterprises; 10 % of eligible costs for medium-sized enterprises; 5 % of the eligible costs for large enterprises if the implementation and completion of the investment have occurred between one and three years before the date of entry into force of the new EU standard. Like the previous aid to areas covered by the regional map by virtue of Art. 107 (1), letter "a" under the TFEU, aid intensity for businesses in this region can be increased by further 15 percentage points.

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[97] Directive 2008/98/EC, art. 28.

[98] Aid intensity means the gross amount of the granted aid as a percentage of eligible costs before deduction of taxes and other charges - Art. 2, item 26 under the GBER.

[99] Art. 37 under the GBER.

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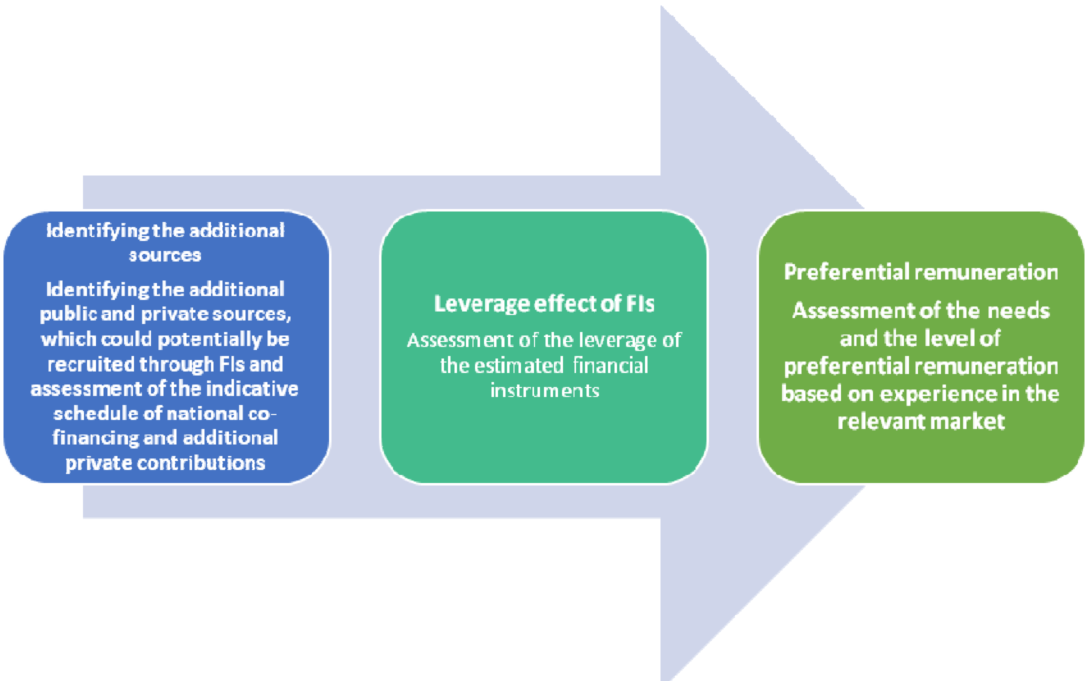
Figure 69: Financial instruments and state aid

Market Compliance	• If the provided FI operates on market principles, there is no state aid • No steps are further undertaken
De minimis Regulation	• The aid is provided by FI within the range of de minimis Regulation • No notification • The aid administrator enters it in the de minimis Register
GBER/ABER	• The aid is provided by FI under the GBER/ABER • No notification • Being documented. Notification to the EC after granting the aid
Standard FI (off-the shelf)	• The aid is provided by a standardized FI (off-the shelf) • No notification • Being documented. Notification to the EC after granting the aid
Other Aid	• The aid is not covered by the cases above • Further steps are undertaken for notification • A decision of the EC on compatibility with the internal market is awaited

3. Additional public and private resources

The main stages in this part of the analysis are:



3.1 Assessment of additional public and private resources - analysis of the level private investment/co-financing should be attracted (at a holding fund level, financial intermediaries or final beneficiary, respectively)

To obtain a clear picture of the additional public and private resources that could potentially attracted through financial instruments, it is necessary to take into account that such resources can be mobilized:

- ✓ From various stakeholders;
- ✓ At the level of the financial instruments themselves to the level of final beneficiaries;
- ✓ Through national co-financing of the program under certain conditions;
- ✓ Through funds or in-kind contributions[100]

It should be noted that additional resources in the form of national co-financing under the OPE can be provided by the end of the eligibility period (31 December 2023). Pursuant to Art. 41 of the

[100] In accordance with art. 37 (10) of the General Regulation, an in-kind contribudtion in the form of land or property is possible only for rural development projects and urban regeneration and development when the land or real estate forms part of the investment

General Regulation, the contribution of ESIF and additional resources follows the concept of phased interim payments to a financial instrument, where the first payment is 25% of the total amount.

If the additional resources are not in the form of national co-financing under the OPE and are considered supplemental to the ESIF, then rules of funds do not apply.

3.1.1. Identificaiton of potential sources of financing

Potential sources of additional financing for the Water and Waste sectors have different structure. For this reason these will be reviewed separately for each of the sectors, as follows:

Water sector

Potential extra resources	Description
National co-financing to the OPE 2014-2020	The planned public co-financing on the Priority Axis I "Water" under the OPE 2014–2020, is worth € 182,403,509, which represents 15 % of the total value of the resource on this axis. National private co-financing under the OPE is not envisaged.
International financial institutions (IFIs)	According to the leverage effect assessment, it is expected as a result of structuring a financing instrument for the WSS sector to attract additional financial resources from international financial institutions in the ratio 1: 4. This means that if 20 % of the resource on the PA are allocated to financial instruments, there will be further mobilized nearly 1 bil. euros for investment in the sector.
Commercial banks on the Bulgarian market	Bulgarian banking institutions could provide parallel financing for the projects in the sector, beyond the financing provided by the IFIs. Currently, 20 % of the funds planned for financial instruments under the program are set aside for guarantees. If a security mechanism for parallel financing will be implemented, leverage effect is expected to be 1:5. This means that if 20 % financial resources will be mobilized from the program for financial instruments, of which 20 % are allocated to guarantees, ~ 240 mil. euros are expected to be additionally provided by Bulgarian banking institutions.
FLAG	For the past programming period FLAG has financed investments in the WSS sector totaling nearly to 100 mil. euros. Some of these funds have been used for the so-called bridge financing. On this basis it can be predicted that a minimum of 100 mil. euros can be mobilized by FLAG for investment in the sector for the

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Potential extra resources	Description
	period 2014-2020.
EMEPA	EMEPA finance measures in the WSS sector worth an average of about 15 mil. euros a year[101], which can potentially be used as an additional resource to finance projects in the Water sector. I.e., for 7 years this resource equals tp 105 mil. euros.
Own resource of the WSS companies (<u>in addition to the one for co-financing under the</u>)	Outside projects, that are planned to be implemented under the OPE, in accordance with the approved business plans, the WSS companies allocate financial resources to meet their annual investment programme. For the period 2014–2023, the estimated amount of the internally generated resources by the WSS companies is nearly 437 mil. euros[102], which represent an additional resource for investment in the sector.
Additional contributions from municipal budgets	As part of the assets of the WSS infrastructure are public municipal property, the very municipalities are expected to contribute to the financing of investment in the sector. Based on a sample survey of the consultant, it is expected that additional resources can be mobilized annually by the municipal budgets amounting to 10 mil. euros a year or 70 mil. euros for the implementation programme period.

On the grounds of the identified sources, the following investment financing structure in the sector for 2014–2020 period can be prognosticated:

[101] http://EMEPA.bg/%D0%BF%D0%BB%D0%B0%D0%BD-%D1%81%D0%BC%D0%B5%D1%82%D0%BA%D0%B8/

[102] Development and Management Strategy of the WSS sector in Bulgaria

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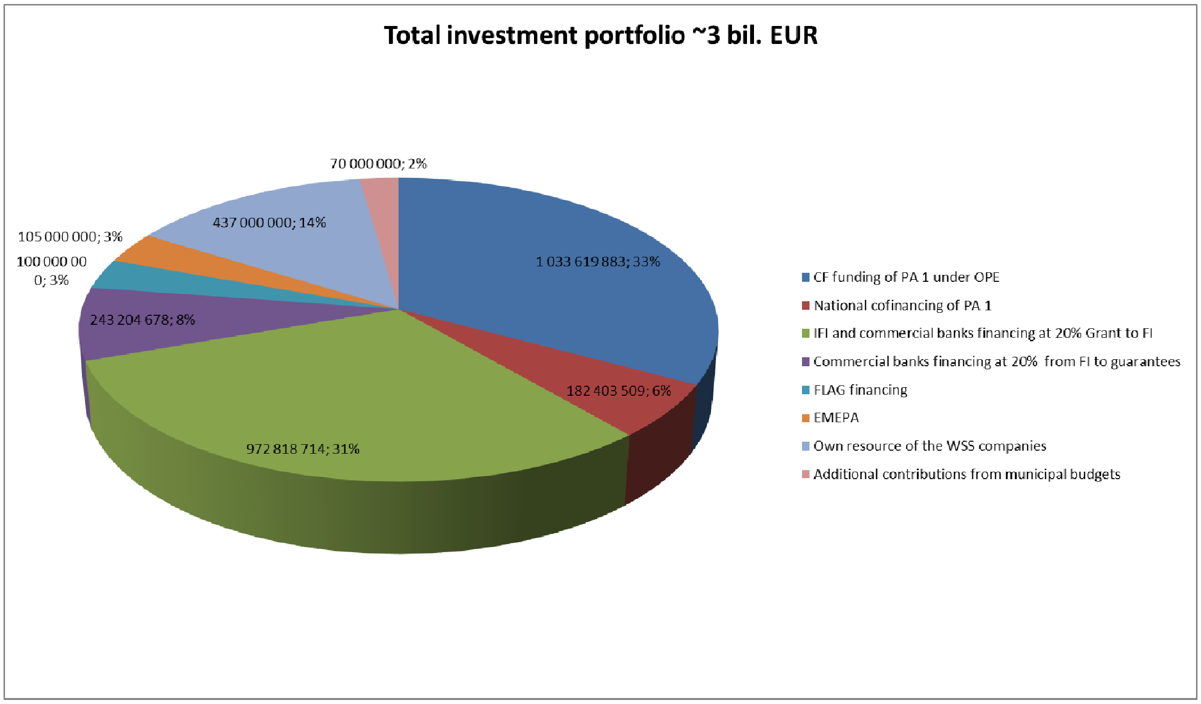
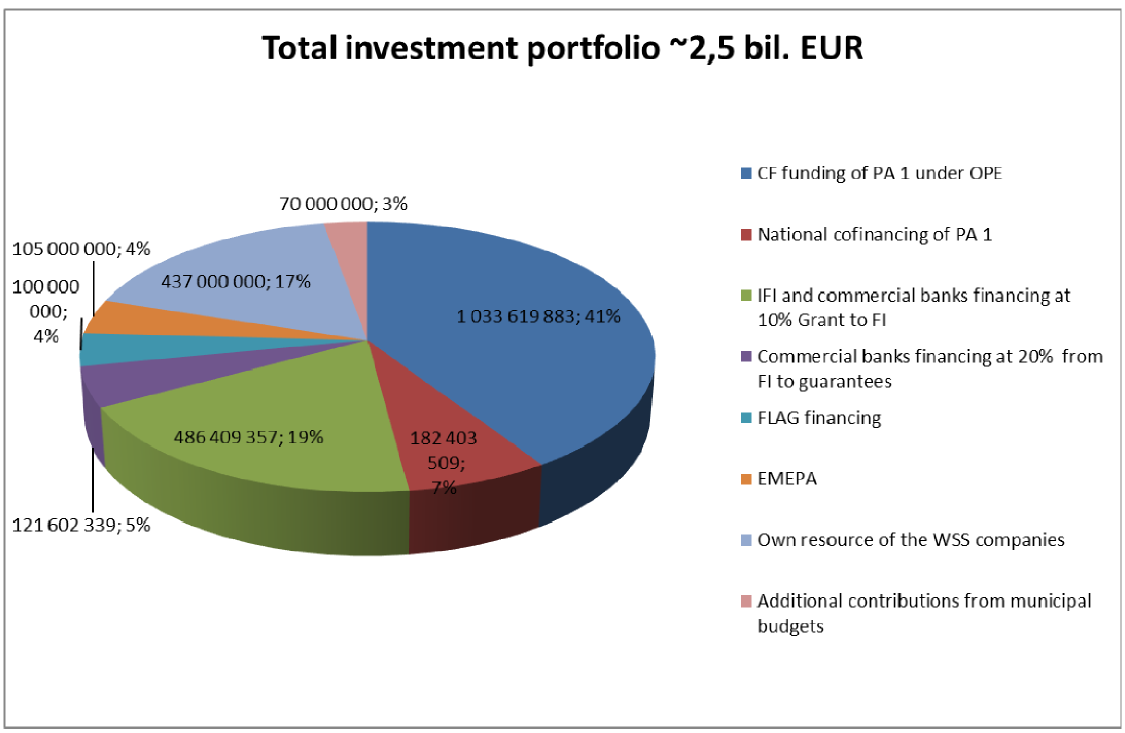
Figure 70: Additional public and private resources in the WSS sector at 20 % grant for the FI



At 10 % grant for the FI, the overall funding portfolio would amount to 2.5 bil. euros – as indicated in the following figure.

Figure 71: Additional public and private resources in the WSS sector at 10 % grant for the FI



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Potential additional resources	Description
National co-financing under the OPE 2014-2020	The estimated national public funding under Priority II "Waste" OPE 2014-2020, is worth € 38,647,943, representing 15% of the total value of the resource in this axis. National private co-financing under OPE is not provided.
International financial institutions (IFIs) and commercial banks on the Bulgarian market	According to the assessment of the leverage effect, as a result of structuring a financing instrument it is expected for the Waste sector to attract additional financial resources from financial institutions at a 1:5 ratio. This if potentially 20% of the resource under OP is allocated to financial instruments, nearly EUR 258 mln can be additionally mobilized.
FLAG fund	For the past programming period FLAG has financed investment in the Waste sector amounting to nearly EUR 13 mln. Some of these funds have been used used for so-called. bridge financing. On this basis one can make an estimate of ~ EUR 15 mln for investment in the sector that can be mobilized additionally in FLAG.
EMEPA	EMEPA finance Waste sector measures worth an average of about EUR 15 mln per year[103] that could potentially be used as an additional resource for the project finance sector.
Own resource of final beneficiaries (outside the one for co-financing OPE projects)	Beyond the projects planned for implementation under the OPE, the final beneficiaries of the projects in the Waste sector could mobilize additional financial resources through means of own investment in the sector. Here it is difficult to make an accurate estimate of the additional resources that could be mobilized from private sources, but if it is based on the fact that companies allocate an average of 10% of own resources for investment and assuming that this 10% would complement the total value of the projects to be implemented through the guarantee mechanism, then it is expected from the private sector to attract about EUR 25 mln.

Based on the identified sources, the following financing structure can be predicted in the sector for 2014-2020 .:

[103] http://EMEPA.bg/%D0%BF%D0%BB%D0%B0%D0%BD-%D1%81%D0%BC%D0%B5%D1%82%D0%BA%D0%B8/

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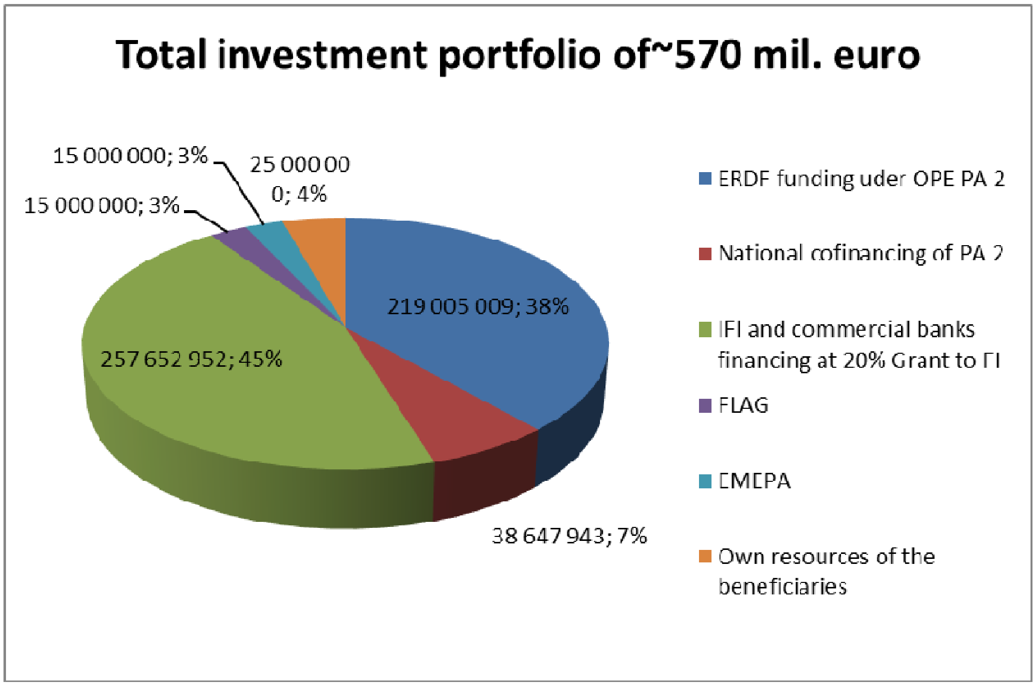
Figure 72:Additional public and private resources in the Waste sector



3.1.2. Identification of the level the national cofinancing to ESIF acts at

Following the identification of the sources which can mobilize additional public or private resources,the level at which they can act for each of the two sectors is identified as follows:

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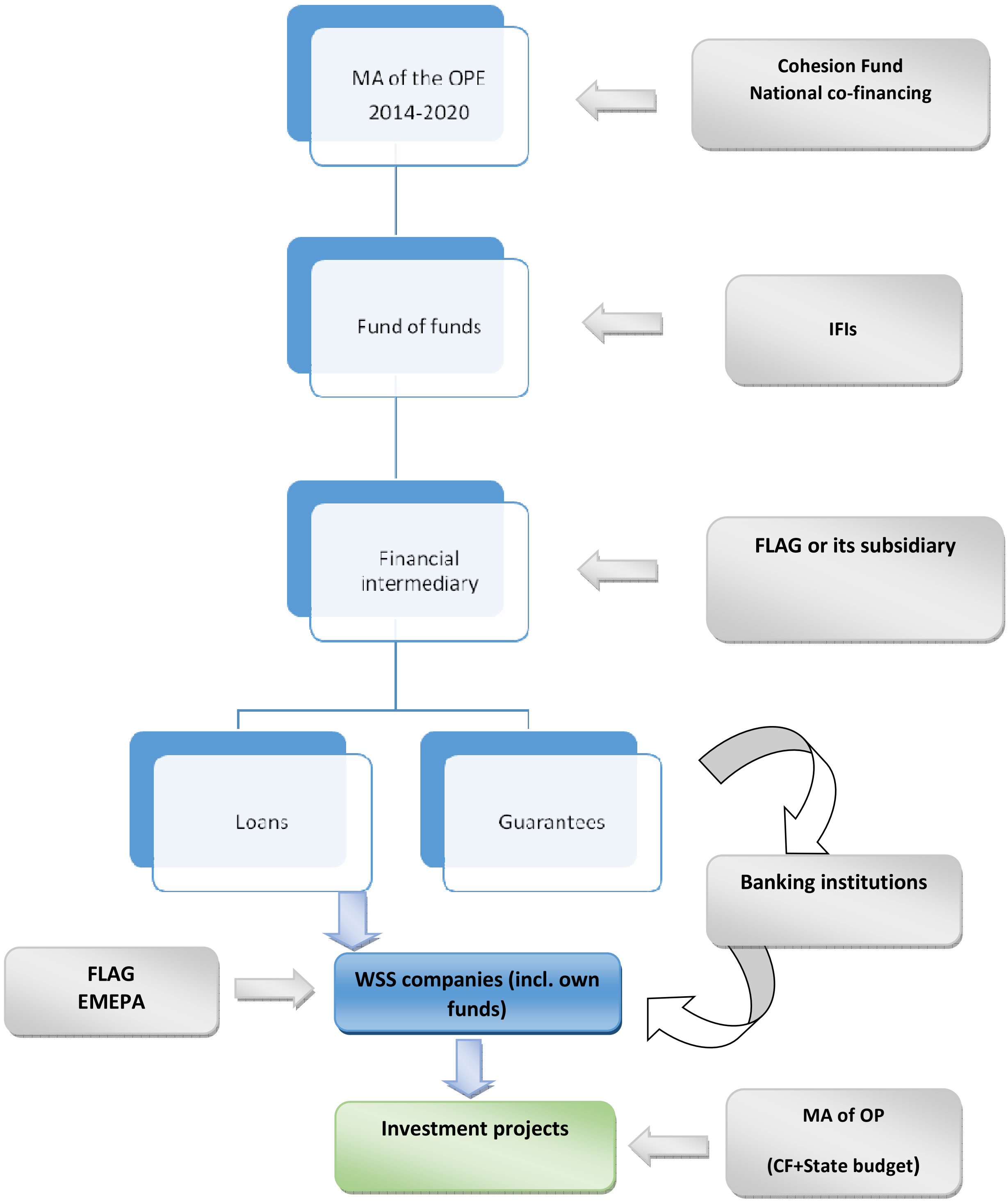
Figure 73: Possible levels of action of national co-financing to the ESIF



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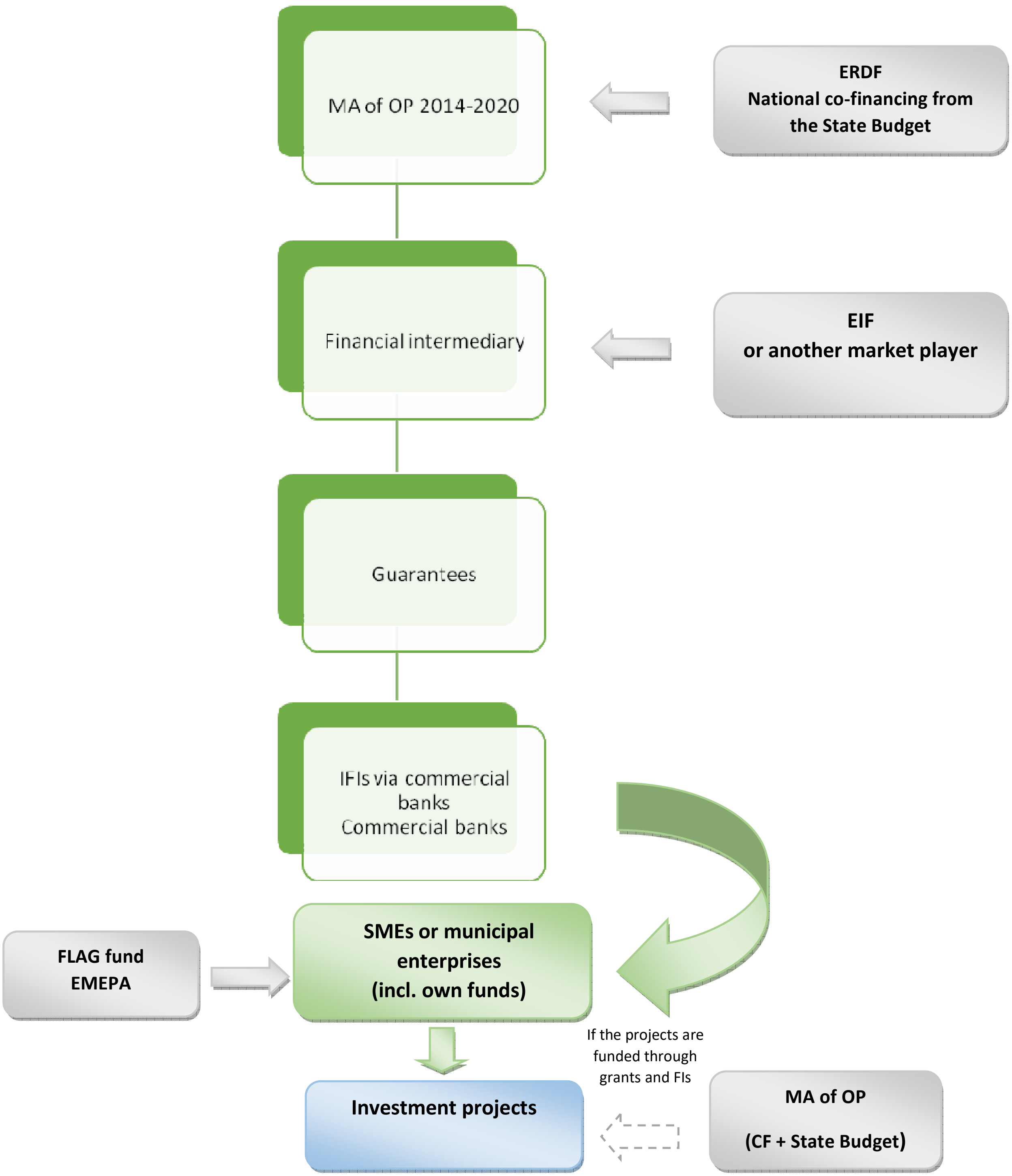
Waste Sector

Figure 74: Possible levels of action by national co-financing under ESIF



3.2. Assessment of additional public and private resources that could potentially be involved as a resource for the financial instrument at the level of a final recipient (leverage effect)

The leverage effect concept has a broader meaning than the concept of national co-financing to the ESIF. According to Art. 140 of the Financial Regulation and Art. 233 of its Implementing Rules, the leverage effect of EU funds equals to the amount of financing the final beneficiaries, divided by the sum of the contribution from the EU:

$$\textit{Leverage effect of ESIF} = \frac{\textit{Financing of beneficiaries}}{\textit{EU contribution}}$$

The leverage effect calculation follows the rules of the Regulation, which means that: 1) own contribution of the final beneficiaries of the projects is not taken into account; 2) the nominal value of costs is accounted, regardless of its financial nature (e.g. refundable or not); and 3) future investment cycles are not taken into account, if any (e.g. revolving instruments).

In summary, the leverage effect is a calculation of the expected additional public and private funding divided by the nominal value of the cost of the ESIF.

That said, the leverage effect of ESIF for both sectors is calculated as follows:

Water sector

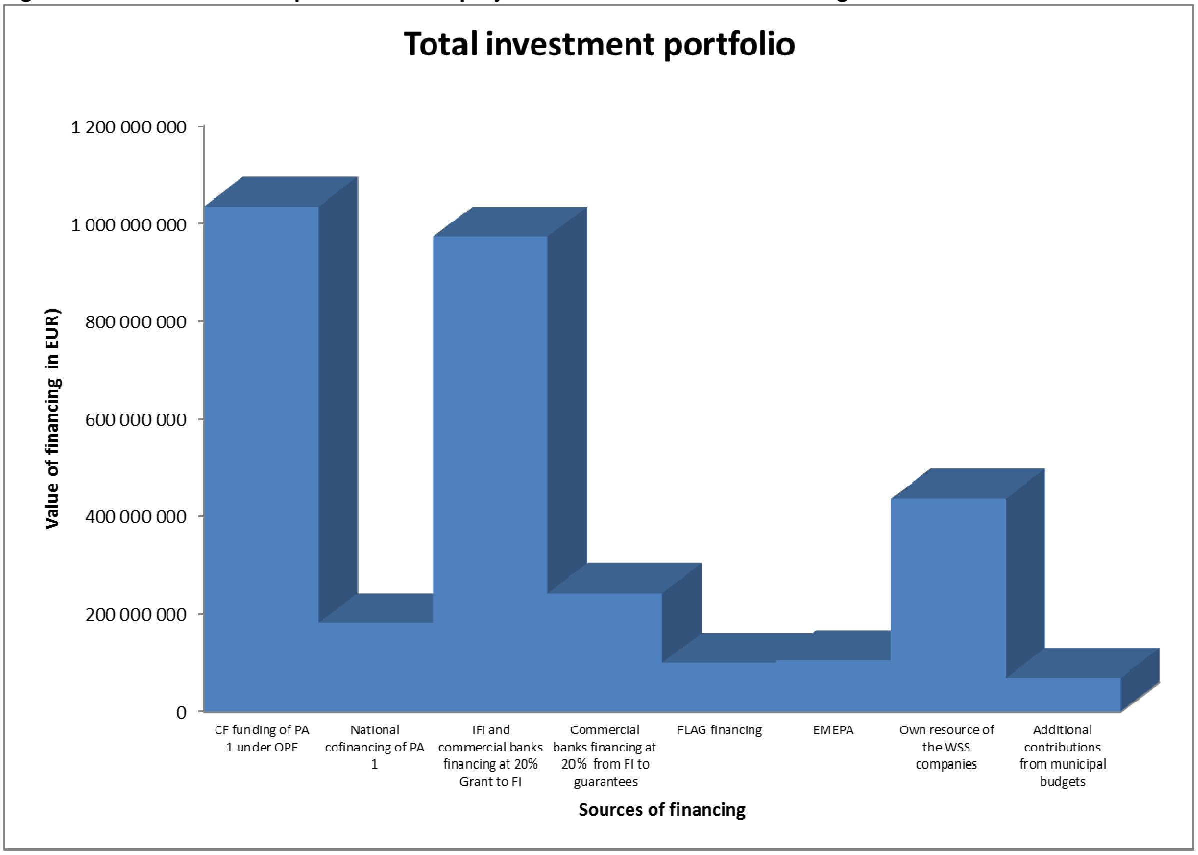
As mentioned above, the total portfolio of funding projects in the Water sector would have the following structure in case of 20 % earmarked funds from PA I under the OPE for financial instruments:

Financing by CF on PA I under the OPE	**1 033 619 883**
National co-financing on PA I under the OPE	182 403 509
Financing by IFIs and trade banks at 20 % grant for FI[104]	972 818 714
Financing by trade banks at 20 % of FI for guarantees[105]	121 602 339
Financing by FLAG[106]	100 000 000
Financing by the EMEPA	105 000 000
Own resource of the final beneficiaries	437 000 000
Additional contribution from municipal budgets	70 000 000
Total amount of the investment portfolio	**3 022 444 445**

This means that the leverage effect of funding from the Cohesion Fund is 1: ~ 3, i.e. for every euro from ESIF additional ~ 3 euros are mobilized from other public or private sources to the level of the final beneficiary.

104 The amount is equal to 20 % of the total funding under the OPE (CF + SB) at expected leverage effect 1: 4
105 The amount is equal to 20 % of the funding by IFIs and trade banks at expected leverage effect 1: 5
106 Funding from other sources is projected out on the discretion of the consultant

Figure 75: Total investment portfolio of the projects in the Water sector at 20 % grant for FI



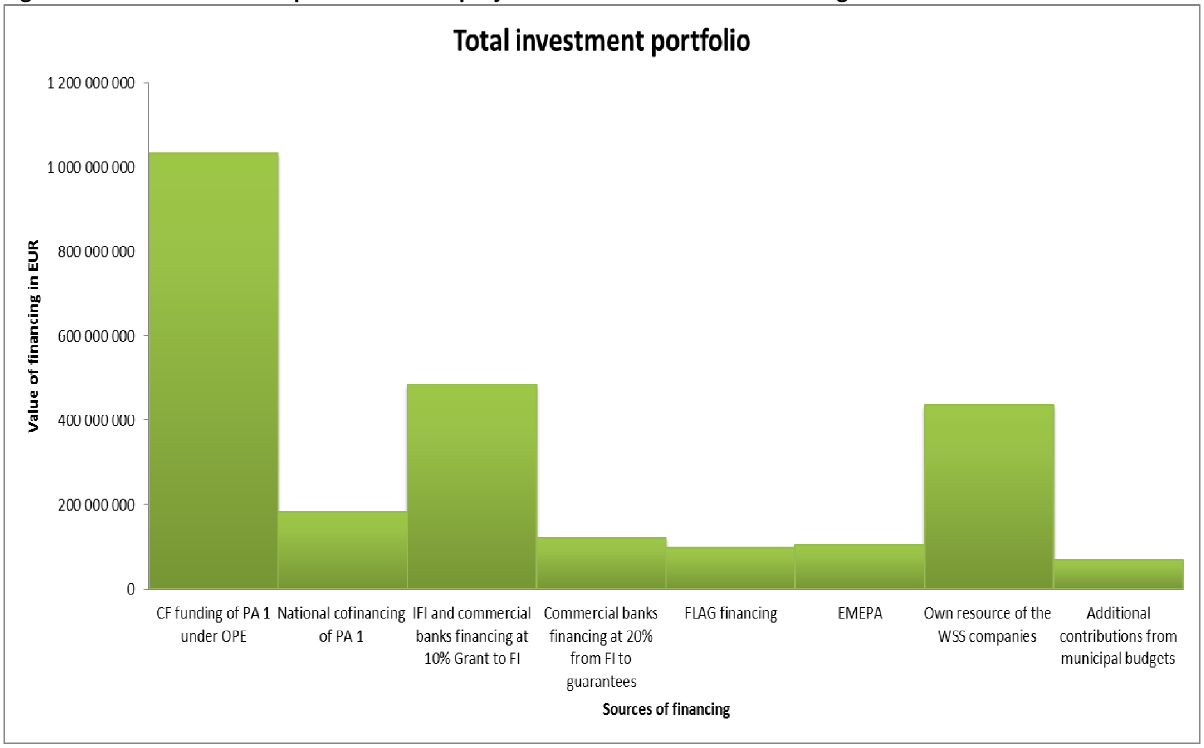
The total portfolio of funding projects in the WSS sector would have the following structure in case of 10 % earmarked funds from PA I under the OPE for financial instruments:

Financing by CF on PA I under the OPE	**1 033 619 883**
National co-financing on PA I under the OPE	182 403 509
Financing by IFIs and trade banks at 10 % grant for FI	486 409 357
Financing by trade banks at 20 % of FI for guarantees	121 602 339
Financing by FLAG	100 000 000
Financing by the EMEPA	105 000 000
Own resource of the final beneficiaries	437 000 000
Additional contribution from municipal budgets	70 000 000
Total amount of the investment portfolio [107]	**2 536 035 088**

In this case the leverage effect of funding from the Cohesion Fund is 1: ~ 2.5, i.e. for every euro from ESIF additional ~ 2.5 euros are mobilized from other public or private sources to the level of the final beneficiary.

[107] See the comments to the table above

Figure 76: Total investment portfolio of the projects in the Water sector at 10 % grant for FI



As evidenced by the graphs above, the largest share in the structure of financing outside funding by the OPE have international financial institutions and the own resources of the WSS companies.

Waste Sector

The total portfolio of funding projects in the Waste Sector would have the following structure in case of 20 % earmarked funds from PA II under the OPE for financial instruments:

Financing by CF on PA II under the OPE	**219 005 009**
National co-financing on PA II under the OPE	38 647 943
Financing by IFIs and commercial banks at 20% grant for FI[108]	257 652 952
Financing by FLAG[109]	15 000 000
Financing by EMEPA	15 000 000
Own resources of the final beneficiaries	25 000 000
Total amount of the investment portfolio	**570 305 904**

In this case the leverage effect of funding from the Cohesion Fund is e 1:~2,5, i.e. for every euro from ESIF additional ~2,5 euros are mobilized from other public or private sources to the level of the final beneficiary.

[108]The amount equals 20% of the total financing under OPE (ЕФРР+ State Budget) at 1:5 estimated leverage effect
[109]Financing from the rest of the sources listed is predicted based on the assessment given by the consultant

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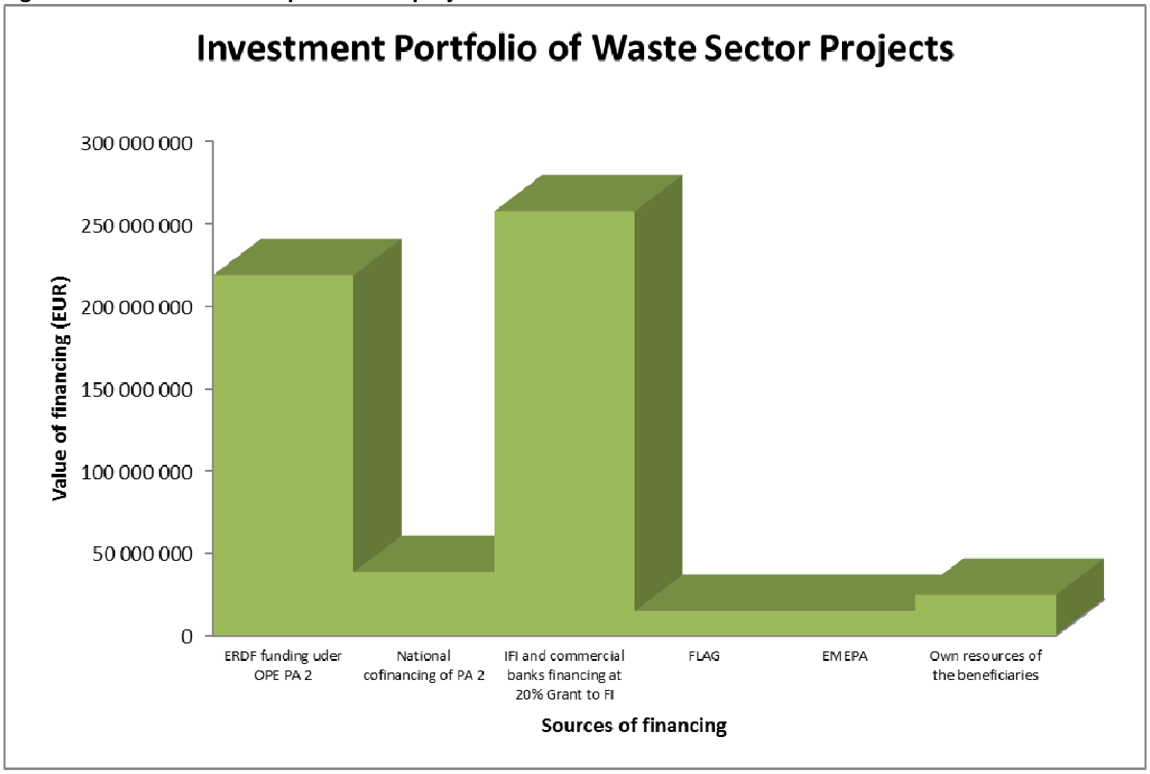
Figure 77:Total investment portfolio of projects in the Waste sector



As evidenced by the graphs above, the largest share in the structure of financing outside contributions made by ERDF is mobilized by the banking sector.

In conclusion, the higher the leverage effect, the greater the impact of the financial instruments. However, maximizing the leverage effect is not the main objective of the ESIS policy, as:

- ✓ The leverage effect may be smaller in less developed regions like our country;
- ✓ A lower leverage effect is expected during the crisis that has not yet been overcome in Bulgaria; and
- ✓ Too high leverage effect may reduce the incentive effect and thus attract more inefficient projects.

3.3. Analysis and assessment of the necessary incentives to attract private investment / cofinancing, and the mechanisms by which incentives will be provided (on a competitive basis or through an independent assessment)

Preferential remuneration has already been used in 2007-2013, but limited to revenue. In the period 2014-2020 preferential remuneration is extended also to the resource that is being paid back. Due to this fact, the following types of preferential remuneration could be considered:

1) Asymmetrical distribution of profits (eg. distribution of the burden is not on the basis of equal rights of investors in infrastructure, but rather gives preference to the private sector)

2) Asymmetrical distribution of loss (eg. guarantees covering the initial risk of loss of innovative loans)

3) Preferential remuneration to the fund manager, in the event that the same has invested within the prescribed limits under the delegated acts of the General Regulation (eg. microfinance)

4) Preferential release (eg. the risk borne on the uncontracted resources in the Energy Efficiency Fund)

In accordance with the increased range of preferential remuneration schemes at EU level, the scope of the Block Exemption Regulation is wider than before and the risk of SME financing.

In the event that the sector is considered by banks as too risky, compensation by asymmetrical distribution of profits would not be possible or would be too expensive. The risk may be temporary (eg. during economic crisis or a new product with no history), but it can also be systematic (sector risk) or related the portfolio (low absorption rate of guarantees, eg. with investments of a limited number). In such cases, **decreasing the risk (via asymmetrical distribution of loss)** for the private sector, should be evaluated. Most successful tools for risk sharing are the so called first loss buffers, which means that to a certain level the losses are first borne by EU funding. If the losses that occur during the execution of the financial instrument are lower than that level, they are covered by public resources. However, if losses during the execution of the financial instrument are higher, the proportion of the prescribed limit shall be distributed *pari passu* between public and private investors or otherwise agreed rule.

Experience with preferential remuneration is more important for SMEs financial instruments, although most of the experience does not cover the resources of ESIF. In other sectors experience is scarce.

However, the preferential scheme can be used as an example for private investors in the Spanish Urban Development Fund, which includes initial allocation of losses from public resources to protect part of the private investment and enable the private sector first to receive their profit (to the level of a fair return rate).

Under this scheme, private investors must cover at least 30% of estimated costs and the level of a fair return rate is determined by competitive selection or independent assessment. Each project must demonstrate that it is not getting (enough) financing on a commercial basis.

Common practice presupposes capping the profits of private investors, in order to avoid selective state aid and to increase the revolving effect of the limited risk of loss associated with the protection of the private sector. The following hierarchy could be applied to considerations on state aid:

- ✓ Preference is given in case of full participation by the private sector in the distribution of risk;
- ✓ If the negotiations show that this is not acceptable, the preference for full coverage of the risk should be limited;
- ✓ At the same time the level of profit is to be capped.

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On the basis of the foregoing, it can be concluded that the assessment of preferential remuneration at this stage would be rather theoretical and based on numerous assumptions. It is therefore more appropriate to describe the mechanisms that should be used to assess the need and preferential remuneration with the view to attract funds from private investors, which are presented below.

3.3.1. Description of the mechanisms that should be used to assess the need and level of preferential remuneration / incentives in order to attract funds from private investors (such as. competitive assessment process)

Under the provisions of art. 37 of Regulation 13030/2013, when supporting financial instruments, the managing authority may:

a) invest in the capital of existing or newly created entities, including funding from other European structural and investment funds for the implementation of financial instruments that meet the objectives of the relevant European structural and investment funds that will undertake the respective implementation tasks; support for such entities is limited to the amounts necessary for the implementation of new investments;
b) entrust implementing tasks to:
    i. EIB;
    ii. international financial institutions, in which a Member State is a shareholder, or financial institutions established in a Member State and aiming at achieving public interest under the control of a public authority;
    iii. public or private organization; or
c) undertake direct implementation tasks in the case of financial instruments, consisting of loans or guarantees.

In implementing financial instruments, the organizations ensure compliance with applicable legislation, including the rules for EU structural and investment funds, state aid, public tenders and standards, as well as the applicable provisions on money laundering, terrorism and tax fraud.

The national public and private contribution may be granted at a fund to fund level, financial instrument level or a final recipients level.

In this sense, the choice of a fund manager or financial intermediary[110], as well as the level of preferential remuneration is to be made on the basis of competitive selection, i.e. through a public tender.

The basic principles which the competitive selection should be based on are:

- ✓ Due diligence – imposing a requirement that the institution chosen for the implementation of the financial instrument meet certain criteria:
    - Capacity
    - Economic and financial viability
    - External and internal control system, governance rules
    - Maintain an adequate accounting system and agreement to be audited
    - The right to act in accordance with European and domestic legislation

[110] Except when the choice is not performed by public tender in permitted cases

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- ✓ Open and transparent selection criteria – avoid a conflict of interest
- ✓ Obligation to open escrow accounts/separate financing block, keep separate accounting and "adequate liquidity"
- ✓ Standard conditions under the financing agreement

Regarding the expenses and remuneration:

- ✓ Double funding is not allowed
- ✓ The remuneration for implementation is to be based on actual funds invested
- ✓ Fund to fund:
  - The basic remuneration shall be at a rate of 3% for the first year, 1% for the second, and 0,5% for each year that follows
  - The remuneration for risk sharing should not exceed 0,5% per year of the resource paid by the programme
- ✓ Implementation should be assessed based on:
  - Payments by ESIF
  - Repaid resources
  - Quality of the measures to maximize impact, related to the investment
- ✓ MA shall be informed of the calculating method of the remuneration for implementation, as well as receive reports
- ✓ The cumulative limit fund to fund is 7% of the total contributions paid by the programme

Regarding interest rates and the return from the resources:

- ✓ Interest earned from the resources of ESIF should be subject to market principles in accordance with the rule of sound financial management
- ✓ Should be used for the same purposes (investments/costs) within the same financial instrument or another form of support in line with the relevant priority until the end of the eligibility period
- ✓ During the eligibility period:
  - Subsequent investments made through the same or other financial instrument
  - If applicable, preferential remuneration for co-financing
  - Recovery of costs
  - Contribution towards the aims and results of the programme
- ✓ After the eligibility period:
  - Subsequent investments made through the same or other financial instrument

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- Recycling over a minimum of 8 years in line with the original objectives or if the objectives of the programme still meet the needs of the market

In addition, a schedule is presented below, which displays the estimated incentive for a financial intermediary participation in a scheme for secured financing with a limited guarantee portfolio:

Assumptions

- ✓ Loan amount – EUR 3 mln.
- ✓ Security percentage - 80%
- ✓ Set limit – 25%
- ✓ Leverage effect – 1/(80%/25%) = 5

Up to the set limit (contribution by the programme)

In case of bad debts

- ✓ Remaining repayment amount – EUR 2 mln.
- ✓ The bank shall notify the fund of the release of the security
- ✓ **The fund shall repay the bad debt within 60 days: EUR 2 mln.** x 80% = EUR 1,6 mln.

Actions for recovery of losses

- ✓ Recovered amount – EUR 1,5 mln. (of EUR 2 mln.)
- ✓ Part to the fund – EUR 1,5 mln. x 80% = EUR 1,2 mln.
- ✓ Part to the financial intermediary – EUR 0,3 mln.

Actions on returns

- ✓ With no financial instrument the financial intermediary would lose: EUR 2mln. – EUR 1,5 mln. = EUR 0,5 mln.
- ✓ With the financial instrument the financial intermediary would lose: EUR 2 mln. – EUR 1,6 mln. – EUR 0,3 mln. = **EUR 0,1 mln.**

Interest of the financial intermediary

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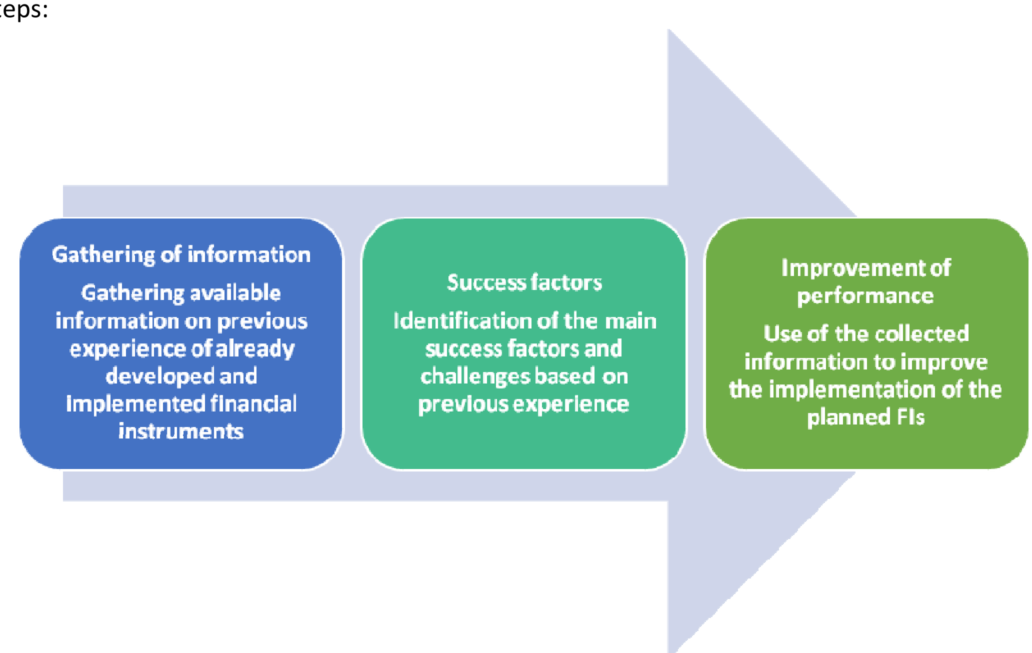
4. Lessons learned

The analysis in this section is made consistently and going through the following steps:



4.1. Analysis of good practices in the implementation of financial engineering instruments in other EU member states in the Environment Sector

4.1.1. Use of financial instruments in the EU Member States in the period 2007-2013

In the period 2007-2013 three forms of financial engineering were used:

- ✓ **Capital** – direct investments in the share capital. Includes ownership and capacity to influence the object of investment. Can cover the initial capital or capital increase. Recognizable also as venture capital, which is a strict form of private capital. Can take different forms with different levels of risk. Risk for investors may be high, as well as the returns.
- ✓ **Loans -** loans to finance businesses or projects over a period of time and at an agreed rate of return, usually based on the quality of the cash flow and value of the underlying assets; may be subject to subsidy or market conditions.
- ✓ **Guarantees -** means to ensure the security of businesses that are unable to obtain funding in another way; may cover all or part of the capital. Can be in the form of guarantees for bank loans, credits, or equity. May include a charge or higher interest for the borrower.

As required by of the Structural Funds, these tools have been used for:

a) development objectives of trade SMEs in the form of venture capital, guarantees or loans;

b) Urban Development Funds investing in PPPs and other projects included in an integrated plan for sustainable urban development

c) funds or other incentive schemes providing loans, guarantees for repayable investments, or equivalent instruments, for energy efficiency and use of renewable energy in buildings, including existing housing.

They can all be part of the strategy for the implementation of operational programs under the provisions of art. 44 of the General provisions applicable to the Structural Funds (SF) of the EU.

Compared with the previous period, for the period 2014-2020 the European Structural Investment Funds (ESIF) can support each thematic objective under the operational programme. In the last period the examples of the use of financial instruments, then called financial engineering instruments, supported by the Structural and Cohesion Funds are only tools to support small and medium enterprises, which can also be those with environmental activity in the field of urban development, including waste water infrastructure if in the scope of IPGVR, or for energy efficiency. Therefore, for the purposes of this report, examples of the use of financial instruments, supported by the European Structural Funds and the Cohesion Fund are given mainly in terms of:

a) lessons learnt in order to avoid repeating mistakes,

b) serving as examples for successful schemes of funding that can be used in the following period for the implementation of financial instruments to support the achievement of thematic objectives 5 and 6 targeted by Operational Programme "Environment 2014-2020".

An important aspect of the use of FIs to achieve the purpose of the policy can through commercial mechanisms. There are several aspects of this issue.

1) Public sources could be spent more efficiently and effectively in this way. For example, the provision of equity by a company has the capacity to contribute to the efficiency and efficacy in terms of economic development and ensure the return on public (and private) resources that can be reinvested later on.

2) The private sector can potentially be involved in making the investment decision, with a view to improving commercial quality.

3) Publicly funded financial engineering instruments can extend the possibilities for funding expansion of companies - this logic is the basis of the approach of the co-investment fund used in a number of Member States - thus contributing to the development of financial markets and potentially unlocking new funding possibilities, for example through the development of the segment of private financial institutions.

On the other hand, given the budgetary pressures and constraints at both EU and national level, the use of financial engineering instruments can make investments of public resources more efficient. Once the investment subsequently recovers, financial engineering instruments allow structural funds to be invested in multiple final recipients consistently beyond the initial programming period, thus (in theory) creating a lasting trace of EU funds and greater efficiency of the public investment.

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Financial engineering instruments are aimed at attracting investment from other sources, i.e. additional resources from outside investors (private sector), which helps to increase the leverage and multiplier effects by means of SF and the overall increase of the means of achieving policy objectives. This opens up new markets for various forms of public-private partnership, passes this expertise along to international financial institutions and allows institutional capacity to build through these partnerships (2013a EC: 5-6). Together, these qualities of FIs potentially lead to higher added value of political interventions and greater efficiency and effectiveness in the use of resources in the public sector, enabling politicians to do more with fixed or limited resources.

Although the JESSICA initiative is aimed at attracting additional resources from PPP funds to SF as part of an integrated plan for sustainable urban development mainly in the context of urban development, part of the projects is in the environment sector.

In this sense, the initiative by funding scheme is used as an example of how that can be applied in the environment sector in the period 2014-2020. Achieving this goal requires specific strategies to set the framework for investment and complement the provision of public facilities and infrastructure in an integrated approach by mobilizing a wide range of partners with different financial capabilities and management skills. The idea is for the public sector to maintain its leading role in projects financed by such an initiative, but not as the sole investor or venture player, but rather as providing conditions for development and benefiting from increased and differentiated resources to promote recovery.

In the period 2007-2013 the use of FIs increased considerably, and by 2011 529 funds were established under 178 operational programmes, mainly in the European Regional Development Fund (ERDF). The FIs that were used the most were loans. There are large differences in the use of FIs by different Member States. Highest utilization of FIs was observed in Poland, France, Italy, UK and Germany, which account for about 75% of all FIs. The reasons for the different use of FIs are differences in socio-economic development and traditions of the countries, as well as lack of knowledge and experience with commercial practices among public stakeholders.

Structure of financial instruments in cohesion policy

There are different ways for managing authorities to organize and structure the financial engineering instruments. Once the need and feasibility of FIs has been justified and funds from the Structural Funds under the operational programme have been provided, MAs evaluate the different ways to structure FIs. This can be done through a holding fund or through direct support from the OP to FIs (EC 2013a: 11). MAs have four main options (see Figure 4.1.1):

a) OP makes a direct contribution to FIs (i.e. no holding fund) and financial engineering instruments are managed by financial intermediaries (such as high-tech funds in the Operational Programme "Upper Austria");
b) OP provides the funds to a holding fund and the fund management is be entrusted by contract (eg. Venture Finance Plc operates as a holding fund under OP for the economic development of Hungary);
c) OP provides the funds to a holding fund and a contract is concluded for its management with the EIF / EIB (eg. OP Languedoc - Roussillon)
d) OP provides the funds to a holding fund and a contract for its managment is concluded with a national financial institution without tender under domestic law, provided that the domestic legislation is compatible with the contract in this respect (eg. regional operational programs in Poland).

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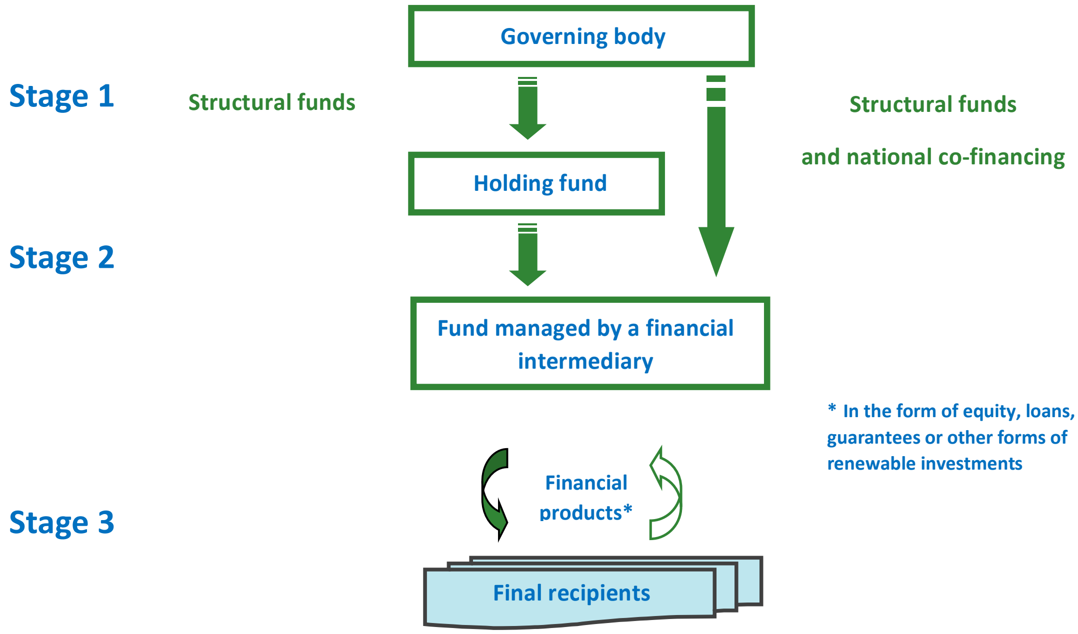
Figure 78: Holding fund



<u>Source:</u>European Commission (2013)

Funds, whether provided directly or indirectly through a holding fund, may offer financial engineering instruments in the form of equity or repayable investments, such as loans and guarantees.

Approaches to managing financial engineering instruments

Most Member States use both holding funds and direct contributions for the provision of FIs. The decision whether or not to use a holding fund shall be made by the governing bodies, depending on the circumstances in the respective state. There are many advantages of using a holding fund, for example using the "portfolio approach", allowing more flexibility and allocation of resources depending on the demand and economic conditions.

In 2011, the majority of all special funds (about 67%) was realized without the holding fund structure (see Figure 4.1.2.). A total of 353 special funds were realized without holding funds and 171 funds through 68 holding funds. Most of the financial engineering instruments for enterprises operate without holding funds, while most of the financial engineering instruments for urban development are realized through holding funds.

Holding funds are managed by the EIB or EIF (31 in total), or by other local financial institutions or bodies (37, of which 34 are financial engineering instruments for small and medium enterprises). Of all 68 fund holdings, 47 are intended for SME financing (Art. 44 (a)), 18 for urban development projects (Art. 44 (b)) and 3 for energy efficiency and energy from renewable sources FIs (Art 44 (c)).

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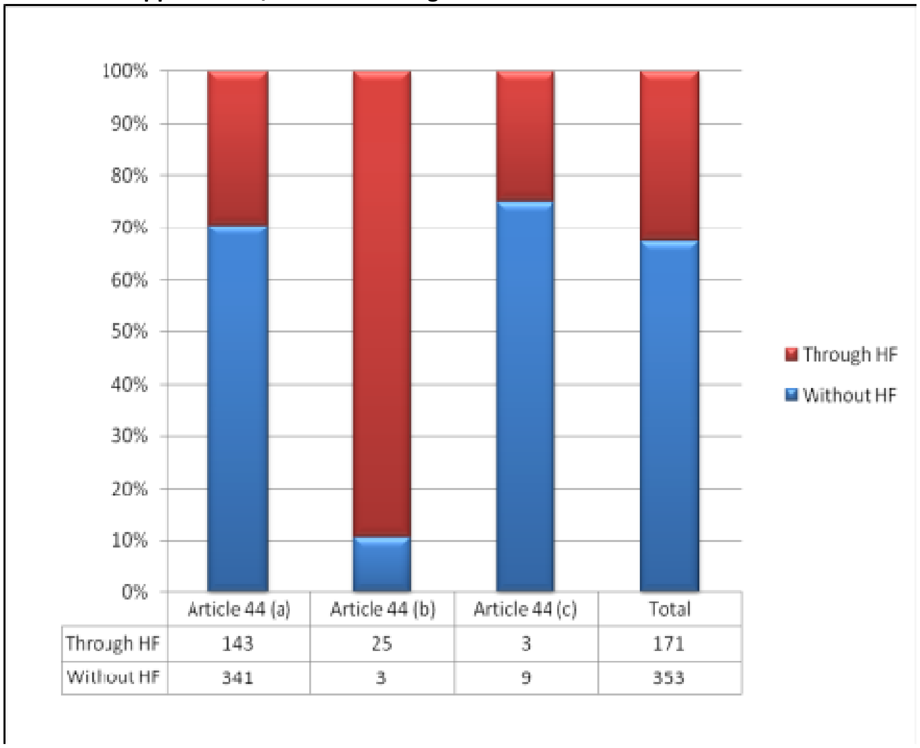
Figure 79: Instruments applied with/without holding fund

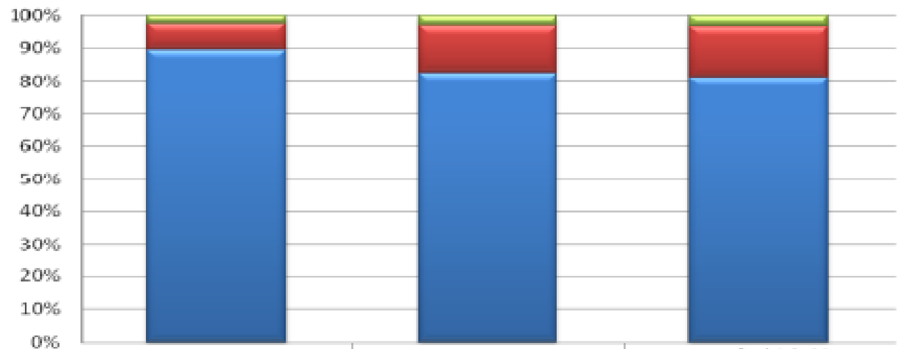


Irregular application of FIs in Member States

By the end of 2011 a total of 592 special funds were created (Figure 4.1.3.) through 178 operational programmes in all Member States except Ireland and Luxembourg. Also created was a cross-border fund implementing financial engineering instruments, EUREFI venture capital fund, supported under the INTERREG IVA Grande (France, Belgium, Luxembourg) - and was originally created during the programming period under INTERREG II 1994-99. The total value of the contribution of all OPs for financial engineering instruments amounted to € 10,781 mln; 7078 mln euros of them were provided by ESIF (ERDF and ESF - although contributions from the ESF are only about 3% of the total contribution of the Structural Funds (EC 2013a: 3).

Financial instruments in support of commercial companies (according to Art. 44a) are about 90% of all those applied in the period 2007-2011. Accordingly, the support of OP presents 82% of all funds for financial instruments. Much lower rate is directed to measures under Art. 44b (7,8% of total FIs and 14.2% of the funds in the OP), as well as energy efficiency and renewable energy, according to Art. 44c (2.5% of all FIs and 3.2% of the contribution of the OP). These figures include 68 holding funds, of which 47 in support of FIs for the development of enterprises established under Art. 44a, 18 for urban development enterprises established under Art. 44b, and 3 energy efficiency enterprises established under Art. 44c.

Figure 80: NUMBER OF FINANCIAL INSTRUMENTS AND CONTRIBUTION of OP for FIs at the end of 2011



	Number of FEIs[1]	OP contributions paid to FEIs (EUR million)[2]	out of which SF contribution (EUR million)[3]
Article 44 (c)	15	345	250
Article 44 (b)	46	1533	1075
Article 44 (a)	531	8903	5753
TOTAL	**592**	**10781**	**7078**

Significant differences exist between Member States in the total number and amount of aid to financial engineering instruments (Figure 4.1.4.). There is a strong concentration of financial instruments used in several Member States - Poland, France, Italy, UK and Germany which together have assimilated 75% of all funds using financial engineering instruments; and Italy, Greece, Poland, Germany and the UK together account for 49% of the contribution of ESIF for financial engineering instruments.

Some states, such as France, have created a large number of financial engineering instruments, but the contribution of ESIF is relatively low. This model is not universal - in Greece, for example, the opposite is true. Most states, including Bulgaria, have created less than ten financial engineering instruments, where contribution by ESIF amounts to less than 200 mln euros. In all countries the financial engineering instruments for small and medium enterprises dominate and those financial engineering instruments are implemented in all or almost all regions.

Support under Art. 44 (a) - financial engineering instruments for commercial enterprises - is granted by all types of financial engineering instruments (loans, guarantees, equity, venture capital and other products). In contrast, the financial engineering instruments for infrastructure (Article 44b) and Energy Efficiency and Renewable Energy (Article 44c) in the previous programming period were granted only in the form of loans.

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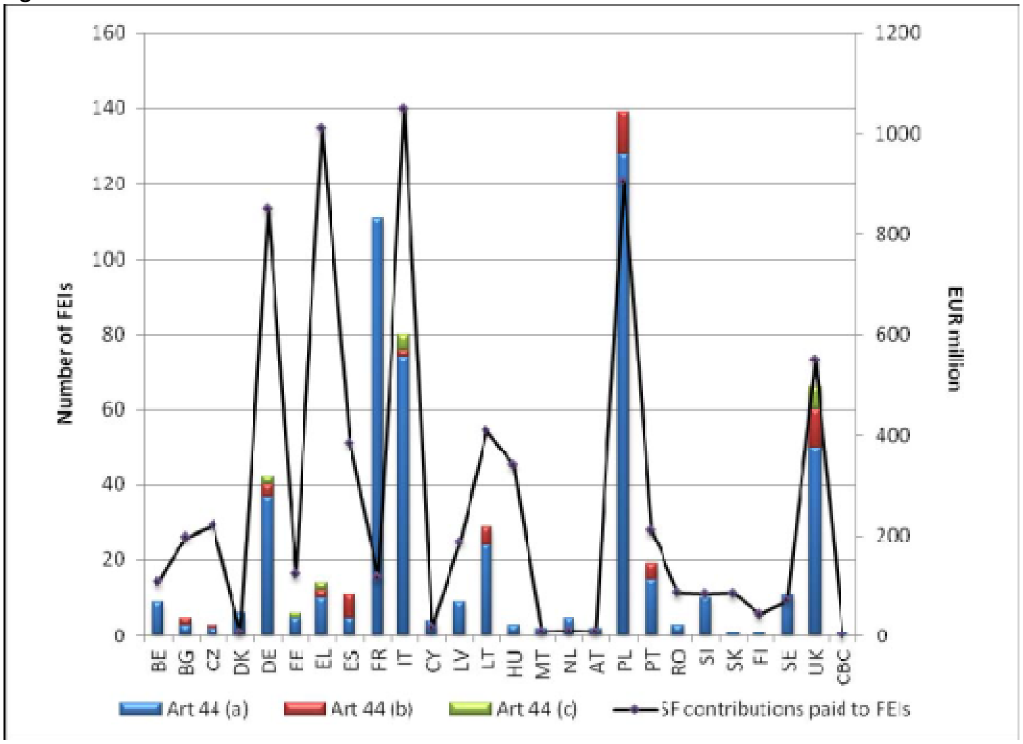
Figure 81: NUMBER OF FINANCIAL INSTRUMENTS AND CONTRIBUTION BY STRUCTURAL FUNDS



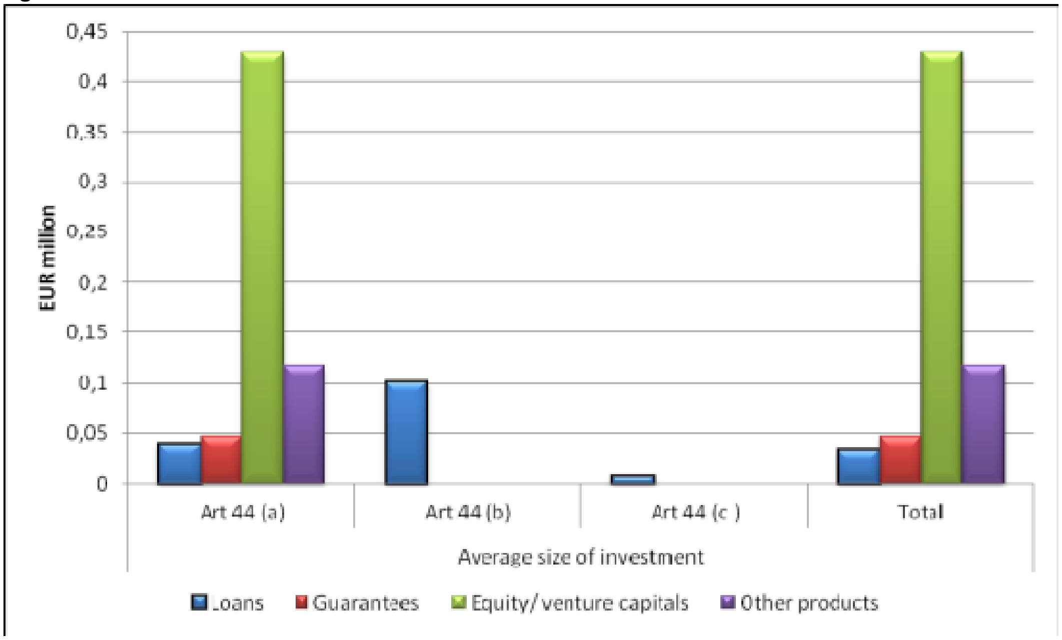
Loans are the most commonly used tool, but they also have the largest contribution to the end users (€ 1,553.57 mln). A much smaller amount is allocated to end users through equity / venture capital from financial engineering instruments as a whole.

However, considering the average size of each investment (Figure 4.1.5.), the average size of loans and guarantees is much smaller than the average equity / venture capital investment. There are also differences in the average loan size among financial engineering instruments. The average loan size is the smallest (€ 7000) among financial engineering instruments for energy efficiency and renewable energy and the highest in financial engineering instruments for urban development (€ 0.1mln).

Advances in the use of financial engineering instruments

Overall the use of financial engineering instruments has increased within the programmes of cohesion policy in successive programming periods, from € 0.57mlrd (0.44% of total structural funds allocations) from the ERDF in 1994-99 to € 1,3 bln during 2000-06 (0.8% of total amounts allocated) and € 11.6 bln in 2007-13 (4.4% of total amounts allocated). Usage of ERDF for co-financing of financial engineering instruments has increased over time in most states, but not in all. In Belgium, Germany and the UK, funding was allocated to financial engineering instruments for the first time in the programme period 1994-99 and subsequently in several other countries during the period 2000-2006, including Spain, the Netherlands and Austria, as well as Latvia and Slovenia since 2004, when they joined the EU and became eligible for ERDF financing.

Figure 82: AVERAGE INVESTMENT AMOUNTS BY TYPES OF FI



In most EU Member States the ERDF support for financial engineering instruments began in 2007-2013. In general, the use has increased more in the convergence regions than in the areas of competitiveness. Advances in the use of financial instruments from the period 2000-2006 to 2007-2013 is entirely the result of increased funding earmarked for loans, loan guarantees and other forms of credit, rather than for venture capital funds, which on average remained unchanged.

Reasons for the irregular application of FIs by the Member States

There are significant differences in the use of financial instruments among Member States. This is mostly due to differences in the operation of financial markets across the countries and differences in traditions and socio-economic conditions that influence how and to what extent the financial engineering instruments are applied.

The level of development and innovation in financial markets varies between Member States. The ability of companies to obtain financing is seen as the main issue (according to a study assessing the access to financing from the European Commission 2011), but it is also different in different countries. In some of them, the most important obstacle for a company to get a loan is the lack of funding as a whole (EC 2011b: 79); in other states this may be restricted by the security required in exchange for funding, variable expertise in local branches of banks' assessment of business prospects, the lack of banking sector practice to support local businesses, or just the lack of local banks. There are also differences in the capacity for innovation of financial markets and the demand for financial support for investment. In addition, venture capital markets differ in different countries.

It appears that there is a market gap and the need for public support in countries where the financial markets are less developed. However, there is no close relationship between the level of bank support for small businesses and the share of ERDF funding allocated to loans. Also, there is only a weak link between innovation capacity and the share of ERDF funding allocated to venture capital.

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Some Member States have well-developed financial markets, but are absent in others. The impact of these circumstances on the financial engineering instruments, co-financed by the Structural Funds, is two dimensional:

1) FIs used within the Cohesion Policy are not attractive because such instruments are provided at national level. As a consequence, some governing bodies consider that it makes more sense to take advantage of existing expertise and structures, rather than to create a parallel institutional frame. Paradoxically enough, the lack of well-developed financial markets or public support traditions can also limit the use of financial engineering instruments by MA due to lack of expertise and experience - this is one of the main reasons for not using financial engineering instruments.

2) Furthermore, as the use of financial engineering instruments is new to many Member States, politicians preferred grants to financial engineering instruments. Similarly, the difficulties of including broader objectives in financial engineering schemes, as well as their unsuitability for projects that do not generate revenue or for specific types of investment, such as research and technological development and innovation, prevents their use.

Financial instruments outside the Cohesion policy

Financial engineering instruments, operating within the Cohesion Policy programmes, stand alongside a number of other initiatives and instruments at EU level and operate within the Member States internal markets. Some of the EU initatives, which provide financial engineering instruments in the environment and climate change sector are the European Energy Efficiency Fund (EEEF), 2020 European Fund for Energy, Climate Change and Infrastructure (Marguerite), European Initiative for energy support (ELENA), LIFE etc. It is important to note that such measures work in other areas of EU policy and that there is considerable experience with similar measures in many Member States.

Some studies suggest that IFs co-financed under the Cohesion Policy are applied alongside other revolving instruments at Member State level. In general, however, it is difficult to assess the significance and importance of the use of revolving instruments such as they are often exploited by politicians at the local level, albeit with public funds.

In several Member States, such as Denmark, Finland, Germany, Spain and the UK, these internal revolving instruments are well established, while in others, especially in smaller countries, they are not as widely used. Many long-standing internal tools provide loans and loan guarantees, and therefore, the involvement of the public sector in providing access to finance through financial engineering instruments, has been focused on providing support primarily to commercial enterprises and entrepreneurship.

The use of FIs is an established part of the development policy in most states. Another major use of revolving instruments by the Member States is to support innovation by providing funding for technology-oriented companies and supporting research projects.

There are also numerous examples of local facilities in support of the environment that are presented in section 4.1.2. of this report. Relatively recent public sector is included in revolving instruments in support of the thematic areas of low carbon and renewable energy.

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Joint and central management of financial instruments

While Structural Funds instruments, Cohesion Fund, the European Fund for marine and fisheries (EFMBR) and the European Agricultural Fund for Rural Development (EAFRD) follow the principle of 'joint management' between the EU and Member States, the funds in areas like scientific research and environment are managed centrally by the European Commission.
In the European Commission, these different instruments are managed by different departments. For instance, the Competitiveness and Innovation instruments shown in the table above, as well as the European Microfinance mechanism fall under the responsibility of the Directorate General for Economic and Financial Affairs (DG ECFIN). Both are managed by the European Commission together with the EIF.
The same applies to the mechanism for risk sharing (RiskSharingFinancialFacility), where the EU and EIB funds amount to 2bln and are aimed at generating 10mlrd worth of loans for research and innovation projects, as well as the risk sharing instrument (RiskSharingInstrument), where DG ECFIN is represented in the Managing Board, which exercises control of the implementation and design of new products and expanding the scope of the instrument.
DG ECFIN participated in the development of several new centrally managed instruments for the period 2014-2020.
Collaborative instuments enable the combination of funds from the central budget of the Structural Funds, as well as "off-the-shelf instruments" - standardized instruments, whose conditions are set by the EU on the basis of the lessons learned during the previous programming period and in accordance with state aid rules.

Advantages of using financial instruments

The basic idea for the application of FIs in the implementation of public projects is to increase the efficiency of public funds use to improve the quality of projects by involving private investors and unlock new sources of funding to cover investment needs.

In brief, the main advantages of using financial instruments outlined in various studies and reports are:

1. **Leverage effect** - although it is difficult to measure this effect, FIs have a greater financial impact than a grant, due to their ability to attract additional public and private funding, thus maximizing the effect of the use of funds from the Structural Funds as well as national and / or local funding.

2. **Sustainability** – FIs can support long-term re-use of public funds, which is highly appreciated by all stakeholders, given the constraints of budget. Managing Authorities can reinvest funds from SF to a regional level after the end of the programming period and thus add value.

3. **Increased capacity** – the use of FIs leads to increased institutional capacity through partnerships between the public and private sectors. The use of FIs generally strengthens the participation of financial intermediaries / institutions in the implementation of EU regional policy. Combining the experience and know-how of both parties could lead to an improved quality of projects.

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4. **Distribution of risk** – FIs are used by public authorities to finance companies or projects that are considered to be at risk from the private sector. This is a particularly important advantage for small businesses that cannot obtain financing, given the risk aversion of private investors.

5. **Accelerating the operational programmes implementation** – the use of FIs by the MA can lead to accelerating the implementation of the programme by enhancing the utilization of resources and reducing the risk of refusing a financial commitment.

6. **Environment** – in the absence of financial and other instruments on the market to support the attraction of private investments in the environment, the use of FIs is essential. Using FIs allows the participation of private investors in projects in support of the environment, which helps to attract additional funds through public-private partnerships, as compared to grants.

7. **Indirect impact** – When the use of FIs is based on an analysis of the investment gap in regional and national markets, they may have an indirect impact on the economy, such as the creation and retention of jobs.

A more detailed outline of the advantages of using FIs, as follows:

1) Leverage effect

The main advantage of the use of financial engineering instruments is the ability to channel additional funds to projects that have a high financial impact than grants, due to their ability to attract additional public and private funding, thus maximizing the effect of the resources of the Structural funds and national funds.
Such leverage effect is even more visible in smaller countries that traditionally are less attractive to foreign investors.

2) Sustainability

The use of financial engineering instruments can promote long-term circulation of public funds, which is considered to be extremely important given the limitations of the budget.

3) Increased capacity

The use of FIs can contribute to increasing institutional capacity through partnerships between the public and private sector, can expand the involvement of financial intermediaries / institutions in the implementation of EU regional policy, as well as encourage the pooling of expertise and know-how.

In addition, the interaction between the public and private sector ultimately leads to the unification of the interests of the parties and gives the best result. On the one hand, public policy objectives are pursued, typical of public institutions, and on the other, this leads to the introduction of market mechanisms specific to private investors. In the case of venture capital supply, bringing together the expertise and know-how of private investors like banks could provide substantial practical experience for water companies or firms in the waste sector, giving them a competent partner who is able to provide advice and technical support. Access to know-

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how is well received not only by the beneficiaries of financial support, but also by financial intermediaries and strategic partners.

4) Distribution of risk

The use of financial engineering instruments can encourage investors to invest (more) in projects that are not attractive without public intervention, as these types of investments are considered too risky by normal private financial institutions. This is especially important for relatively small companies working in the water and waste sectors with high-risk, which particularly in the context in which private investors are reluctant to take any risks, would not have access to funding based on their low single security.

An example is the initiative of the German NRW-Bank. A bank representative said in an interview that through the microcredit fund (50% of the funds from the ERDF, the remaining 50% contributed by NRW) the bank grants loans to cover the financial needs of start-ups over a period of 6 months. This loan targets an amount between € 5,000 and € 25,000 is aimed at start-ups who cannot prove return or take out a classic loan from a private bank.

Another example is the CAT Invest Zealand fund, co-financed by the ERDF and managed by financial intermediary 'CAT' in Denmark. The Fund issues shares of up to € 1 mln, not exceeding 30% of the capital of beneficiaries who have not received support from private institutions.

: Also, in all operational programmes the main benefit and justification for the use of FIs is addressing the identified investment gap in the programme sector, such as:

- ✓ In response to specific financial problems for newcomers to the market in Sachsen-Anhalt.
- ✓ In response to the problems identified regarding the availability of venture capital for start-ups in Eastern Finland.
- ✓ The lack of funding for start-ups and development of enterprises as an identified problem in Slovenia, due to the underdeveloped capital market, as well as the lack of venture capital, little direct foreign investment, bank instruments, which are not adapted to finance the creation and growth of enterprises and a lack of government subsidies.

The three aforementioned advantages, according to respondents in a study for the implementation of financial instruments in the context of cohesion policy, namely the leverage effect, the revolving nature and the coverage of risk lead to the availability of cheap financial resources (i.e., low interest rates, less collateral extended grace period, no fees, etc.).

5) Accelerating the operational programmes implementation

For MA the use of FIs could mean accelerating the implementation, enhancing the absorption and reducing the risk of withdrawal from engagement (default). Also, according to MA, after the creation of the fund, procedures for obtaining financing are shorter because they are less bureaucratic than those for a grant. In other words, investments can be made faster.

However, this practice has been criticized by the European Court of Auditors (ECA) and is not encouraged by the European Commission. According to the ECA, compared to grants, the current regulatory framework of Structural Funds does not allow withdrawal of financial commitment, which means that where there is a holding fund, the financial resources are held in the fund throughout the whole programming period, instead of being transferred to end users (i.e. no tranches of funds). Under the conditions of the forthcoming period, the funds can be disbursed in four installments.

6) Environment

Providing for new FIs for the environment is particularly important given that the market has only few financial or other instruments that play a role similar to that of a Trust Fund for the Environment. Their importance is increased in times of an economic crisis.

In this sense, an initiative similar to JESSICA can act as a catalyst for the creation of partnerships between Member States, regions, EIB, banks and other stakeholders and investors to resolve environmental problems. Encouraging new entrants into the environment, especially from the private sector. The use of FIs will provide an opportunity for the participation of private investors in urban development projects, by helping to attract additional funds through PPP, as well as mobilizing additional support beyond the grant.

An interesting example is Bank Gospodarstwa Krajowego (BGK), the only state development bank in Poland. Amon all other activities, the institution takes on the role of a manager of the Urban Development Fund under the JESSICA initiative in three regions in Poland with a total budget of PLN 615 mln.

7) Indirect impact

Numerous advantages of preferring usage of FIs to that of the grant are identified:

- ✓ The use of financial engineering instruments can potentially promote efficiency for the end users through greater financial discipline and increased awareness of the need to repay the loan (as opposed to grants). This factor is also defined as "quality assurance" of the project. In other words, the financial engineering instruments can encourage companies to grow and become more competitive in order to get return on the investment, which requires planning and developing a strategy for growth. Shift from grants to financial engineering instruments requires strategic thinking by the MA.

- ✓ Terms: Financial engineering instruments cover the necessary funds in advance. This is a significant advantage over grants as grants and subsidies cover the costs post-factum, i.e. after they have been made. This is particularly important in times of economic downturn, when companies can hardly afford to pre-finance the investment without additional support.

- ✓ Wide range of eligible costs: financial engineering instruments cover a wider range of costs than a grant. While grants may cover only costs for assets such as machinery, FIs can cover additional costs that are not eligible under the operational programme.

- ✓ In contrast to grants and subsidies FIs do not distort competition on the market, FIs are allocated on a competitive basis.

In addition to the aforementioned characteristics of FIs, indicated are two positive indirect effects of the application of such instruments that can adequately address the identified market failure:

- ✓ Creating and retaining jobs (and a possible subsequent contribution to social security)

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- ✓ Stimulate market players

The Slovenian Investment Fund, for example, has reported that through the Programme for the use of financial instruments, created by OP an average of 1.12 jobs per company have been created, with an increase of 32% value per employee up to three years after the investment.

Disadvantages of using financial instruments

The main obstacles to the effective use of FIs are:

1) **Period of creation and negotiation for FI funds -** although the period of creation and negotiation of financial instruments depends on the experience, MAs generally indicate a long period as one of the main barriers to the use of financial instruments.

2) **Structural funds regulation –** perceived as complex and difficult to implement in real market conditions, taking into account the paradox that on the one hand FIs intend to cover the risk through public funds, and on the other hand, the regulations do not allow the support of businesses that have economic difficulties.

3) **Know-how and experience -** partly due to lack of knowledge and experience among public actors in the field of commercial practices and vice versa - insufficient understanding of the financiers of EU regulations, it is considered that FIs are difficult to design and implementat. There rarely is expertise on both sides.

4) **External factors –** external factors contributing to the delay in the implementation of certain FIs. These are problems like lack of investment in the context of economic crisis or supply problems, such as competition with other types of support.

5) **Monitoring and recognition –** recognizing the contribution of FIs to achieve the objectives of operational programmes is identified as a challenge to the application of FIs, although stakeholders have experience with this type of requirement when working with public institutions.

4.1.2. Good practices and success factors at various stages of financial instrument creation

Preparation of the investment strategy

During the preparation of the investment strategy for the implementation of financial instruments into account should be taken the motivation and capacity of the beneficiaries of the operational programme, who are in fact the end-users of the financial instrument. **The idea is to provide full support to beneficiaries in order to successfully achieve the ultimate goal of the program. A critical point is the flexibility of the investment strategy, which needs to be as flexible as possible, so that the financial instruments can comply with the market limitations.**

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The advantage of a holding fund is that it can invest over a certain period of time depending on the economic environment and the ability of financial intermediaries to absorb funds.

Best practices for a flexible investment strategy

Fund with a variety of instruments: The example of Andalusia is the creation of a fund that provides many types of financial instruments: equity mezzanine financing, convertible loans, guarantees. This makes the fund incredibly flexible and allows for meeting any financial needs, especially in a difficult economic environment.

Fund for individual financial instruments: Central Denmark Region has chosen a structure without a holding fund. Market analysis has identified a gap of loans and equity financing. As a guarantee fund had already been registered, there was no need to create a new one. Therefore, they created a fund that provides financing on an individual basis, where the fund manager decides whether to grant a loan, to invest in capital or a combination of both financial instruments.

A combination of a financial instrument and a grant: The example of the Hungarian Development Agency shows the possibility of combining grants with loans. The financial intermediary examines both the loan application form and the grant form from the MA. The final decision to approve funding is taken by the Managing Authority.

Inclusion of the financial instruments in the operational programme

The two keywords underlying the effective inclusion of financial instruments in OP are clarity and simplification, in order to prevent problems with interpretation. Moreover, resolving regulatory issues as soon as possible in the programming of financial engineering initiatives saves time in the later stages.

Therefore, it is crucial to analyze the legislation by holding talks and exchanging information with national and European authorities.

Good practices for avoiding errors

Berlin uses financial instruments financed by the ERDF in the period 2000-2006. Based on their experience they advise against making the operational programme too detailed, and to indicate the amount of financial instruments and outcome indicators instead, so as to have more opportunity to change depending on market demand.

Co-financing

There are two types of co-financing:

- ✓ national
- ✓ private

Co-financing can be implemented at three levels:

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- ✓ Direct investment in the Holding fund
- ✓ Investment in the financial intermediary
- ✓ Investment in the project (for example, 50% private co-financing in the company capital)

The level of co-financing is very important. **Co-financing at a Holding fund level is more difficult because the structure is too large and the benefits are more limited or it is more difficult for private investors to make an assessment.** Therefore, attracting co-investors at a deal level is easier. However, some countries have managed to attract co-financing at the holding fund level.

It is necessary to have a very balanced instrument between the private and public interests. Introducing various measures might be needed, so that private financial institutions gain more benefits, which would make the investment more attractive to them. In addition, the more clear the financing contract, the better the relationship with the private investor.

Good practices for attraction of private co-financing

High percentage of co-financing – the example of Finlombardia, Italy

Financial engineering instruments are intended to be co-financed. As the amount of available funds steadily declines, it is necessary to carefully involve local economic subjects to provide co-financing: this is a mechanism that assembles the various participants in a joint local project that also has a subsequent leverage effect. In this regard Finlombardia changed two of the instruments to attract private investors. **The financing percentage of the fund was increased with view to reduce the amount co-financed by private banks.** The other change was to shorten the term of the financial intermediary providing guarantees in half, in order to motivate them to serve beneficiaries more quickly, while also having the freedom to use more than one financial intermediary.

Requiring the fund manager to provide co-financing – the example of the Central Denmark Region

Providing a co-financing institution is used as a condition in the selection process for a fund manager, which is equal to that of the ERDF. Thus, financial institutions are involved together with the fund manager in order to show social responsibility, but also because of their confidence in the profitability of the initiative.

Preferential clauses - National Development Agency in Hungary

Regarding venture capital investments, Hungary urged private investors to co-finance the final recipients. The "limited profitability" and "loss mitigation" clauses were introduced to attract as many co-investors as possible.

"Limited profitability": During the final evaluation, if the fund has a positive total profitability, restriction on the latter can be applied to national resources, invested in the capital. This means that only a predetermined profitability amount can be attributed to the state - and any surplus is returned to the private investors.

"Loss mitigation": respectively, if the fund has a negative profitability, certain percentage of the loss equal to the highest listed capital of the fund will be covered by the fund. The remainder of the loss will be shared between the state and private investors in proportion to their contribution.

Attracting EIB as a private co-investor: the example of DCLG in North West England

North West England applies financial instruments by creating a North West Fund. Upon receipt of € 102 mln co-financing from the ERDF, the holding fund requires an equivalent amount from the EIB in the form of a loan. A financing agreement is signed between the EIB and the region, in which it is clearly stated that the loan should be restored as a priority. It includes an obligation for the holding fund to keep separate accounts for the funds from ERDF and EIB respectively. Funding through non-state resources within the meaning of art. 107, para. 1 of the EC Treaty is considered to be provided by private investors. This also applies for funding from the European Investment Bank and the European Investment Fund.

Fund management

Under the provisions of art. 34 of Regulation 1303/2013 the fund manager can be a public or private institution. If it is decided that the funds be managed by the holding fund, several options exist for selecting the fund manager:

- ✓ EIB;
- ✓ International financial institution where the Member State is a shareholder or financial institutions in the country which work in the public interest under the control of public authorities;
- ✓ Another institution, acting under state legislation.

It is important to comply with the management fees provisions for the period 2014-2020, as follows:

- ✓ Management fees are calculated based on the results and the applicable thresholds:
  - ▪ Results of the financial instrument.
  - ▪ The quality of support for end users, as well as their contribution to achieving the objectives and results which justify the financial contribution of the programme to the financial instrument.
- ✓ Achieve efficiency and effectiveness of investments;
- ✓ Avoid double taxation.

Good practices for fund management

Management through joint partnership (public / private): the example of the *Auvergne* region, France.

The Managing Authority decides to choose a fund manager through a call for tender. One of the two candidates fully meets the criteria requested by the Managing Authority. The applicant is a private company in a consortium with the Chamber of Commerce and Industry (CCIRA). The private finance company Sofimak Partners has 35 years of experience and acts as the manager of other funds in the region. Accordingly, this public-private partnership is a solution that covers all areas of activity. In fact, Sofimak Partners manages the holding fund and monitors the investment portfolio with risk capital, CCIRA – over the fund credit portfolio. The effective cooperation between stakeholders is one of the key factors for the success of the fund in Auvergne.

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Preparing the financing agreement

The best practice for preparing the financing agreement is to use a specialist in public law because insufficient advice and support from experts in this area often leads to undesirable results.

Some partners are considering the creation of a working group, which might consist of two teams. The combination of reference and operational professionals is a wise choice for combining different but complementary perspectives.

It is also necessary to encourage dialogue with the authorities, in order to adapt the rules and clear any differences in interpretation.

Choice of investment scheme

When creating a fund - whether holding fund or not - there are two options: creating a separate fund (under different legal forms), which would manage the grant, or including it as an activity of a financial institution under a separate account.

Financial engineering instruments, for the most part, are governed by a national financial supervisory authority and ensure security of shareholder and investor funds in the latter. European funds are subject to the control of a certain period of time (quarterly / every six months / yearly), as well as regular audits of MA (regional and national) and the European Commission, where managers and the final recipients of the funds have to participate.

In Spain, the resources controlled by the National Securities Commission benefit from tax reduction (of only 1%), but are very limited (only equity capital in quasi-equity loans). Accordingly, the MA has chosen an unregulated fund (without separate legal personality) that is subject to tax, but on the other hand enjoys more flexibility with respect to financial instruments. The fact that the fund is 100% publicly owned facilitated the choice of this legal structure (flexibility is more important than tax exemption and profit). The choice would be different, if private investors would have been engaged.

Management

Management is performed by the Management Board, composed of the Managing Authority and sometimes representatives of the co-financing institutions. As for the fund manager, they can also be a member of the Board, with or without voting rights.

4.1.3. Examples of local instruments in support of the environment in other countries

- ***Main sources of funding for environmental projects in Poland***[111]

Success in the field of sustainable development, improved quality of life and health of the population, effective conservation of resources and their rational use in Poland is the result of the environmental protection financing and water management system that is flexible and easily customizable to new challenges. The system includes national and international funding sources. As a result of the evolution of the system it is at present based on environmental funds (Funds) - National fund for environmental protection and water management, established in 1989, which executes projects of strategic importance at national level, as well as Regional funds for

[111] http://www.nfosigw.gov.pl/en/

environmental protection and water management, established in 1993, which supported a project of regional significance in all 16 regions of Poland.

The particularity of the Polish system of environmental protection financing includes earmarking originating as fees and penalties for the use of environment in the area of sustainable development. Thus, the 'polluter pays' principle is applied and the funds are directed to projects that prevent pollution. Environmental funds, both national and regional, play a key role in the allocation of foreign funds for environmental protection and water management. The system of funds is a financial instrument and a tool for organization of the Minister of Environment, who supports the implementation of the Environmental National Policy.

In the period 1989-2012 the largest part of the funds were used to control water pollution, management of water resources and air pollution control, which led to a significant improvement in the quality of the environment. In 1999 regional funds were added to the system. As a result of the public finances reform in 2010, municipal and regional funds are controlled directly by the budgets of the administrative units, while at the same time are required to use the proceeds from environmental taxes and fines for activities related to environmental protection.

Synergy and leverage effect of other sources of funds

There area a lot more elements in the chain of available funding sources for environmental protection in Poland, contributing to the economic mechanism that changes and adapts to the needs of a modern state. The most important feature of the system is the synergy and the effect of "leverage." The system of environmental funds stimulates thousands of projects across the country, thanks to the co-financing initiative to seek additional sources of funding and thus opens another market mechanism with the participation of the banking and private sectors, for example.

Environmental Protection Bank and Ecofund Foundation

In the system of financing environmental protection, based on environmental funds an important role plays the Environmental protection bank, through co-financing and cooperation with the environmental funds (started operating in 1991), which has provided PLN 11 bln to finance environmental protection projects over the past 22 years. The EcoFunds Foundation, established in 1992 and active until 2010, also played a big role and received a worldwide recognition. The aim of the foundation is the efficient management of the funds generated from the conversion of a part of the Polish debt to finance environmental protection projects, the so-called eco-transformation or "debt-for-environment". During the period of its activity 1992 – 2010 the EcoFunds Foundation has disbursed around PLN 2.5 mln of their funds for environmentally-friendly activities.

Growing sources of funding

Revenue from environmental funds are proceeds from environmental taxes and fines, as well as interest income on loans. In addition to basic forms of financial assistance such as grants, loans and write-offs of loans, new co-financing opportunities emerged, regarding subsidies for interest on bank loans, partial principal payments on bank loans and interest subsidies or back purchase of bonds. From 2001 on, payments on loans exceeded the revenues from environmental taxes and fines, and became a major source of funding, thus becoming a growing resource.

Financed projects

National and regional funds strengthen the relationship with local authorities and expand funding

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opportunities for environmental projects in various sectors of the economy. Their environmental projects costs have grown steadily in recent years. Owing to the efforts of the environmental protection and water management funds, the environmental situation in Poland has improved significantly. This includes a decrease in dust emissions into the atmosphere, support for the construction of water treatment plants for wastewater, a drastic decrease in emissions of harmful substances into the environment, creating a system of waste management, and strengthening conservation. In addition to investment activities, the funds support a variety of environmental protection projects for many social groups.

Partners around the world and in Europe

The system of environmental funds is a mechanism that is unique in terms of size and types of activities. The national environmental protection financing system, supported by the environmental funds is recognized internationally, including by the European Commission, the Economic Cooperation and Development Organization, and the World Bank. The Polish system is exemplary for developing economies and countries in political transition.

Funds before and after EU accession

Funds played an important role in the absorption of financial support from EU funds, especially in the pre-accession period, and have provided financial support for the EU budget programmes during the periods 2004-2006 and 2007-2013.

The most important aspect where funding is concerned is the role of national and regional funds as executive authority of the Infrastructure and Environment Operational Programme between 2007-2013. This experience contributed to their allocation as managers of projects co-financed by the Green Investment Scheme (GIS), the LIFE+ Financial Instrument, the Norwegian Financial Mechanism and the European Economic Area Financial Mechanism, pre-accession ISPA fund, Cohesion Fund in the period 2000-2006, "Improvement of the competitiveness of enterprises" Sectoral Operational Programme (2004-2006), Environmental partnership Fund PHARE, Danish environmental partnership fund, SIDA Fund of the Swedish Agency for International Cooperation and Development, as well as bilateral funds between 1990-2008. The regional funds for environmental protection play a crucial role in the absorption of the first years of EU membership, as well as during the budgetary period 2007-2013 under operational programme through the provision of strong institutional and financial support for local authorities, businesses, environmental organizations and other beneficiaries.

The number and value of projects and the achieved results have demonstrated the institutional capacity of funds to implement and fund a variety of projects and programmes, and thus confirm the effectiveness of the whole system. The funds are fully prepared to face new challenges, such as providing impetus for the Polish economy and the local authorities in the coming years.

Common strategy for 2013-2016

A top priority for the EU by 2020 - because of the threat of climate change - is the transition to a low carbon economy and effective use of resources. Throughout the new funding period 2014-2020 the EC will allocate most of its resources to support energy efficiency and renewable energy research, as well as to research and development adctivities and innovation, in support of small and medium enterprises and rural development.

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In connection with these clearly defined challenges for environmentally sustainable development of the European Union the "Common Strategy for Action of the National and regional funds for environmental protection and water management for the period 2013-2016 with a view to 2020" has set targets in four main areas of environmental protection funding in Poland: sustainable conservation and management of water resources, waste management and protection, protection of the atmosph ere, including combating climate change and the protection of nature and biodiversity. The strategy for the period 2013-2016 foresees support from National to regional funds earmarking to solve regional problems.

The strategy provides support for the implementation of Fund activities along the priorities of the environmental objectives pursued, deriving from national and regional strategic documents, in particular the National Environmental Policy for the period 2009-2012 potentially extending to 2016, as well as the energy and environmental security strategy. Under the strategic perspective by 2020, the system of Funds mutually supporting each other, will aid beneficiaries in the implementation of high-quality projects to improve the environment and the sustainable management of its resources by continuously improving their effectiveness.

Environmental policy by 2016

The financial needs of environmental protection projects are enormous. On the one hand, they are the result of Poland fulfilling its duties in the field of environmental protection as a result of adopting the applicable law, and on the other, of the need to achieve economic growth with care for the environment. The main direction for interventions in terms of environmental protection will include actions, aimed at ensuring sustainable development and efficient functioning of the economy and society in the face of the risks posed by climate change.

A significant flow of EU funding, including renewable resources for environmental protection activities in the years 2014-2020, new financial instruments, increasing public awareness of the environment, new areas of economic development, innovation and new technologies enable funds to develop their institutional responsibilities.

Good opportunities are provided by increasing and optimizing the allocation of revenue from environmental taxes and fines while maintaining an effective decentralized system of their collection, and by promoting "green" (environmentally friendly) economic growth in Poland by, among other things, support for energy efficiency, renewable energy, eco-innovation, economy with low levels of emissions, and creating conditions for the creation of "green" jobs. It is also important to promote environmentally friendly behavior, actions and initiatives for the conservation of biodiversity, as well as activities to adapt to climate change, which are becoming an important, difficult and expensive challenge.

Strengths of the system of funds for environmental protection and water management

- ✓ great financial potential and the position of the largest specialized market player to finance environmental protection;
- ✓ highly qualified personnel;
- ✓ knowledge of economic and legal issues, related to environmental protection projects;
- ✓ experience in environmental projects financing;
- ✓ experience in managing funds, generated from foreign sources, in particular including EU funds;

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- ✓ a separate legal personality in accordance with legal provisions, allowing for the use of various forms of preferential environmental protection financing, tailored to the needs of beneficiaries and for maximizing the impact on the environment;
- ✓ sources of income in accordance with legal provisions (a stable budget);
- ✓ developed cooperation principles with central government authorities, national governments and local managing authorities, as well as environmental NGOs;
- ✓ contact with international financial organizations;
- ✓ recovering (revolving) funding system.

➢ ***Implementation structure of local financial instruments in Latvia***

Latvian Environmental Investment Fund

The Latvian Environmental Investment Fund (the Fund) was established in 1997. The Ministry of Environmental Protection and Regional Development of Latvia holds 100% of the Fund shares.

The mission of the Fund is to reduce pollution by promoting projects for environmental protection and increasing the capacity of municipalities and commercial enterprises in the preparation and implementation of quality and efficiency projects from start to finish. Its activity is aimed at achieving the greatest possible improvement of the environment by investing resources in environmental infrastructure investment projects.

The Fund conducts its activities in support of commercial ventures of the private and public sector by attracting funding for the implementation of projects for the construction of environmental and business infrastructure. Since 2010 the Fund has overseen the implementation and post-implementation monitoring of projects financed by the climate change financial instrument (Climate change financial instrument – a green investment scheme, providing co-financing of around EUR 200 mln.).

Partners of the Fund include enterprises, utility providers, local authorities, associations and research centers.

As a partner in cross-border co-operation projects, the Fund provides:

- ✓ project management;
- ✓ transfer of knowledge, good practices and technologies;
- ✓ training and information events;
- ✓ communication management.

Main activities, exercised by the Fund are:

***Financial services** – lending, combining local and foreign financial resources in support of municipalities and companies in the implementation of environmentally friendly projects*

1998-2012	Loan agreement with the Nordic Environmental Finance Corporation (NEFCO – an international financial institution founded by the Nordic countries, which provides financing to countries like Russia, Ukraine, Estonia, Latvia, Lithuania and Belarus) of 3.5 mln euros allocated to municipalities for the implementation of projects in the water sector.
1999-2002	Loan agreement with the Phare programme of 2 mln euros for environmental infrastructure projects.

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2005-2008	Loan agreement with NEFCO of 3 mln euros (invested on a revolving principle three times in three years with a total investment of 9 mln euros) allocated to municipalities for the implementation of projects in the water sector, co-financed by the ERDF.
2010-2013	Loan agreement with NEFCO of 5 mln euros, allocated to municipalities for the implementation of projects in the water sector, co-financed by the ERDF.

***Project management** – raising funds for the implementation of environmental infrastructure projects and monitoring of the project implementation*

2003-2004	"Reconstruction of boiler rooms in promoting the passage of biomass" financing scheme, funded by UNDP (secured financing of USD 0.2 mln)
2003-2004	"Initiative for energy efficiency of housing in Latvia" programme, funded by the German Federal Ministry for the Environment, acting as the executive body of the Conservation of Nature and Nuclear Safety project (a loan of EUR 5 mln and a grant of EUR 2 mln)
2006-2008	"Ecological disposal of equipment containing PCBs (polychlorinated biphenyls)" project, co-funded by UNDP (co-financing of USD 0.7mln)
2010-2011	*"Demonstrating and promoting good practice in reducing waste from the health sector and prevent the release of dioxins and mercury"* project - co-funded by UNDP (co-financing of USD 0.6mln)

Monitoring the implementation of projects financed by the **Climate Change Financial Instrument** - *ensuring efficient use of the co-funding for project sustainability reducing carbon dioxide.*

2010-2015	The Fund monitors during and post-implementation of projects financed by the **Climate Change Financial Instrument** in the amount of EUR 200 mln.

Climate Change Fund (CCF) – a programme financed by the Latvian state budget

CCF aims to prevent global climate change, adapt to the effects of climate change and contribute to reducing greenhouse emissions (for example, by supporting energy efficiency of buildings in the public and private sector, develop and deploy energy production technologies from renewable sources, and apply integrated solutions to reduce greenhouse gas emissions).

Funding is provided by the proceeds from the sale of emission allowances traded under the Kyoto Protocol. The sale of emissions is possible because Latvia will not need the quotas provided, as under the control of the implementation of the Protocol for the period 2008-2012 a decrease in the levels since 1990 has been reported, and the potential surplus will amount to at least 40 million allowances. The use of all other allowances for other purposes such as the provision of allowances to corporations is not possible. The sale of allowances is possible provided that all income is invested in the development of Latvia. The decision, Latvia to participate in international emissions trading, was taken by the Council of Ministers in 2006.

The activity of CCF is governed by international agreements concluded for the sale of emission allowances, as well as by applicable legislation such as the Law on the participation of Latvia in the mechanisms under the Kyoto Protocol of 2007, Bylaw of the Advisory Board of the Council of Ministers for the Climate Change Financial Instrument, Decision of The Council of Ministers No. 644:

"Procedures for the implementation of projects financed by the Climate Change Financial Instrument, submission and consideration of reports on their implementation".

Conditions for financing

The Climate Change Fund grants loans for the implementation of projects under the following conditions:

- ✓ If the project implementation leads to excellent quantitative and qualitative improvement of the environment,
- ✓ If the project is financially viable, i.e. the funding provided covers project implementation costs and the project generates enough revenue to cover all operating expenses, including the payment of principal and interest on the loan.

The Fund finances environmentally friendly projects and supports municipalities and companies throughout the implementation of projects in the following areas:

- ✓ Improving the quality of drinking water
- ✓ Waste water purification
- ✓ Environmentally friendly heat production,
- ✓ Environmentally friendly production
- ✓ Insulation of buildings
- ✓ Utilization of waste
- ✓ Others

➢ ***Implementation structure of local financial instruments in the Republic of Croatia***

The Environmental Protection and Energy Efficiency Fund in the Republic of Croatia is structured as an extra-budgetary fund that finances projects in three main areas: environmental protection, energy efficiency and use of renewable energy

Established in 2003 by the Law on Environmental Protection and Energy Efficiency, the Fund is the first and only extra-budgetary fund which finances programmes and projects for environmental protection, energy efficiency and renewable energy. The Fund is a separate legal entity with the public authority to determine administrative action for penalties, registration fees, conditions that must be met by recipients of funding, and conditions for the allocation of resources.

Original rights and obligations are exercised by the Croatian Government, where the responsible ministers are the Minister of Environment and the Minister of Economy (Energy).

The Fund is liable for its activities to the extent of its assets. The Republic of Croatia has unlimited joint and several liability, without limitation, for the obligations of the Fund.

The Fund's main activity is:

Finance the preparation, development and implementation of programmes, projects and other initiatives in the field of:

- ✓ Environmental protection
- ✓ Waste management
- ✓ Energy efficiency and renewable energy

In addition to the energy efficiency field:

- ✓ Implementation of the energy efficiency policy in accordance with the Law on End-use energy efficiency.
- ✓ The Fund serves as a National Energy Efficiency Agency in cooperation with the Ministry of Economy, Labour and Entrepreneurship.
- ✓ A new role in the preparation and implementation of energy projects as an Intermediate Body for energy projects financed by EU Structural Funds

Sources of financing

The resources used for financing the activities of the Fund are provided in accordance with the "polluter pays" fees collected from persons statutory liable for the protection of the environment and the Law on energy efficiency, as well as from other sources, arising from special regulations, as follows:

- ✓ Fees charged under the Law on the Fund and the Waste Act
- ✓ Bilateral and multilateral cooperation agreements
- ✓ Income from the management of Fund resources
- ✓ Budgets of local and regional self-governing bodies in accordance with the joint implementation programs
- ✓ Grants

Specific fees used as a source of financing are:

- ✓ Pollution fees (carbon dioxide, sulfur dioxide and nitrogen dioxide emission taxes)
- ✓ Fees for waste disposal in the environment (non-hazardous and hazardous waste, industrial waste, special waste categories such as packaging, used tires, electrical and electronic equipment, oil, used vehicles, batteries)
- ✓ Environmental tax on motor vehicles.

Distribution of the Fund’s resources

On the basis of publicly announced proposal queries, the resources are spent on:

- ✓ Local and regional self-governing bodies;
- ✓ Legal and natural persons, who invest own money in projects which were publicly advertised.

The Fund does not publish project proposals when they, as a party to a contract, directly or co-participate in the implementation of the project.

Financing by the Fund may not exceed 40% of eligible investment costs,where exceptions are made for:

- ✓ Projects and programmes of regional and local authorities for:
  - Territories under special government protection – up to 80%
  - Islands and mountain regions – up to 60%
- ✓ National programmes and projects (approved by the government).

Resources are allocated in the form of:

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- Interest free loan – for a period of 7 years (2-year grace period, 5-year repayment period) of up to 190 000 euros.
- Interest subsidy – up to 2% of the interest rate and up to 108 000 euros.
- Financial aid only for local and regional bodies of up to 190 000 euros.
- Grant – for educational, scientific or development activities of up to 22 000 euros.

One of the main examples of the application of the policy for a green economy in Croatia is the creation of the Environmental Protection and Energy Efficiency Fund, based on the "polluter pays" principle, which is regulated in the Law on Environmental Protection: the polluter bears the costs arising from contamination of the environment, including the damage assessment costs, assessment of the necessary measures and costs of eliminating the damage to the environment. The polluter also bears the costs of environmental monitoring and implementation of prescribed measures to prevent pollution, whether these costs come from the prescribed environmental responsibility, such as emissions into the environment, or collected as a fee established by the appropriate financial instrument or an obligation under pollution reduction regulation.

The Fund has a key role in the greening of the Republic of Croatia economy by funding the preparation, implementation and development of programmes, projects and other activities, such as:

- Preservation, sustainable use, protection and improvement of the environment;
- Energy efficiency and use of renewable energy;
- Promoting the objectives and principles of environmental protection to achieve systematic and integrated environmental quality
- Conservation of natural resources and rational use of natural resources and energy as a fundamental prerequisite for sustainable development
- Exercise of civil rights for a healthy environment.

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4.2. Analysis of the financial instrument structure applied in the 2007-2013 period in the Environment Sector in Bulgaria – pros and cons

	Internal	External
Positive	**Strengths** EMEPA – experience in the evaluation of projects in both water and waste sectors. Experience in the management of funds from various sources including the CCD. FLAG – experience in the evaluation of projects in the water sector and assessment of the financial position of municipalities. NGF - experience in providing assurance and operation of commercial banks. Experience in assessing the financial situation of enterprises. Financial institution compliant with Bulgarian legislation.	**Opportunities** EMEPA - able to be used in the evaluation of projects applying for a financial instrument in both the waste sector and the water sector. FLAG – able to be utilized for a structure for evaluating projects that benefit communities. NGF - able to use the created structure to provide guarantees in the waste sector. Opportunity to create a new management structure for financial instruments under OP Environment.
Negative	**Weaknesses** EMEPA – lack of management capacity and reporting of financial instruments. Not a financial institution. FLAG – lack of experience in the evaluation of projects in the waste sector. Not a financial institution. NGF – lack of experience in the public sector. Their financial rating is lower than that of the international financial institutions.	**Dangers** EMEPA – risk of rejection by EC and international financial institutions to entrust their money to this structure. Uncertain outcome of the EC notification procedure for state aid. FLAG – risk of rejection by EC and international financial institutions to entrust their money to this structure. Uncertain outcome of the EC notification procedure for state aid. NGF - risk of rejection by EC and international financial institutions to entrust their money to this structure. Risk of lower financing provided by the commercial banks, compared to the one with a guarantee by an international financial institution with a credit rating of AAA. Uncertain outcome of the EC notification procedure for state aid.

4.3. Difficulties in the implementation of financial instruments - lessons learned

Regarding the main obstacles to the implementation of the financial instruments in the various stages of preparation and management, the following recommendations are to be considered:

In the course of planning:

- Avoiding competition with already established local instruments
- Avoiding competition with grants
- Ability to use already existing structures with a view to save time and usage of the accumulated capacity.

During the fund structuring and negotiation with partners

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- It is essential to strike a balance between public and private interests, which can be achieved only by consulting ESIF and partner banks.

During the selection of a fund manager

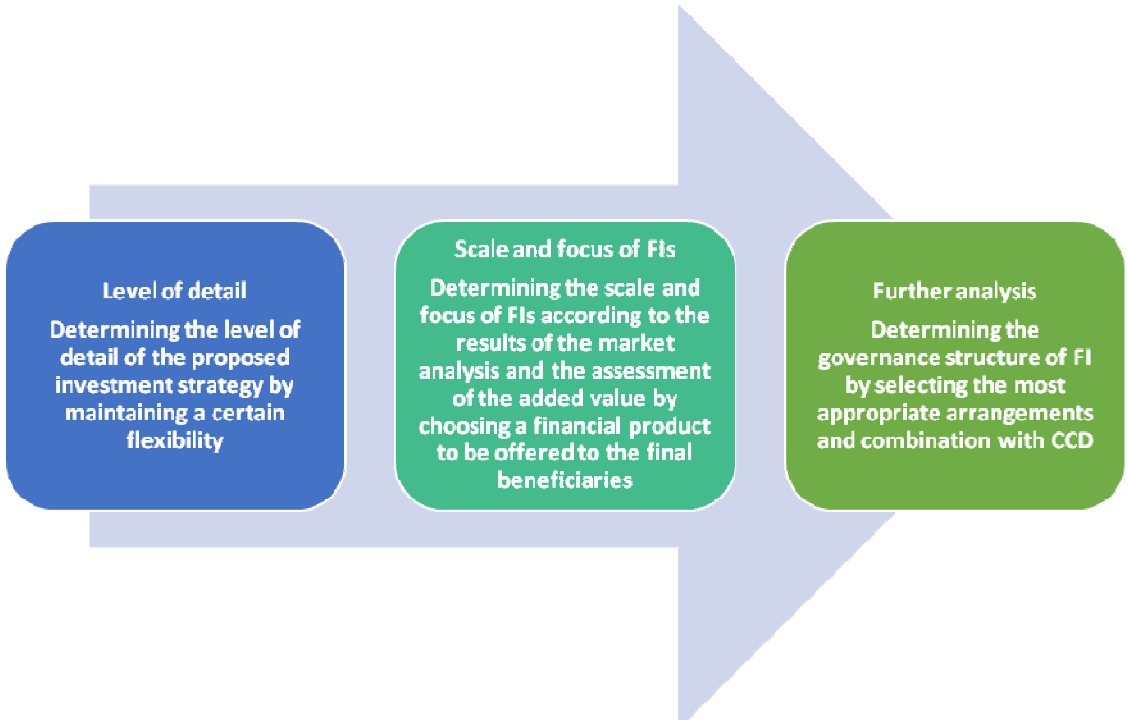
- It is essential to establish conditions for the future fund manager which would ensure not only his professional skills and experience, but also his financial situation and motivation. If elected by a contractor selection procedure, the fund manager could be asked to provide additional funding. In the absence of a holding fund, it would be difficult for a Bulgarian partner bank to contribute at a fund level, due to the limitations set by the laws on the activities of international financial institutions, their internal rules, etc.

During the preparation of the funding programme:

- Do not allow the creation of a closed financial mechanism that does not allow change of financial instruments in the course of the implementation process.
- Avoid the risk of gaps in coordination with the state aid regulations.
- Comply with the measures and capacity and motivation of the end users, in order to provide technical assistance if needed.
- It is good to create a working group of experts with different profiles, in order to ensure compliance of both legal and technical matters.

5. Investment strategy proposal

The investment strategy proposal is to be carried out based on the following steps:



The current investment strategy is part of the design stage of the financial instruments and consists of a strategic policy proposal, which the MA and the Ministry of Finance will decide to apply.

Decisions made based on this report will lay the foundation for the implementation of financial instruments in the next stages of the process - namely, the creation of financial instruments and the preparation of the investment strategy by the Holding Fund Manager or the Fund Manager, as well as the implementation of financial instruments in connection with structuring the investment portfolio and the financial model for the projects. After application of the instruments the MA should provide for the stage of fund recycling.

5.1. Adequate financial instruments according to identified needs in the environmental sector for 2014–2020 period

Based on the market analysis, the added value and the expected leverage effect is detailed under item 1, item 2 and item 3 of this report, as well as the discussed best practices and the lessons learned in item 4, problems in the Water sector and the Waste sector, whose solution can be facilitated by the application of specific financial instruments, are identified. Recommended is the use of the following financial instruments that will contribute to achieving the targets of the Operational Programme and the strategic objectives at national and European level.

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Planned under the OPE	Problems that can be addressed through financial instruments	Solutions to the problems	Appropriate instruments for problems' solution	Structuring of financial instruments
Priority Axis 1 Water 10% of funds from ESIF shall be set aside for financial instruments	Weak financial viability and inefficiencies impede WSS companies to finance and implement large-scale programs for capital investments that are necessary to achieve compliance requirements and the necessary long-term levels of service. Projects in the WSS sector as a whole are of significant value. Most investments are repaid very slowly, and some of them are practically not recovered. At the same time, the available grant funding is insufficient to cover the investment needs. Insufficient in the implementation of projects is the participation of operators who collect revenue directly from WSS services, but that implies lack of capacity within their structures.	A financial instrument shall be applied through which WSS companies will be able to provide most of the necessary co-financing of projects under preferential conditions. The introduction of a financial instrument in the sector will allow WSS operators to use a credit resource which they do not have access to on a market-based principle due to their comparatively weak financial performance arising from the regulation of the sector. Thus conditions can be created for at least partially filling the financial gap and for disciplining the sector as a whole. Structuring of a financial instrument involving international financial institutions and providing technical assistance to final beneficiaries in implementing the investment will attract the capacity of banking institutions for more effective management of financial resources. Following the ex-ante assessment of the financial status of the WSS companies for the purpose of structuring the financial portfolio of the	A loan to finance the costs of the final recipients for co-financing of the projects in the sector. In order the so-called leverage effect be increased, and considering the fact that the banking system in the country is with enough liquidity, it is possible parallel financing to be provided by creating a security mechanism.	25 % of the grant along a PA on measures for construction, rehabilitation and modernization of WSS infrastructure shall be set aside for a financial instrument. The same can be invested in a fund for sustainable investment in the WSS sector in the form of subordinated capital in order to attract funding from international financial institutions. The funds are provided as a loan directly to the final beneficiaries and / or as a guarantee of additional funding by commercial banks. Expected leverage effect of international financial institutions 1:4. Expected leverage effect of commercial banks by a guarantee mechanism 1:5.

		projects will be identified measures to improve the capacity of final beneficiaries in the long term.		
Priority axis 2 Waste 10% of ESIF funds to be allocated to financial instruments	While there has been entry of private operators in the sector, the waste management measures are for the most part still carried out mainly by the municipalities in the form of public services, leading to inefficient use of resources. Entering the business sector is partially limited by legal restrictions in the TDA and other regulations, which makes investment schemes underperforming.	By creating incentives for the private sector to enter more actively in the activities in Waste management one can address the lack of an effective connection between the waste owners (municipalities) and the subject that could utilize it (the business), and both sides could earn revenue from it.	A guarantee mechanism to support access to finance for private and municipal enterprises for waste management projects along the lines of the existing security mechanism for SMEs.	10% of grants under PO for FIs spent on measures to build waste re-use centres, composting facilities for biodegradable and/or green waste, sites and facilities for the pre-treatment of waste. The same can be invested in a guarantee fund to grant guarantees to commercial banks that finance SMEs. Expected leverage effect of international financial institutions 1:5 and from other sources 1:2,6.

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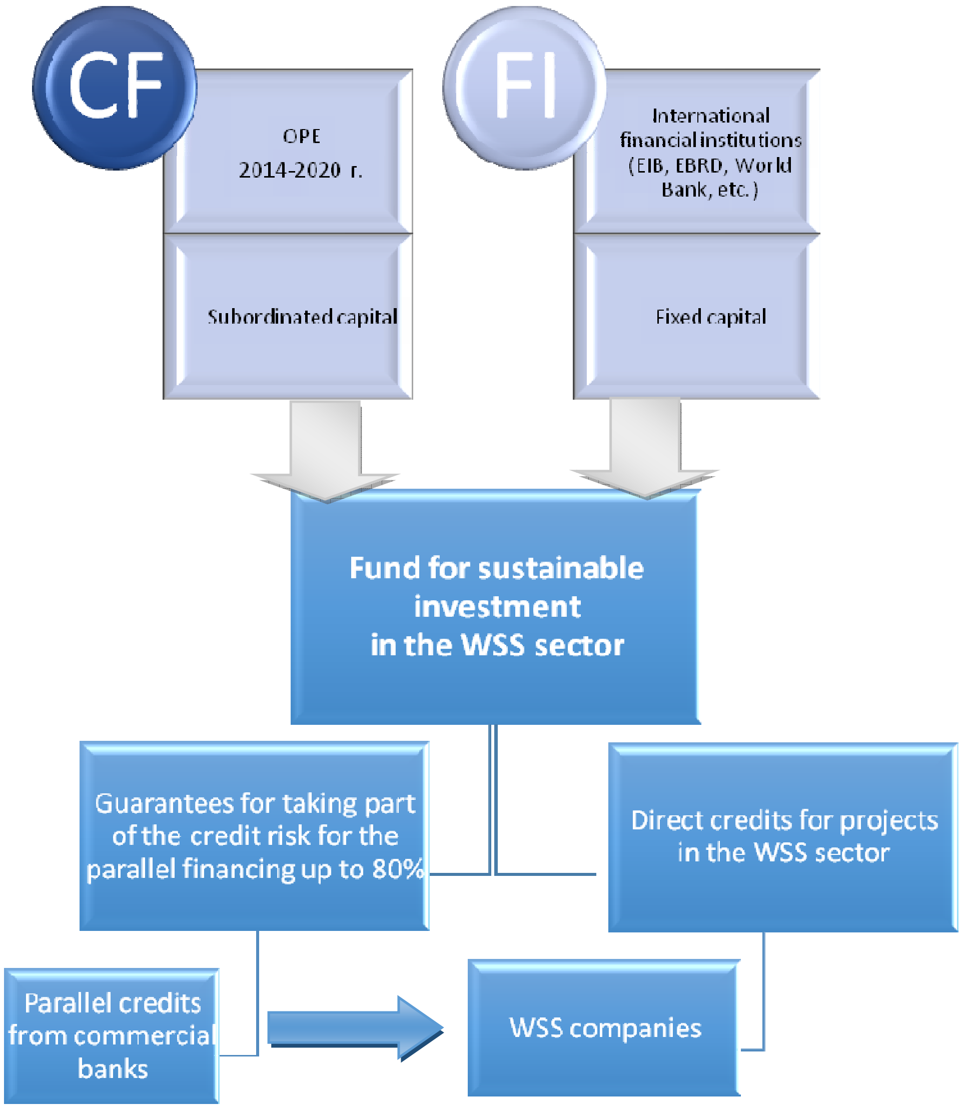
In addition to subsidizing the costs on loans or guarantees, the ESIF resources can be used as risk buffers to cover the first losses (first-loss mechanism), which provide the revenue generated for the recovery of capital provided by international financial institutions and private investors. In such a structure, tranches of capital with different levels of risk are created, where the first loss can be covered by the means of ESIF and the next – by the international financial institutions and commercial banks / partner banks. In such a repayment mechanism the first contributions are used to repay the capital, and the last installment covers the subordinated capital. The use of concession resources within this structure enables the attraction of additional commercial tools and be used on a large scale for the purposes of the programme. The tranches of funds from ESIF will provide for the participation of investors who are not willing to take the appropriate levels of risk.

5.1.1. Types of financial instruments by priority axes

As a result of the analyzes in the first part of the report and the conclusions on adequate financial instruments that can be used to solve problems under the relevant priorities, presented in item 5.1. above, the use of loans and guarantees under Priority Axis 1 and guarantees under Priority Axis 2 is recommended. The same should be implemented through the establishment of a Fund for sustainable investment in the WSS sector and a Guarantee fund for projects in the Waste sector, the reasons for which are set forth in the rest of item 5 "Proposal for an investment strategy."

Fund for sustainable investment in the WSS sector



On Axis 1 Water the establishment of a fund for sustainable investment in the WSS sector is planned, which shall provide two types of financial instruments – loans for the implementation of investment projects for the construction, rehabilitation and modernization of WSS infrastructure, taking into account Regional Master Plans and River Basins Management Plans targeting agglomerations with over 10 000 PE and guarantees to secure the financing of the same provided by commercial banks in the event that they are sufficiently liquid and can provide parallel financing at the appropriate amount.

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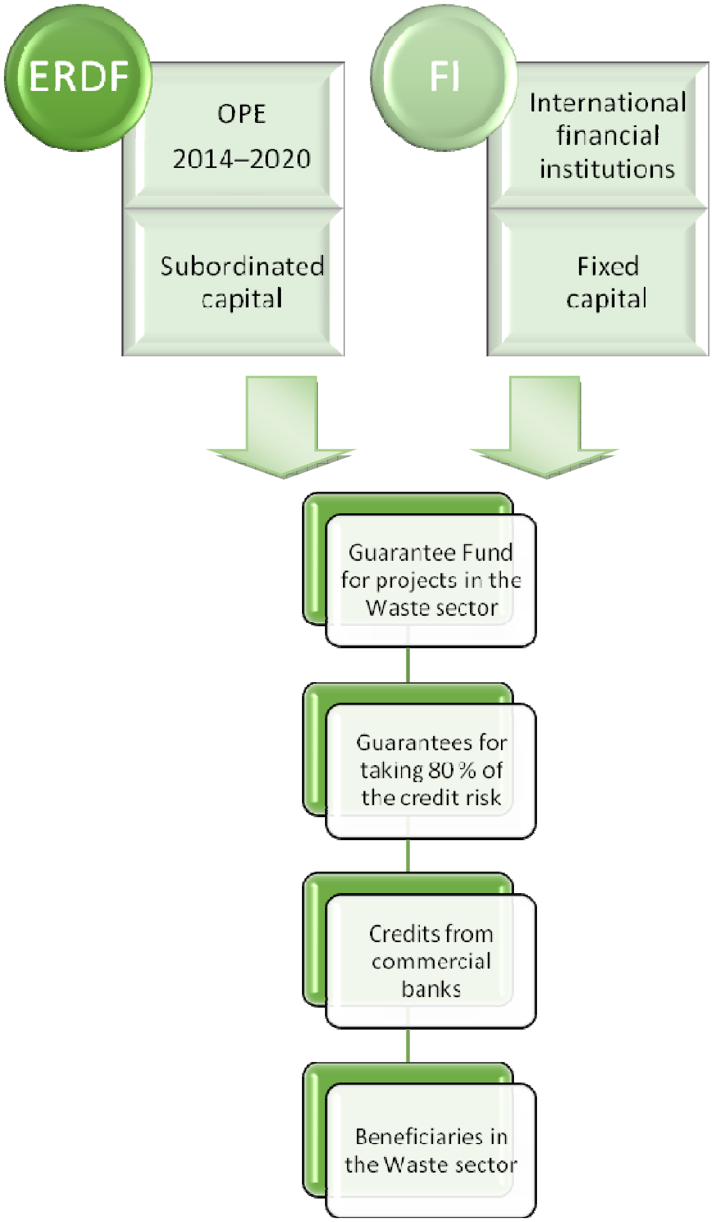
Guarantee Fund for projects in the Waste sector



Under Priority Axis 2 the creation of a Guarantee Fund is planned in order to provide guarantees against which the commercial banks to finance the private sector and municipal enterprises to realize the investment in design and construction of centers for recycling and re-use of household waste, construction of composting plants biodegradable and / or green waste, sites and facilities for pre-treatment of household waste.

5.1.2. Opportunities to attract resources from international financial institutions for funding the Environment Sector

Possible approaches to resolving key issues, related to attracting resources are:

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1. Sources of funding
   - ✓ One possibility is to seek resources for targeted funding for environmental protection projects (mainly) by the following international financial institutions – European Investment Bank (EIB), Council of Europe Development Bank (CEB), the World Bank, European Bank for Reconstruction and Development (EBRD), Nordic Investment Bank (NIB), Black Sea Trade and Development Bank (BSTDB), Japanese Bank for International Cooperation (JBIC).
   - ✓ Another possible approach to ensure funding is to target issuance of bonds for project financing in the area of environment.
2. In terms of attracting resources from IFIs it is important to specify:
   - under what conditions they would provide resources – price – interest rate and additional fees and commissions, purpose of financing, collateral, other specific requirements;
   - what type of projects and Beneficiaries (SMEs, large enterprises, municipalities) need funding
3. Possible initiator of attracting financial resources:
   - The Bulgarian state - of institutions in which Bulgaria is a shareholder - EIB, CEB, BSTDB, as well as KfW, JBIC and SIB with which Bulgaria has very good relations; it would be much easier to obtain funds. The initiative for this approach may come from the Ministry of Finance or the Ministry of Environment and Water.
4. Different ways of financing are possible:
   - In terms of sources of funding, only one source or a combination of sources can be used from a funding resource granted by several institutions under predetermined conditions;
   - In terms of the product, it is possible to finance separate major projects or a particular programme, which finances specific type of projects and Beneficiaries - plumbing projects only, for example.

An important element to increasing financial resources for the purpose of the programme is to spark the interest of commercial banks to provide additional funds (leverage).

Depending on the specific situation of the financial markets one could apply a combination of different resources, which is the more appropriate approach in terms of insufficient liquidity and risk sharing, using warranties and / or co-financing.

To date, Bulgarian banks have good liquidity and their preferred support is risk sharing through warranties. Therefore, there is a high interest in guarantee schemes, and lending funds for projects of beneficiaries are provided by the banks. The situation may change during the programme period, it is therefore appropriate to also provide methods to ensure liquidity.

5. The size of funding and availability of state guarantee - It is possible that some international financial institutions (KfW, CEB) demand full or partial state guarantees for financing. This would require initiating an immediate search for resources to enable the provision of security to be included in the state budget for 2015, which is voted in at the end of the previous year, i.e. 2014. Alternatively, a proposal for such a guarantee can be made in the procedure for preparation of Budget 2016.

During the market survey several international financial institutions were interviewed - namely the World Bank, EBRD and EIF. Having the policies of each organization in mind, the following specific scenarios can be outlined:

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World Bank – it can provide funding for the Water sector. They are the ones behind the National strategy for water sector management and development in Bulgaria, a task given by the Ministry of Regional Development.

EBRD – is interested in financing the Water sector. Has experience in the financing of individual water supply operators and infrastructure projects, as well as the financing and management of the FLAG Fund.

EIB – its policy is aimed at financing small and medium businesses, as well as business as a whole. Would therefore finance the Water sector. Can provide financing for the creation of a fund to provide resources to private companies or PPPs in the Waste sector.

In the process of structuring of the fund it is a good idea to invite the other international financial institutions, in order to discuss the best possible conditions to achieve the aims of the specific financial instruments.

5.2. Target group of final recipients and opportunities for combining financial instruments with other forms of support, including technical assistance and grants.

The market analysis outlines several key groups of beneficiaries who need to gain financial instruments in order to neutralize or reduce the effects of market failures and suboptimal investment situations.

Water sector

In addressing market failures in the WSS sector the need to provide additional funds above the amount of the grant for the implementation of planned investments of the Wss operators, is outlined. Although the assets will be owned by the municipalities and the state after the implementation of the reform in the WSS sector, according to a schedule adopted by the government on writing off the assets in accordance with the Water Sector Development Strategy, banks identify WSS operators as the main recipient of funds. The reason for this is their role like a cash flow controlling player who is directly responsible for the collection of user fees from citizens.

In the WSS sector the market is segmented into three main groups of operators:

1. Operators who could draw out a credit on a market principle to supplement investment gap of compliance with legal requirements.
2. Operators who are in the middle segment and are characterized by relatively good creditworthiness (according to data from the Comparative analysis of the WSS sector, prepared by the Regulator in connection with the approval of business plans and analysis of the WSS operators to the National Development and Management Strategy for the Water sector), but have a problem with market-based financing due to insufficient stable financial performance.
3. Operators who are in poor financial condition and could noither get funding on a market principle nor does it make sense to be funded by a financial instrument.

WSS operators' market segments clearly show the basic need of a financial instrument, namely in the middle segment in which operators have a positive financial flow, but at the same time it is not sufficiently stable to afford financing under market conditions.

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During the previous programming period, beneficiaries on Axis 1 , Waters, under the OP "Environment 2007–2013" are the municipalities at whose territory are WSS services provided and whose assets are the water supply and sewerage network. The WSS operators have been associated partners under projects, and in the team of each one of the funded projects there has/ve been a representative/s of the WSS operator. This has enabled the operators partially to accumulate knowledge and experience in management of investment projects financed by EU funds. Municipalities gained primary experience, which in turn leads to the question – is it not more logical the projects to be implemented by them and this way they are the recipients of the financial instrument in the period 2014–2020. The answer to this question comes from the results of the market analysis and the opinion of the stakeholders. On one hand, municipalities and the state in their capacity as owners of assets (even in the future after the implementation of the National Strategy on the management and development of the Water sector) have gained experience in project management in 2007–2013 period. On the other hand however, to be able to pay back the funds from the additional funding received in the form of a financial instrument, they should use consumption fees. The collection of fees is responsibility of the WSS operators. If the WSS operators are involved in the disbursement of funds received by municipalities, through the signing of a tripartite agreement among the funding institution, the municipality and the WSS operator respectively, a collision will arise with the role of the WSS association. Why? According to the National Strategy for the development and management of the Water sector and the adopted Water Act, WSS associations have been created. After the transfer of assets from the WSS companies to municipalities and the state, these associations must sign contracts with operators on WSS assets management and provision of WSS services. Therefore, the contractual relationship is shifted from the state and municipalities to the associations which, according to Art. 198v, para. 4 under the Water Act, have the following functions:

- ✓ determine the WSS operator under this Act or choose a WSS operator under the Law on Concessions;
- ✓ adopt a decision on concluding the contract on behalf of the owner of the WSS system with the WSS operator for the award of the activities related to providing the WSS service and maintenance of the WSS systems, including for the assumption of financial liabilities by the WSS operators, and monitor the implementation of the contract .

In this situation, municipalities have no direct relationship with operators, i.e. for possible relationships during the implementation of projects for investment in WSS infrastructure, the relationship should be maintained.

In its version of June 2014 the OPE 2014–2020 envisages beneficiaries of the investment measures under the program in the Water sector to be Municipalities, WSS Associations and WSS operators. However, economic logic shows that beneficiaries of funds under the OPE, including financial instruments, should be the WSS companies as they are the legal entities collecting revenues from WSS services. This has also been confirmed by the European Commission; in its official comments of August 2014 on the text of the OP it is stated that "in view of their technical capacity and responsibility to meet the requirements for discharge, as well as the increase in tariffs, beneficiaries of investments in WSS infrastructure financed by the OPE should be the consolidated regional WSS companies".

The determination of the final beneficiaries of financial instruments should be made on the basis of analysis of the key financial indicators of the operators of WSS services. Such an analysis has been

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carried out for the purposes of the National Water Sector Management and Development Strategy (NWSMDS) in Bulgaria, and the results are summarized as follows:

- ✓ **Indicators of profitability**

Profitability indicators are also considered as indicators of incomes or return. They are used to establish the efficiency of resources' utilization or revenue of the companies. The profitability factors are positive quantities when the financial result is profit, and negative ones when the financial result is loss. In the analysis of the WSS companies' profitability the following parameters have been used:

$$\text{Profitability factor of sales revenue} = \frac{\text{Financial result}}{\text{Net amount of sales revenue}}$$

The values of the indicator for the analyzed WSS companies for the period 2007–2009 are presented in the following table:

Table 29. Profitability factor of sales revenue

	2007	2008	2009
Small WSS companies (17)	-0,0661	-0,1064	-0,1200
Medium-sized WSS companies (15)	0,0109	0,0346	0,0359
Large WSS companies (13)	-0,0805	-0,0398	-0,0200
Very large WSS companies (11)	0,0415	0,1349	0,1547
Total of WSS companies (56)	**0,0063**	**0,0775**	**0,1014**

$$\text{Own capital profitability factor} = \frac{\text{Financial result}}{\text{Own capital}}$$

The values of the indicator for the analyzed WSS companies for the period 2007–2009 are presented in the following table:

Table 30. Profitability factor of the own capital

	2007	2008	2009
Small WSS companies (17)	-0,1106	-0,2455	-0,2852
Medium-sized WSS companies (15)	0,0082	0,0242	0,0291
Large WSS companies (13)	-0,0730	-0,0403	-0,0211
Very large WSS companies (11)	0,0515	0,1599	0,2134
Total of WSS companies (56)	**0,0068**	**0,0833**	**0,1246**

$$\text{Capitalization factor of assets} = \frac{\text{Financial result}}{\text{Amount of real assets}}$$

where:

Real assets = LTA + ShTA – Short-term liabilities

The values of the indicator for the analyzed WSS companies for the period 2007–2009 are presented in the following table:

Table 31: Capitalization factor of assets

	2007	2008	2009
Small WSS companies (17)	-0,0730	-0,1587	-0,2253
Medium-sized WSS companies (15)	0,0074	0,0248	0,0277
Large WSS companies (13)	-0,0474	-0,0264	-0,0145
Very large WSS companies (11)	0,0285	0,0899	0,1158
Total of WSS companies (56)	**0,0042**	**0,0525**	**0,0764**

✓ **Efficiency indicators**

Efficiency indicators are quantitative characteristics of the ratio between income and expenses of the enterprise. They reveal what economic effects companies realize by using unit costs or unit revenues. Efficiency indicators used in the analysis are:

$$\mathit{Income\ efficiency\ factor} = \frac{\mathit{Total\ of\ expenditure}}{\mathit{Total\ of\ incomes}}$$

The values of the indicator for the analyzed WSS companies for the period 2007–2009 are presented in the following table:

Table 32: Income efficiency factor

	2007	2008	2009
Small WSS companies (17)	1,0478	0,9742	0,9361
Medium-sized WSS companies (15)	0,8820	0,8986	0,8908
Large WSS companies (13)	0,8974	0,8871	0,8761
Very large WSS companies (11)	0,8779	0,8213	0,8202
Total of WSS companies (56)	**0,8862**	**0,8480**	**0,8406**

$$Expenditure\ efficiency\ factor = \frac{Total\ of\ incomes}{Total\ of\ expenditure}$$

The values of the indicator for the analyzed WSS companies for the period 2007–2009 are presented in the following table:

Table 33: Expenditure efficiency factor

	2007	2008	2009
Small WSS companies (17)	0,9544	1,0264	1,0682
Medium-sized WSS companies (15)	1,1338	1,1128	1,1226
Large WSS companies (13)	1,1143	1,1272	1,1414
Very large WSS companies (11)	1,1391	1,2176	1,2192
Total of WSS companies (56)	**1,1285**	**1,1793**	**1,1896**

✓ **Indicators of financial stability / autonomy**

The indicators of financial autonomy give quantification of the degree of financial independence of the company from creditors. They show the ratio between equity and total amount of all sources of funding for the company.

$$Financial\ autonomy\ factor = \frac{Own\ capital/Equity}{Liabilities}$$

The values of the indicator for the analyzed WSS companies for the period 2007–2009 are presented in the following table:

Table 34: Financial autonomy factor

	2007	2008	2009
Small WSS companies (17)	0,5503	0,4834	0,4004
Medium-sized WSS companies (15)	0,7182	0,8189	0,8326
Large WSS companies (13)	0,5711	0,5543	0,5588
Very large WSS companies (11)	0,4571	0,4451	0,4247
Total of WSS companies (56)	0,5153	0,5070	0,4866

$$Indebtedness\ factor = \frac{Liabilities}{Own\ capital/Equity}$$

The values of the indicator for the analyzed WSS companies for the period 2007–2009 are presented in the following table:

Table 35 Indebtedness factor

	2007	2008	2009
Small WSS companies (17)	1,8171	2,0685	2,4974
Medium-sized WSS companies (15)	1,3923	1,2211	1,2011
Large WSS companies (13)	1,7511	1,8040	1,7894
Very large WSS companies (11)	2,1877	2,2468	2,3545
Total of WSS companies (56)	**1,9405**	**1,9726**	**2,0551**

- ✓ **Liquidity indicators**

Liquidity indicators show the company's potential to pay back its current obligations. Liquidity of the WSS companies has been investigated by the following indicators:

$$\textit{Total liquidity factor} = \frac{\textit{Short-term assets}}{\textit{Short-term liabilities}}$$

The values of the indicator for the analyzed WSS companies for the period 2007–2009 are presented in the following table:

Table 36: Total liquidity factor

	2007	2008	2009
Small WSS companies (17)	1,4256	1,2295	0,7684
Medium-sized WSS companies (15)	1,1328	1,4471	1,7490
Large WSS companies (13)	2,0273	1,7568	1,5426
Very large WSS companies (11)	1,4109	1,3716	1,2666
Total of WSS companies (56)	**1,5007**	**1,4579**	**1,3463**

$$\textit{Immediate liquidity factor} = \frac{\textit{Short-term receivables} + \textit{cash}}{\textit{short-term liabilities}}$$

The values of the indicator for the analyzed WSS companies for the period 2007–2009 are presented in the following table:

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Table 37: Immediate liquidity factor

	2007	2008	2009
Small WSS companies (17)	1,0156	0,7346	0,6012
Medium-sized WSS companies (15)	0,9284	1,1905	1,4814
Large WSS companies (13)	1,7723	1,5200	1,3479
Very large WSS companies (11)	1,1870	1,1511	1,0718
Total of WSS companies (56)	**1,2697**	**1,2255**	**1,1478**

The main conclusions that have been derived as a result of the analysis are:

- ✓ Small and large companies fail to profit of their earnings.
- ✓ Small WSS companies are in a disadvantage compared with other operators in terms of revenue efficiency.
- ✓ Tha factor of cost efficiency shows an improvement in the financial results for the medium, large and very large WSS companies, while for the small companies there is little deterioration of values.
- ✓ The total liquidity factors of the analyzed WSS companies are above 1, indicating the ability of companies to repay their short-term obligations at once.
- ✓ Middle-scaled WSS companies have the best values of immediate liquidity, but with the other three groups the current values of the coefficient are also favorable.

Hence:

1) **Potential beneficiaries of the financial instruments can be all WSS companies of the categories: medium, large and very large (total 39 in number) and part of the WSS companies could use the loan financing on the market principle.**

2) **The final decision to fund WSS operators through financial instruments and the scale of their use should be taken based on specific project after the preparation of a separate "cost–benefit" analysis / financial analysis with sensitivity and risk analysis, incl. An assessment of the affordability of tariffs for WSS services for different funding schemes through a combination of grant funding and loan and / or own resource.**

Waste Sector

OPE 2014-2020 foresees Municipalities and Legal entities for commercial purposes (LECP) to be the beneficiaries of investment measures in the Waste sector programme. As a result of the market analysis, including surveys and interviews among stakeholders two types of LECP were identified - companies registered under the Commercial Code and municipal enterprises established under the Municipal Property Act.

Determining the final beneficiaries of the financial instruments in the Waste sector needs to be done by analyzing the main financial indicators of the respective user.

The Ministry of Finance has developed a methodology for periodic evaluation of municipalities, their financial independence and the financial performance of their activities[112]. The assessment is done with view to:

- ✓ achieve better control at a local level;
- ✓ achieve better management of public resources at a local level;
- ✓ achieve greater transparency in their activity;
- ✓ adopt decisions on incentives;
- ✓ increase control at a local level.

The overall assessment is based on ranking the municipalities by calculating the arithmetic average of the four groups of indicators: 1) financial autonomy indicators; 2) financial sustainability indicators; 3) performance indicators; and 4) investment activity indicators. The weight of each of the indicators in the overall assessment of the municipality depends on their individual characteristics.

The grouping of the municipalities is done through summarized and weighted indicators within the following ranges:

- ✓ above 80 p. – **group 1**;
- ✓ between 60 p. and 79.9 p. – **group 2**;
- ✓ between 40 p. and 59.9 p. – **group 3**;
- ✓ between 20 p. and 39.9 p. – **group 4**;
- ✓ under 20 p. – **group 5**.

Each group provides a general description of the state of the municipality in terms of financial independence, sustainability and efficiency:

Group 1: Financially predictable and well-balanced

As regards the budget management, this category of municipalities is characterized by high fiscal autonomy and ability to cover its costs through its own funds. The level of transparency and reliability of financial information is high and is associated with timely, comprehensive and well-controlled financial statements.

Group 2: Balanced

This category of municipalities differs from Group 1 in the balancing of revenue and expenditure, namely that one can find short-term fluctuations in the ratio of the balance sheet. However, municipalities in this group follow a prudent fiscal policy.

Group 3: In development

The revenues of the municipality as a whole are insufficient to cover the needs of infrastructure development, leading to the accumulation of moderate debt within the municipality. The level of transparency and reliability of financial information is good, although the financial statements may not be as detailed and complete as compared to the previous two groups.

Group 4: In consolidation

The costs in this category are not fully covered by the revenues of the municipality. It is possible that the accumulation of debt threaten the fiscal policy. The level of transparency of the financial information is low, control and monitoring are not timely. Risk management methodology could be improved.

[112] Source: Ministry of Finance - http://www.minfin.bg/bg/page/810

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Group 5: Unbalanced

Costs in this category are not fully covered by the revenues of the municipality, leading to poor financial results. Emerging trends of debt growth, as well as arrears in the medium and long term. The high level of debt figures and arrears might be due to abuses of the law, ineffective internal control system, inefficient use of financial resources, delayed payment of debt and obligations to suppliers.

For better parallel municipalities are also grouped in categories and compared on the basis of population:

- ✓ first category – Sofia, Plovdiv, Varna;
- ✓ second category – cities with population over 50 000;
- ✓ third category – cities with population between 20 000 and 49 999;
- ✓ fourth category – cities with population between 6 000 and 19 999;
- ✓ fifth category – cities with population under 6 000.

The results of the evaluation of municipalities' financial situation at the end of 2012 are presented in the following table:

Table 38: Evaluation of municipalities by degree of financial sustainability at the end of 2012

№	Municipalities		Final evaluation on all indicators
	Name	Category by population	Group 31.12.2012
1	**CHELOPECH**	5	1
2	**NESSEBAR**	3	2
3	**SHABLA**	5	2
4	**CHAVDAR**	5	2
5	**BANSKO**	4	3
6	**BLAGOEVGRAD**	2	3
7	**PETRICH**	2	3
8	**RAZLOG**	3	3
9	**SANDANSKI**	3	3
10	**AYTOS**	3	3
11	**BURGAS**	2	3
12	**KAMENO**	4	3
13	**KARNOBAT**	3	3
14	**POMORIE**	3	3
15	**PRIMORSKO**	4	3
16	**RUEN**	3	3

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17	SOZOPOL	4	3
18	SREDETS	4	3
19	SUNGURLARE	4	3
20	TSAREVO	4	3
21	AVREN	4	3
22	AKSAKOVO	3	3
23	BELOSLAV	4	3
24	BYALA	5	3
25	VARNA	1	3
26	VETRINO	5	3
27	DEVNYA	4	3
28	PROVADIYA	3	3
29	SUVOROVO	4	3
30	VELIKO TARNOVO	2	3
31	GORNA ORYAHOVITSA	3	3
32	ZLATARITSA	5	3
33	PAVLIKENI	3	3
34	POLSKI TRAMBESH	4	3
35	SVISHTOV	3	3
36	STRAZHITSA	4	3
37	VRATSA	2	3
38	KOZLODUY	3	3
39	HAYREDIN	5	3
40	GABROVO	2	3
41	SEVLIEVO	3	3
42	TRYAVNA	4	3
43	GENERAL TOSHEVO	4	3
44	DOBRICH	2	3
45	DOBRICH – RURAL	3	3
46	KAVARNA	4	3
47	TERVEL	4	3
48	APRILTSI	5	3
49	LETNITSA	5	3
50	LUKOVIT	4	3
51	TROYAN	3	3
52	UGARCHIN	4	3
53	VALCHEDRAM	4	3
54	MEDKOVETS	5	3
55	MONTANA	2	3
56	PANAGYURISHTE	3	3
57	STRELCHA	5	3

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58	BREZNIK	4	3
59	PERNIK	2	3
60	TRAN	5	3
61	GULYANTSI	4	3
62	DOLNA MITROPOLIYA	3	3
63	ISKAR	4	3
64	LEVSKI	4	3
65	NIKOPOL	4	3
66	PLEVEN	2	3
67	PORDIM	4	3
68	KNEZHA	4	3
69	ASENOVGRAD	2	3
70	BREZOVO	4	3
71	KALOYANOVO	4	3
72	MARITSA	3	3
73	PLOVDIV	1	3
74	RAKOVSKI	3	3
75	RODOPI	3	3
76	SADOVO	4	3
77	STAMBOLIYSKI	3	3
78	SAEDINENIE	4	3
79	KUKLEN	4	3
80	ZAVET	4	3
81	ISPERIH	3	3
82	KUBRAT	4	3
83	RAZGRAD	2	3
84	SAMUIL	4	3
85	BOROVO	4	3
86	VETOVO	4	3
87	DVE MOGILI	4	3
88	IVANOVO	4	3
89	RUSSE	2	3
90	SLIVO POLE	4	3
91	TSENOVO	5	3
92	ALFATAR	5	3
93	SILISTRA	2	3
94	SITOVO	5	3
95	TUTRAKAN	4	3
96	NOVA ZAGORA	3	3
97	SLIVEN	2	3
98	TVARDITSA	4	3

99	SOFIA MUNICIPALITY	1	3
100	BOZHURISHTE	4	3
101	BOTEVGRAD	3	3
102	GODECH	5	3
103	GORNA MALINA	4	3
104	DOLNA BANYA	5	3
105	ELIN PELIN	3	3
106	ETROPOLE	4	3
107	ZLATITSA	5	3
108	IHTIMAN	4	3
109	KOPRIVSHTITSA	5	3
110	KOSTENETS	4	3
111	KOSTINBROD	4	3
112	MIRKOVO	5	3
113	SAMOKOV	3	3
114	SVOGE	3	3
115	SLIVNITSA	4	3
116	BRATYA DASKALOVI	4	3
117	GALABOVO	4	3
118	KAZANLAK	2	3
119	RADNEVO	3	3
120	STARA ZAGORA	2	3
121	CHIRPAN	3	3
122	TARGOVISHTE	2	3
123	DIMITROVGRAD	2	3
124	LYUBIMETS	4	3
125	MINERALNI BANI	5	3
126	SIMEONOVGRAD	4	3
127	HARMANLI	3	3
128	HASKOVO	2	3
129	VARBITSA	4	3
130	KAOLINOVO	4	3
131	KASPICHAN	4	3
132	SHUMEN	2	3
133	BOLYAROVO	5	3
134	ELHOVO	4	3
135	STRALDZHA	4	3
136	TUNDZHA	3	3
137	YAMBOL	2	3
138	BELITSA	4	4
139	GOTSE DELCHEV	3	4

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140	GARMEN	4	4
141	KRESNA	5	4
142	SATOVCHA	4	4
143	SIMITLI	4	4
144	HADZHI DIMOVO	4	4
145	YAKORUDA	4	4
146	MALKO TARNOVO	5	4
147	VALCHI DOL	4	4
148	DOLNI CHIFLIK	4	4
149	DALGOPOL	4	4
150	ELENA	4	4
151	LYASKOVETS	4	4
152	SUHINDOL	5	4
153	BELOGRADCHIK	4	4
154	BOYNITSA	5	4
155	BREGOVO	5	4
156	VIDIN	2	4
157	GRAMADA	5	4
158	DIMOVO	4	4
159	KULA	5	4
160	MAKRESH	5	4
161	NOVO SELO	5	4
162	RUZHINTSI	5	4
163	CHUPRENE	5	4
164	BOROVAN	5	4
165	BYALA SLATINA	3	4
166	KRIVODOL	4	4
167	MEZDRA	3	4
168	MIZIYA	4	4
169	ORYAHOVO	4	4
170	ROMAN	4	4
171	DRYANOVO	4	4
172	BALCHIK	3	4
173	KRUSHARI	5	4
174	ARDINO	4	4
175	DZHEBEL	4	4
176	KIRKOVO	3	4
177	KRUMOVGRAD	4	4
178	KARDZHALI	2	4
179	MOMCHILGRAD	4	4
180	CHERNOOCHENE	4	4

181	BOBOV DOL	4	4
182	BOBOSHEVO	5	4
183	DUPNITSA	3	4
184	KOCHERINOVO	5	4
185	KYUSTENDIL	2	4
186	NEVESTINO	5	4
187	RILA	5	4
188	SAPAREVA BANYA	4	4
189	TREKLYANO	5	4
190	LOVECH	3	4
191	TETEVEN	3	4
192	YABLANITSA	4	4
193	BERKOVITSA	4	4
194	BOYCHINOVTSI	4	4
195	BRUSARTSI	5	4
196	VARSHETS	4	4
197	GEORGI DAMYANOVO	5	4
198	LOM	3	4
199	CHIPROVTSI	5	4
200	YAKIMOVO	5	4
201	BATAK	4	4
202	BELOVO	4	4
203	BRATSIGOVO	4	4
204	VELINGRAD	3	4
205	LESICHEVO	5	4
206	PAZARDZHIK	2	4
207	PESHTERA	4	4
208	SEPTEMVRI	3	4
209	ZEMEN	5	4
210	KOVACHEVTSI	5	4
211	RADOMIR	3	4
212	BELENE	4	4
213	DOLNI DABNIK	4	4
214	CHERVEN BRYAG	3	4
215	KARLOVO	2	4
216	KRICHIM	4	4
217	LAKI	5	4
218	PERUSHTITSA	5	4
219	PARVOMAY	3	4
220	HISARYA	4	4
221	SOPOT	4	4

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222	LOZNITSA	4	4
223	TSAR KALOYAN	4	4
224	BYALA	4	4
225	GLAVINITSA	4	4
226	DULOVO	3	4
227	KAYNARDZHA	5	4
228	KOTEL	4	4
229	BANITE	5	4
230	DEVIN	4	4
3231	DOSPAT	4	4
232	MADAN	4	4
233	NEDELINO	4	4
234	SMOLYAN	3	4
235	CHEPELARE	4	4
236	ANTON	5	4
237	DRAGOMAN	5	4
238	PIRDOP	4	4
239	PRAVETS	4	4
240	GURKOVO	5	4
241	MAGLIZH	4	4
242	NIKOLAEVO	5	4
243	OPAN	5	4
244	PAVEL BANYA	4	4
245	ANTONOVO	4	4
246	OMURTAG	3	4
247	OPAKA	4	4
248	POPOVO	3	4
249	IVAYLOVGRAD	4	4
250	MADZHAROVO	5	4
251	SVILENGRAD	3	4
252	STAMBOLOVO	5	4
253	TOPOLOVGRAD	4	4
254	VELIKI PRESLAV	4	4
255	VENETS	4	4
256	NIKOLA KOZLEVO	4	4
257	NOVI PAZAR	4	4
258	SMYADOVO	4	4
259	HITRINO	4	4
260	STRUMYANI	5	5
261	RAKITOVO	4	5
262	BORINO	5	5

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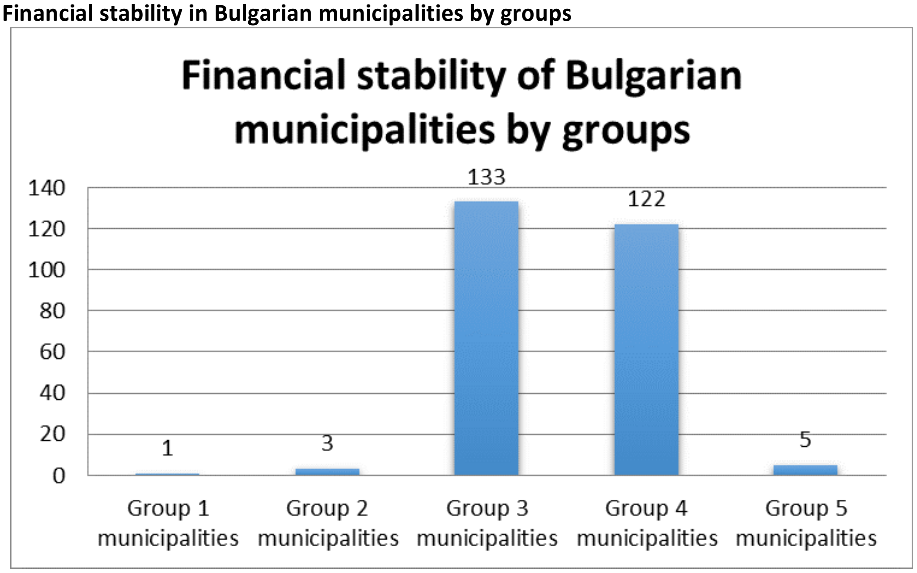
263	**ZLATOGRAD**	4	5
264	**RUDOZEM**	4	5

It is clear from the above listed information that in general almost all municipalities in Bulgaria (except for the 5 from Group 5) are creditworthy, but especially those in Group 3 and Group 4 are in need of additional financing through financial instruments at preferential terms, as the accumulation of debt could endanger fiscal sustainability in the medium and long term.

Figure 83: Financial stability in Bulgarian municipalities by groups



The main conclusions that can be asserted after the analysis are:

1) **A minimum of 225 municipalities are potential users of financial instruments for the realization of the investment measures in the Waste sector, where only 4 out of 264 could provide co-financing through loans on a market basis depending on the scale of the project.**

2) **Legal entities for commercial purposes are also potential beneficiaries of FIs, where financial engineering would be an incentive to the private sector for the implementation of joint projects with the municipalities in the sector.**

3) **The final decision on funding to beneficiaries through financial instruments in the Waste sector should be taken based on a particular project, after the preparing a separate "cost-benefit" analysis/financial analysis with sensitivity and risk analysis, incl. assessment of individual funding schemes through a combination of grant funding and loan and/or own resources, as well as depending on the financial situation of the beneficiary at the time of application.**

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5.3. Possible obstacles of institutional, administrative, legal and other aspects, which may hinder the implementation of financial instruments and a range of appropriate measures to overcome them

SWOT analysis of financial instruments and management structures

	Internal	External
Positive	**Strengths** **Loan (on-lending) –** Used when market financing would make the investment unfeasible. Reduces the risk for all creditors and may encourage local banks to enter the credit investment market in the Water sector. Loans to final beneficiaries are suitable for larger investments when bank partners are not able to provide sufficient funds. **Guarantee –** Raising capital through debt under conditions that could ensure the feasibility of project implementation. Lowers or manages risks. Suitable for investment projects that are large in number, but not in size. **Co-financing (co-investing) –** Improves financing conditions and attracts additional resources. **Holding fund structure –** A special structure for managing multiple funds, which is responsible for fund and risk management, monitoring and reporting the performance of the investment strategy on behalf of the Managing Authority. Allows for diversification of investments and effective control. **Fund Manager –** Experience in managing financial instruments, capacity to serve the needs of funding recipients; can offer knowledge and experience to the MA;	**Opportunities** **Loan –** Opportunity to use part of the ESIF funds under OP Environment 2014-2020. There is a possibility to combine grants and financial instruments. **Guarantee –** International financial institutions may issue guarantees to partner banks in Bulgaria to finance investments in WSS and Waste sectors. Banks on the Bulgarian market have confirmed interest in implementing a guarantee scheme which would on the one hand cover their risk, and on the other it allows them to use their own resources. Opportunity to use guarantees for larger investments, such as the ones in the WSS sector, as commercial banks enjoy good liquidity at the moment. **Co-financing –** opportunity for the ESIF funds to be used as subordinate capital or capital to cover initial losses, in order for international financial instittutions to have an incentive to provide financing to the fund. **Holding fund structure –** opportunity to provide the MA with technical assistance in learning to directly manage the fund and to facilitate the reporting task of the MA. **Fund Manager –** opportunity for the fund to be entrusted to the EIB, an international financial institutions, where Bulgaria has a share, or another institution which operates in the public interest in the country and which is under the control of a public authority (existing funds, BDB, NGF, FLAG, EMEPA), or another institution established by the rules of private or public law after a selection procedure, and be managed by the MA. There is an option for the fund manager to provide additional funding resulting from a requirement for his selection.

	Internal	External
Negative	**Weaknesses** **Loans -** In allocating funds tied to the performance, it is difficult to determine the key allocation points. **Guarantees –** It is difficult to quantify the risk and the guarantee financing quota in international financial institutions is the same as for loans. **Holding fund –** A holding fund is not needed where there already exist structures that the MA could use to allocate financial instruments, or when only one financial instrument would be used for one investment type with clear targets and structure of the investment. An additional level of monitoring and control is needed, which could prove heavy and expensive. **Fund Manager –** if they are not participating with their own funds, but are only responsible for their management, they may not be interested enough and thus not exercise effective control.	**Dangers** Risk of "flooding" the market with financial instruments in general, leading to a lack of demand. Risk of lack of demand for financial instruments, due to little experience of the final recipients, or because grants /competition between grants and FIs/ is preferred **Loans –** difficulties in exercising control over the performance of duties by final recipients; lack of interest by banks with good liquidity. **Guarantees –** the volume of loans to final beneficiaries in WSS sector might not be within the reach of all banks in Bulgaria, i.e. they might not be able to provide own resources against a guarantee. **Holding fund –** the formation of a holding fund might take a lot more time than the creation of a direct fund, due to the complexity of its structure. **Fund Manager –** failure to assess the capacity and financial position of the Fund manager upon their selection could lead to derailing the financial instrument implementation strategy. When the managing term of the selected Fund manager is shorter or much shorter than the duration of the fund, there is a danger of interrupting the provision of financial instruments while appointing a new Fund manager, as well as a long period of transfer of documents from the old to the new Fund manager.

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CONCLUSIONS BASED ON THE SWOT ANALYSIS

Based on the market analysis, including opinion surveys among stakeholders, the MA can use the following strengths of the financial instrument options and their structure, in order to reduce the impact of the weaknesses and dangers that the external environment would bring:

1) The resources from ERDF to be used for subordinated capital and cover the first losses in order to attract funds from from international financial institutions and increase the impact of investments.

2) Take a decision to implement the instruments loans / on-lending and guarantees to attract additional funds from banks in Bulgaria in both sectors, according to the added value calculated in this report. Given the indicative budgets of Water and Waste sector projects, to implement instruments loans and/or guarantees for partner banks in WSS sector, and in the Waste sector – guarantees for partner banks to lend to the final recipients.

3) To use the opportunity to combine the financial instrument with grant funding, in order to eliminate the danger of competition between CCD and FI using financial instrument to complement their own contribution by the beneficiary of the program.

4) Given the lack of experience of MAs in dealing with financial instruments, the capacity of existing structures and funds in the country should be assessed, including whether the institution financing an existing fund would cover financial instruments in that sector of the respective type. If any of the existing structures can take over the financial instruments management, it will save time.

5) If it is decided to use the existing structure that is not a financial institution operating under the laws of the country, a service bank should be chosen which should be required to additionally finance the final recipients of funding.

6) When creating a new fund a governance structure needs to be chosen – using a holding fund or a direct fund. This mostly depends on whether the fund will operate the resources under several operational programmes, in which case a holding fund would make sense, or would that be a fund to manage the financial instruments under OPE. It is possible for two separate funds to be created according to the type of financial instruments - a fund to co-finance the Water sector and a guarantee fund to guarantee first losses in the Waste sector.

7) The strategy outlined in this report should include assumptions allowing review of strategy in case of change in the external environment, including changes in the liquidity of the banks in Bulgaria.

5.4. Measures that should be implemented to ensure that the relevant financial instruments are used to cover the specific needs of the market effectively, in line with the OPE targets and without limiting private funding (Methodology for the evaluation of each procedure / invitation under the program to prevent violations of the competition principles)

Various types of financial instruments should be used only in accordance with the legal framework of the European Union to assess the compatibility of state aid with the rules of competition and the integrity of the common market.

In terms of practical application of state aid rules in the use of financial instruments, MAs (administrator of that aid) should focus on the following:

1. Could the selected financial instrument be implemented without state aid – i.e. the mandatory in this case "state aid test" must be negative. In the event that the state aid measure does not contain the elements of the state aid definition in Art. 107 (1) TFEU or the financial instrument has been applied, subject to the paripassu principle, as a modification of the test for the operation of the private investor in the economy, **the financial instrument may be applied without notice to and evaluation by the EC.**

2. Provided that the MA has doubts about the compatibility of the proposed financial instrument with the EU state aid rules, it should take the following actions:

   2.1. Based on the data stating the state aid amount, type and number of potential beneficiaries, eligible costs and other characteristics of the proposed financial instrument, it is to be determined whether a measure used as a separate financial instrument or a combination of instruments meet/s the requirements of Regulation 651/2014 for exemption from notification (Regulation GBER). Detailed rules for the types of aid that can be used under this Regulation are set out in Art. 21-30 of the Regulation.

The most important are:

- ✓ on eligible enterprises level - support for risk financing is limited to the amount of 15 mln. euros per eligible enterprise. Eligible businesses can only be SMEs;
- ✓ assistance for capital and quasi-equity investments in eligible enterprises can be provided as replacement capital only if it is coupled with new capital representing at least 50% of each investment round in the eligible enterprise;
- ✓ assistance for capital and quasi-capital investments in eligible enterprises directly or indirectly in the management of liquidity can be used no more than 30% of the aggregate risk capital of financial intermediaries and recorded and uncalled capital. Additional funding from independent private investors at a financial intermediary or eligible entity level is detailed as a percentage in Art. 21 (5) b. "a", "b" and "c" of Regulation GBER.

- ✓ aid in the form of guarantee - the nominal amount of the loan for which the guarantee is issued shall be taken into account when calculating the investment, and shall not exceed 15 mln. euros per eligible enterprise. The guarantee may not exceed 80% of the loan for which it was issued.

- ✓ aid in the form of a loan - the nominal amount of the loan is taken into account when calculating the maximum size of the investment, so as not to exceed the overall ceiling of 15 mln. euros per eligible enterprise.

In these cases, the MA (administrator of aid) is required to **coordinate the conditions for granting aid with the national supervisory authority - the Minister of Finance, pursuant to Art. 9 para. 1 of SAA.**

2.2. Like the aforementioned procedure, the MA (administrator of aid) should check whether the aid has already been notified to the European Commission (respectively, as part of the already approved state aid scheme), or whether the foreseen state aid is managed directly by the Commission or by an institution authorized by it – EIB, EIF or another bank. **In the presence of such notice or finding that the proposed measure in the form of a financial instrument is administered by the Commission, directly or through a financial intermediary selected by it, it is not required to deposit a new notification to the EC – the MA (administrator of aid) only indicates the number of the approved scheme and provides the aid.**

2.3. Similar to the procedure referred to in item 2.1., the MA (administrator of aid) should assess whether Regulation (EU) 1407/2013 is applicable to a particular financial instrument for deminimis aid. The assessment relates only to estimated aid – only to "transparent aid" –i.e. aid in the form of interest subsidies or grants. Aid in the form of capital and quasi-capital investments would be considered transparent aid deminimis only if the capital presented to the same enterprise does not exceed the aid deminimis maximum - € 200,000 for a period of three fiscal years. In these cases, if agreed that there is minimal aid, then according to Art. 11 of SAA, the MA (administrator of aid) must **inform the Minister of Finance within three days of delivery of any deminimis aid** and is also required to publish on its website the terms of aid and the aid recipient.

3. If the assumptions under item 2 are not feasible and the planned measure probably constitutes state aid, the MA (administrator of aid) is required to prepare and submit a notification to the Commission in accordance with the requirements under Regulation (EU) № 659 / 1999 of the Council of 22.06.2013 laying down detailed rules for the application of Art. 108 TFEU and Regulation (EU) № 734/2013 of the Council of 22.06.2013, amending Regulation (EU) № 659/1999 laying down detailed rules for the application of Art. 93 TEU. **In this case the state aid measure granted as a financial instrument cannot be granted without a formal decision by which the Commission considers the measure compatible with the common market.** Here the Commission will assess the measure of state support according to the stipulated criteria in the "Communication from the Commission, Guidelines on State aid to promoterisk finance investments (2014/C 19/04)". The Commission will assess the aid in detail by applying the so-

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called "general principles of compatibility" and "specific principles of compatibility" – applicable to the particular financial instrument or a combination of financial instruments. Evaluation is performed at three levels:

- ✓ at investor level - assess whether the participation of the private investor in the measure is economically significant? Does the private investment amount in the project exceed 30%? Has the private investment been made simultaneously with the state investment in the final beneficiary?
- ✓ at level fund manager or financial intermediary – in this case, if the investment manager does not co-invest with the state, then the intermediary is a means of transferring state aid, and not a receiver of aid, provided that the financial intermediary has been selected through an open and non-discriminatory procedure and their salary is above the market standard. If the financial intermediary is a public entity and has been selected without the adequate procedure, the Commission will assess whether the management fees are capped and if the total remuneration amount reflects market conditions, it is safe to assume that this intermediary does not receive state aid. Provided that the investment made by the state through the financial intermediary in the form of a loan or a government guarantee, it follows that "Commission Notice on the application of Articles 87 and 88 of the EC Treaty to State aid in the form of guarantees" and "Commission Notice on interest reference rates" should be applied. In applying the aforementioned legislation, the Commission normally assumes that the financial intermediary does not receive state aid.
- ✓ at level enterprises where the investment is made. Even if the financial intermediary provides the financial instrument for risk financing under the Guarantee notice and the Reference interest rates notice – i.e. on a purely ommercial basis, it should not follow that these companies be considered as beneficiaries of state aid.

5.5. Determination of an adequate institutional framework for the management of financial engineering instruments in Bulgaria in the period 2014-2020

Investments in the capital of an existing or newly established management structure of financial instruments is a good option if:

- ✓ Increasing the funds in the existing structure would contribute to achieving its objectives and the objectives of the program.
- ✓ MA aims to apply financial instruments in a separate structure with clearly defined objectives and management system. This does not preclude the MA to assign the fund management tasks to funds of other financial intermediaries pursuant to Art. 38 (5).
- ✓ A fund of funds structure (holding fund) is chosen to implement the financial instruments in accordance with ESIF.

Conferral of financial instrument management to another structure:

MAs may appoint a financial institution that operates in the public interest and under the control of public authorities for:

- Fund manager (responsible for managing the fund of funds); or
- Manager of the financial instruments (financial intermediary)

Implementing financial instruments may be also entrusted to other bodies subject to public or private law, such as agencies, public-private partnership funds, commercial banks or other institutions. In this case, financial intermediaries are selected by a tender procedure for the selection of a contractor, in accordance with applicable EU and domestic law.

"Fund of Funds" (in the period 2007-2013, known as "Holding Fund") is a fund established with a view to provide support for the implementation of financial instruments through several financial intermediaries. The aim of the "Fund of Funds" is to unite several funds set up to invest in more than one financial instrument via financial intermediaries, so as to provide flexibility and balance the risk and benefit of funds, in addition to the establishment, management and control of financial instruments.

This could help achieve the desired amount of resources to be attracted for investment and to achieve efficiency of scale and scope, while at the same time allowing for flexibility and providing greater opportunities for portfolio diversification, in order to achieve the desired financial and non-financial benefits and risk management.

This is usually a national or regional development bank or agency, or an international financial institution or the EIB.

Implementation of financial instruments may be entrusted to other bodies subject to control by public or private law, such as agencies, funds for public-private partnership with commercial banks or other institutions. In this case, financial firms are selected by a procedure for selection of a contractor in accordance with applicable European and national law.

"Fund of Funds" (2007-2013 g.izvesten as "Holding Fund") is a fund established by tselda provide support for the implementation of financial instruments through several financial intermediary. The aim of the "Fund of Funds" is to unite several funds set up to invest in more than one financial instruments by financial intermediaries to provide flexibility and balancing risk and benefit funds, in addition to the establishment, management and control of financial instruments.

This can help to achieve the desired amount of resources to attract investment and to achieve efficiency of scale and scope, while allowing for flexibility and provide greater opportunities for portfolio diversification to achieve desired financial and non-financial benefits and risk management.

In short, the pros and cons of structuring a fund of funds are:

Pros:

- A solid structure that provides independent and professional management of the funds, which monitors key issues such as management of available resources, risk management, monitoring and reporting.
- Allows greater flexibility and diversification of investments.
- Provides technical, managerial and financial expertise.

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- If there are several funds, the fund of funds generates benefits resulting from economies of scale.

Cons:

- The creation of a fund of funds can be a complicated and continuous endeavor until an agreement is reached.
- It requires additional level of reporting and monitoring.
- The added value of a fund of funds is very low in available expertise of public institutions in the financing and management of funds.

The financing agreement is signed at two levels:

Level I - between the Member State or the Managing Authority and Fund of Funds.

Level II - between the Member State or the Managing Authority (or Fund of Funds if applicable) and the separate financial instrument. Level II of the Financing agreement is called an operational agreement.

When choosing a structure without a fund of funds the financing agreement is only signed at the second level between the Member State or MA and the financial instruments.

The financing agreement must ensure the correct implementation of the strategy, including targets to be achieved, target sectors and final recipients receiving the support, through a consistent investment strategy, a range of products, types of projects and indicators to be achieved by financial instruments. The financing agreement also contains rules, obligations and procedures to be followed by the parties involved in the process on the contribution of OP "Environment 2014-2020." In addition, the financing agreement should also contain the terms and conditions of when and how the borrowings must be repaid to the Managing Authority.

Due to high investment costs in WSS infrastructure it is not recommended that loans be granted to water companies by commercial banks, most of which cannot afford to contribute with their own resources to such an extent, but rather directly through a single bank, operating as a financial intermediary. Participation of more banks adds no value in this case.

Relatively low investment costs necessary to realize the investment in the waste sector, where only guarantees would be applied, it is advisable to apply them through various intermediaries, sufficiently liquid to provide a loan against the guarantee provided by the guarantee fund would contribute to achieving the leverage effect.

Using a fund of fund is not advisable given the complexity of workflow and the longer period of structuring.

The bank acting as an intermediary, which obviously needs to have a banking license, can be selected through a public tender or the Managing Authority could directly select an existing bank to which LPP does not apply (such as BDB) where terms could directly be negotiated and the agreement - concluded. The aim should be to provide investment loans directly to potential borrowers. This implies that the verification of creditworthiness, credit payment and monitoring and evaluation of the refinancing risk is carried by the bank. The bank could either form a separate fund or simply keep

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the fund's assets in a separate account (separate finance block as part of the entire balance of the bank).

The bank receives funds from ESIF and the respective co-funding from the MA under the financing agreement. However, if necessary, the MA may include in the invitation to tender an obligation for the bank to provide financing from its own funds.

As part of the selection process for a contractor the applicants need to submit a business plan that can be applied to the Financing agreement.

The business plan is crucial because it defines the scope and objectives, investment strategy, the amount of financial instruments and the results measured by success indicators of the financial instrument. It should include the following:

Fund investment policy: investment objectives, a summary of the potential projects portfolio, including the methodology for project selection, project indicators, eligibility of final recipients, risk profile, time period, financial and regulatory constraints.

Investment period: offer a life cycle of the financial instrument, which would limit the investment period.

National co-financing: valuing national co-financing.

Public and private resources for co-investments: determine the expected level of co-investments at fund of funds level, financial instrument level or final recipient level.

Legal and organizational structure: outline the legal framework and и shareholding.

Management costs and fees: define the proposed level of management fees, including initiation fees and method of calculation.

Monitoring and reporting: monitoring and reporting procedures in accordance with EU regulations.

Audit procedure: the Fund manager will receive regular reports from an independent auditor referred to in the financial instruments structure agreements.

Procedures for completion of the investment and re-use of resources: plan initial and subsequent investments, as well as market exit strategies.

The Fund manager should consider the different conditions in order to attract private funding (interest rates, liquidity risks, incentives for the private and public sectors, levels of public support). The Fund manager should then assess the financial efficiency of the investment and identify risks and opportunities for interventions by private investors. Regardless of their specific type, the financial instruments should comply with the principle of risk-sharing with the public and private co-investors.

Before proceeding to the implementation phase of the financial instruments, the Fund manager should define management rules and the processes that would:

- ✓ Determine the parameters of the relevant financial instruments;
- ✓ Provide a clear decision making process (eg. investment decisions);
- ✓ Determine management principles (investment policy and approval process);

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- ✓ Determine any additional management and control procedures (risk management strategy, procedure for resolving issues arising during the implementation of the financial instruments by the MA and the Fund of Funds to the Fund manager;
- ✓ Define clear roles and responsibilities in the approval of investments, monitoring and surveillance of the performance and balanced decision-making based on verified information;

Based on the fund manager bids on all issues listed above, the MA or Fund of funds (if this option is chosen) can decide who the best of them is and assess whether they meet the following minimum requirements:

a) be able to perform the relevant tasks in the implementation of financial instruments in accordance with EU and domestic law;

b) have adequate economic and financial viability;

c)have adequate capacity for the implementation of the financial instrument, including organizational structure and management framework providing the necessary confidence for the Managing Authority;

d) have an effective and efficient internal control system;

e) use an accounting system providing timely, complete and reliable information;

f) the agreement must be audited by the audit authorities of the Member State, the Commission and the European Court of Auditors.

Besides the minimum requirements, the MA or Fund of funds should evaluate the experience of the organization in implementing financial instruments of a similar nature, expertise and experience of team members, as well as operational and financial capacity of the organization.

5.6. Structure and management mechanism of instruments:

A. Upgrading of existing financial instruments or creation of new ones

After choosing a structure for the implementation of financial instruments the MA should determine the type of financial instruments. As described in item 5.1. the appropriate instruments to reduce the effects of market failures and sub-optimal investment situations are the specially created ones, as the market does not offer instruments for the environment sector.[113]

Furthermore, the final beneficiaries in the Water sector are specific and so far structured instruments that would address their needs. The guarantee instrument in the Waste sector is similar to the proposed instrument for SMEs under JEREMIE, but includes final recipients who are not among the possible JEREMIE recipients, and provide for other eligible funding level, which requires the structuring of a new instrument. Another factor in the structuring of a new instrument is the premise

[113] Existing guarantee mechanisms under the Jeremie initiative can only be applied for private entities that are SMEs

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of combining grants and financial instruments, which can only be done through the development of a new financial instrument.

B. Correlation between financial instruments in the case of combining / overlapping

In accordance with Art. 37 (7) of Regulation 1303 the financial instruments and grants can be combined as:

- ✓ Technical assistance grant, interest subsidies and guarantee charge subsidies can be combined with financial instruments by simultaneous relaxation when directly related to the financial instrument and are granted to the same final recipients.
- ✓ However, funds provided by the grant and the ones from financial instruments are accounted for separately.
- ✓ The final recipients receiving support through financial instruments funded by ERDF may receive funding under another priority or ERDF programme, as well as another instrument supported by EU budget.
- ✓ This would mean that both forms of support are two separate operations with separate eligible costs.
- ✓ Separate accounts for both forms of support.

The main advantages to combining financial instruments and grants are the following:

- ✓ It drives the transition from a grant regime to revolving financial instruments, eliminating the dependency on grants.
- ✓ Flexibility in choosing an appropriate combination of grant funding and FIs, depending on the specific needs of the final beneficiaries and their access to funding, where FIs may be more useful, although the intensity of the subsidy is lower.

C. Financial instruments at EU, national or regional level.

The financial instruments outlined in this investment strategy proposal are intended to be implemented at national level.

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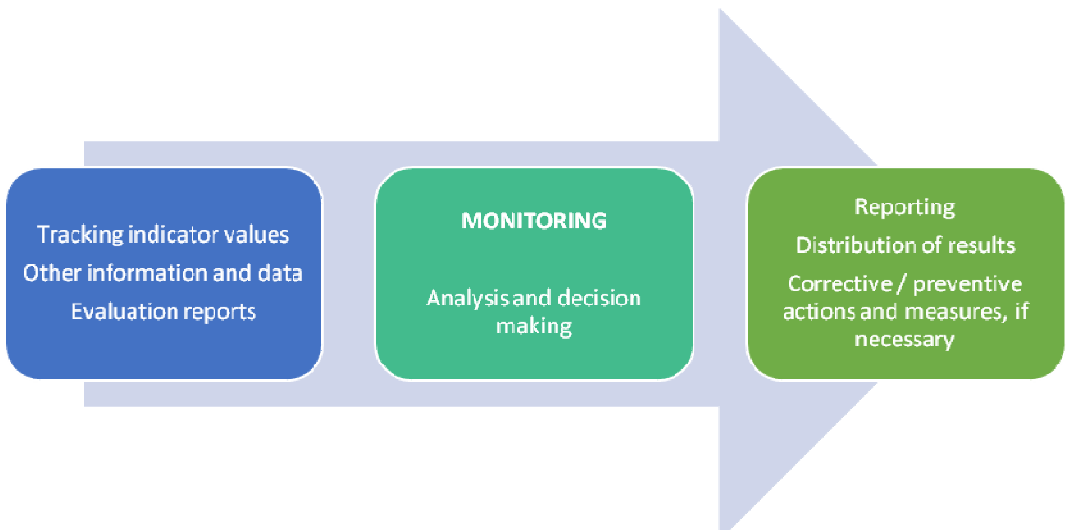
6. Expected results

As the structures and processes for management and use of financial instruments are complex, one needs a clear monitoring system. Art. 47 of the General Regulation requires the MA to prepare a special report on FI implementation to be annexed to the annual implementation report. In this annex should be included information on activities related to the implementation of financial instruments.

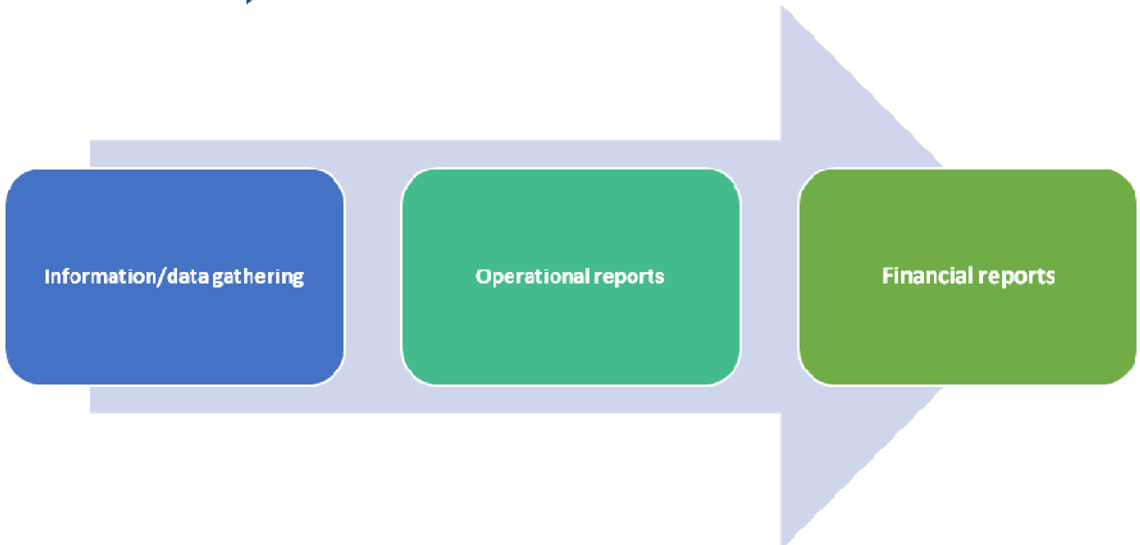
Monitoring and reporting requirements should be part of the management / financing agreement in the implementation of financial instruments. The only exception is when the MAs apply financial instruments themselves when reporting requirements are defined as part of the procedures (management systems).

The main elements of the survey are presented in the following graph:



The content of the specific financial instruments report should meet the requirements under Art. 46 (2) and provide detailed information on the same. This information and requirements are part of the agreement for the implementation of financial instruments. In order to meet the requirements the MA should organize a reporting and monitoring system, which would carry the necessary information - requirements for more frequent reporting could be added (eg. quarterly). Shorter reporting and monitoring intervals may allow the MA to faster detect the challenges in the implementation of financial instruments and to react promptly. For example, the MA should require information on eligible costs incurred in the payment requests.

MAs may apply the process in three steps:



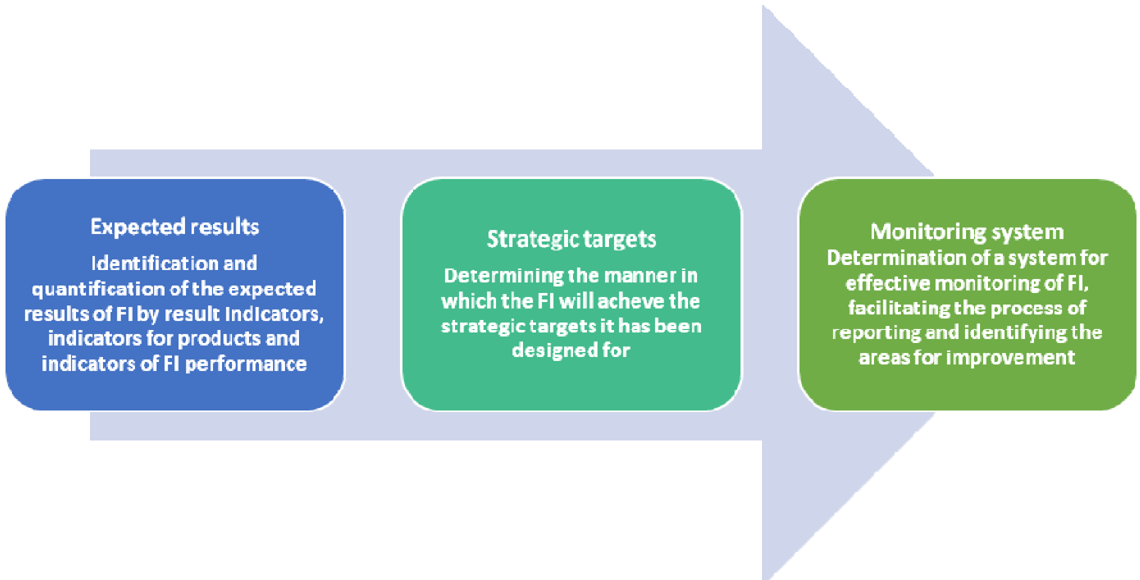
MAs must set the format for **collecting data** from the monitoring system, as this will create uniform data categories and will facilitate the aggregation of information.

Operational reports need to cover the gathering and evaluation of proposals and the conclusion of contracts, the groups, targeted by the financial instruments, risk assessment of the investment. These reports should provide information on the implementation of financial instruments. Reports should include an analysis of the progress against planned objectives, investment strategy and the financing contract terms.

Financial reports need to focus on financial performance, here the information varies according to the type of governance, and this should be incorporated in the contract.

6.1. Analysis of expected results and how the instruments provided will result in the achievement of the specific targets and results of the relevant priority axis or particular measure

The determination of the expected results goes through the following steps:



In the reviewed literature (documentary analysis), the benefits of using financial instruments are expressed by:

- ✓ Balanced use of resources and greater effect of using ESIF
- ✓ Increased efficiency and effectiveness of the use of funds due to their revolving nature
- ✓ Better quality selection of projects as beneficiaries should recover funding
- ✓ Access to a wider range of financial instruments realising certain policies by including private sector and greater expertise
- ✓ Change of the "culture of dependence on grants"
- ✓ Attracting support from the private sector (and funding) to implement the public policy targets

In this particular case – the implementation of financial instruments under the OPE 2014–2020 provides as follows:

<u>Priority Axis 1 - Water</u>

The measures provided by the OP will contribute to:

- ✓ Providing water for human consumption (infrastructure for extraction, purification, storage and distribution);

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- ✓ Water management and conservation of drinking water (including river basin management, water supply, specific measures to adapt to climate change, reporting the onsumption/metering at the central level and at the individual user level, charging systems and leakage reduction);
- ✓ Wastewater treatment.

Financial Instruments

There is a proposal a fund for sustainable investment to be established in the WSS sector, which shall provide two types of financial instruments – loans for the implementation of investment projects for the construction, rehabilitation and modernization of WSS infrastructure, taking into account Regional master plans and Plans for the river basin management aimed at agglomerations with over 10 000 PE and guarantees to secure the financing of the same provided by commercial banks in the event that they are sufficiently liquid and can provide financing for the appropriate amount.

By using the FI expected results from the PA will be achieved, namely:

- ✓ improved purification of drinking water and improved access to drinking water of appropriate / improved quality and reduction the need for purification of drinking water or improved quality of drinking water
- ✓ improvement the quality of water supply services; the efficiency of water use or increasing the share of the population provided with access to drinking water of improved quality (as part of integrated projects where it is provided for construction / rehabilitation / reconstruction of water supply)
- ✓ Increased efficiency and effectiveness of use of the funds due to the revolving nature of their character
- ✓ Better quality selection of projects as beneficiaries should restore funding

Priority axis 2 - WASTE

The measures provided for under this priority axis will contribute to:

- ✓ Management of household waste (including measures to minimize, sort and recycle waste);
- ✓ Management of household waste (including measures for mechanical-biological treatment, thermal treatment, incineration and landfilling).

Financial instruments

Proposed is the creation of a guarantee fund to provide guarantees against which commercial banks would finance the implementation of the investment measures in the design and construction of composting facilities for biodegradable and/or green waste, design and construction of playgrounds and equipment for pre-treatment of household waste, design and construction of facilities to prepare for the recovery and recycling of household waste.

By using FIs we will achieve the expected PO results, namely:

- ✓ Prevention of household waste accumulation, respectively - reducing the amount of landfilled waste

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- ✓ Increasing the share of recycled household waste and reducing the amount of landfilled waste
- ✓ Increasing the share of utilized household waste and reducing the amount of landfilled waste
- ✓ Contributing towards achieving the goals and improving waste management in general
- ✓ Increasing efficiency and effectiveness in the use of the funds due to their revolving nature
- ✓ Better quality selection of projects because beneficiaries need to restore the funding

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PA	ST	Expected results	FI	Expected results
PA 1. Water	Specific target 1. Preservation and improvement of water resources Specific target 2. Improving the water status assessment	• Improved wastewater treatment and reducing the adverse impacts of certain stages of wastewater treatment (for treatment activities related to sludge) • Improved wastewater treatment • Improved purification of drinking water and improved access to potable water with appropriate / improved quality and reduction of the need for purification of drinking water or improved quality of drinking water • Improving the quality of water supply services; the efficiency of water use or increasing the share of the population with access to drinking water of improved quality (as part of integrated projects where it is provided for construction / rehabilitation / reconstruction of water supply network)	Fund for sustainable investment in the WSS sector	• Mobilizing additional funds from the IFIs and other sources to fill (at least partially) the investment gap • Increased efficiency and effectiveness of use of the funds because of their revolving nature • Better quality selection of projects as beneficiaries should restore funding • Accelerating the reform in the WSS sector • Establishment of administrative capacity in the WSS operators for invrstment implementation and sound financial management • Contribution to the achievement of the OPE 2014–2020 • Experience gained in the sector for the development and management of financial instruments
PA 2. Waste	Specific target1. Reduction of the landfilled waste amount	• Prevent the formation of household waste, respectively – of landfilled waste amounts • Increase the utilized waste proportions and reduce the household waste amounts • Increase the recycled waste proportions and reduce the household waste amounts битови • Increase the recovered waste proportions and	Guarantees to assume part of the credit risk	• Contribution to achieving the objectives and improvement of waste management in general • Incrreased efficiency and effectiveness of the use of funds, due to their revolving nature • Better quality selection of projects, as beneficiaries need to restore funding

PA	ST	Expected results	FI	Expected results
		reduce the household waste amounts • Contribution towards achieving the objectives and improvement of waste management in general		• Create incentives for partnerships between businesses and the public sector to address the challenges in the sector • Used expertise and experience by the private sector • More efficient waste maangement and movement away from a linear economy towards a circular one

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6.2. Analysis of investment priorities and corresponding specific targets (within the meaning of Art. 87 under the draft Regulation) of the relevant priority axis / priority axes that will be implemented through the financial instruments

FIs are expected to be part of the defined strategy under the OPE 2014–2020 and therefore they should be clearly described in the intervention logic of the program. The program must clearly describe how the FI implementation will contribute to the achievement of the strategic and specific targets, where they are intended to be used. In the description of the strategy under the OPE FI are intended to be used as one of the support instruments, and the priorities, specific targets and investment priorities this is applicable to, are detailed.

Logic of intervention:

	Priority Axis 1. Water	Priority Axis 2. Waste
Investment priority	Investment in the water sector to meet the requirements of the EU acquis in the field of environment and addressing the needs identified by Member States for investment beyond these requirements.	Investment in the waste sector to meet the requirements of EU acquis in the field of environment and addressing the needs identified by Member States for investment beyond these requirements.
Thematic target	Thematic target No. 6 "Protecting the environment and promoting resource efficiency"	Thematic target № 6 „ Protecting the environment and promoting resource efficiency“
Budget from the EU	1 033 619 883 euros	219 005 009 euros
Specific target	Specific target 1. Preservation and improvement of water resources Specific target 2. Improving the assessment of water status	Specific target 1. Reduction of the landfilled waste amount
Planned budget on financial instruments	103 361 989 (10 %) euros	21900501 (10%) euros
Proposed financial instruments under the ex ante assessment	Fund for sustainable investment in the WSS sector: • Guarantees for taking part of the credit risk • Direct credits	Guarantee fund Guarantee fund to assume 80% of the credit risk

The proposed financial instruments contribute directly to the achievement of the targets under the Operational Programme related to the respective priority axes and investment priorities. However, the final decision on the type of instruments, beneficiaries and financial resources must be made by the MA considering the following:

- ✓ To Priority Axis 1, use of financial instruments is offered, and it is clarified that the final decision on the financing of WSS operators through financial instruments and the amount of their use should be taken based on a particular project after the preparation of a separate "cost - benefit" analysis / financial analysis with sensitivity and risk analysis, incl. Assessment of the affordability of tariffs for WSS services for different funding schemes through a combination of grant funding and loan and / or own resource.

- ✓ For priority axis 2 the use of FIs is suggested, while it is clarified that the final decision on funding to beneficiaries through financial instruments in the Waste sector should be taken based on a particular project, after the separate "cost-benefit" analysis/ financial analysis with sensitivity and risk analysis, incl. assessment of individual funding schemes through a combination of grant funding and loan and/or own resources, as well as depending on the financial situation of the respective beneficiary at the time of application.
- ✓ For priority axis 5 it is concluded that the "Air" sector", considering the measures provided for implementation, is not mature enough in terms of the use of financial instruments and it is not recommended for those to be utilized at this stage, but it is recommended to update the ex ante assessment in case the measures change.

Comparison between the proposed strategy of the program, the findings of the ex-ante evaluation of the program and the ex-ante assessment of financial instrument implementation:

PA	Proposed by the program	Ex-ante evaluation of the program related to the intervention logic	Ex-ante assessment on financial instruments implementation
PA 1. Water	Yes (10 % of the budget under the PA)	The so planned measures lead to protection and improvement of the management and the condition of water resources and most largely contribute to the achievement of the expected results of the program and the implementation framework. The logic of intervention is clear.	The use of financial instruments is offered, it is clarified that the final decision on the financing of WSS operators through financial instruments and the amount of their use should be taken based on specific project after the preparation of a separate "cost - benefit" analysis / financial analysis with an analysis of sensitivity and risk, incl. an assessment of the affordability of tariffs for WSS services for different funding schemes through a combination of grant funding and loan and / or own resource.

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PA	Proposed by the program	Ex-ante evaluation of the program related to the intervention logic	Ex-ante assessment on financial instruments implementation
PA 2. Waste	Up to (10% of the PA budget)	Planned measures contribute to the achievement of the expected results of the programme and lead to compliance with the hierarchy of waste management in accordance with the objectives set out in domestic and European legislation. Regarding the planned interventions under PA 2 (code 017), there is a lack of suitably formulated measures to prevent and minimize the amount of household waste - such contributions could have pilot / demonstration projects at the implementation stage of the programme.	The use of FIs is offered, while clarifying that the final decision on funding to beneficiaries through financial instruments in the Waste sector should be taken based on a particular project, after a "cost-benefit" analysis/financial analysis with sensitivity and risk analysis, incl. assessment of individual funding schemes through a combination of grant and loan funding and/or own resources, also depending on the financial situation of the beneficiary at the time of application.
PA 5. QAA	Up to (10% of the PA budget)	It is evident that both the above measures do not contribute significantly to the achievement of the above outcomes, with the exception of purchasing multifunctional cleaning equipment. In this line of thought, it is recommended to select new measures to address the specific purpose, including to incorporate measures identified in local QAA programmes. The performance indicator for "Reviewed / analyzed municipal programs" should be replaced with a suitable one, or deleted.	Based on lessons learnt, it is considered that, given the proposed funding measures, the Air sector is still "immature" and needs mostly grants.[114] Despite this conclusion, in case of potential future amendment in funding under the programme[115], it is necessary to review the assessment of the applicability of financial instruments in this sector.

[114] Such example is also given in item 3.1.4 of vol. 4 of the Methodology for an ex ante assessment of the financial instruments - http://ec.europa.eu/regional_policy/thefunds/fin_inst/pdf/ex_ante_vol4.pdf

[115] Eg. providing measures for the purchase of new rolling stock, where it would eventually be appropriate to use financial engineering instruments.

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6.3. Definition of indicators to measure the achieved targets and results

The proposed indicators, present in the monitoring system at the time of preparation of the ex ante assessment form part of the proposed investment strategy.

Suggested are the following indicators by priority axes:

Priority axis 1.Water

<table>
<tr><th>Type of financial instrument</th><th>Fund for sustainable investment in the Water sector</th></tr>
<tr><td>Source of funding</td><td>Cohesion fund</td></tr>
<tr><td>Fund budget under OPE (25% of the priority axis resource)</td><td>304 005 848 euro</td></tr>
<tr><td>Specific targets of the investment priority</td><td>Specific target 1. Preservation and improvement of water resources
Specific target 2. Improving the assessment of water status</td></tr>
<tr><td>Result indicator</td><td>
<table>
<tr><th>Indicator</th><th>Measurement unit</th><th>Base value</th><th>Target value</th><th>Source of information</th></tr>
<tr><td>Additional number of people with access to improved wastewater treatment</td><td>Number of people</td><td>0</td><td>230 000 in 2018

1 130 000 in 2023</td><td>Reports on project implementation, annual MEW reports, intermediate and subsequent evaluation of the OPE</td></tr>
<tr><td>Additional number of people with access to improved water supply</td><td>Number of people</td><td>0</td><td>89 000 in 2018
220 000 in 2023</td><td>Reports on project implementation, annual MEW reports, intermediate and subsequent evaluation of the OPE</td></tr>
</table>
</td></tr>
<tr><td>Product indicator (output)</td><td>
<table>
<tr><th>Indicator</th><th>Measurement unit</th><th>Base value</th><th>Target value</th><th>Източник на информация</th></tr>
<tr><td>Water bodies with improved environmental conditions in physico-chemical and / or biological quality elements</td><td>Number</td><td>3</td><td>35</td><td>Subsequent evaluation of the OPE implementation</td></tr>
<tr><td>ater bodies with improved monitoring of quantitative and chemical status</td><td>Number</td><td>90 (quantative status)

153 (chemical status)</td><td>140 (quantative status)

173 (chemical status)</td><td>Subsequent evaluation of the OPE implementation</td></tr>
</table>
</td></tr>
<tr><td>Implementation indicator</td><td>
<table>
<tr><th>Indicator</th><th>Measurement</th><th>Base value</th><th>Target</th><th>Source of</th></tr>
</table>
</td></tr>
</table>

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		unit		value	information
	Projects financed via FIs	Number	0	20	Monitoring reports on FIs
	Leverage effect	Funding attracted from other sources/public support for WSS projects	0	3	Monitoring reports on FIs
	Management costs	% of total credit amount	0	4%	Monitoring reports on FIs

Priority axis 2.Waste

Type of financial instrumen	Guarantee fund to assume 80% of credit risk				
Source of funding	European Regional Development Fund				
Fund budget under OPE (10% of the resource of the priority axis)	25 765 295 euro				
Specific target of the respective investment priority	Reduction of landfilled waste amounts				
Indicator of the result of the respective investment priority	**Indicator**	**Measurement unit**	**Base value**	**Target value**	**Source of information**
	Additional waste recycling capacity	t/per year	0	1000 т/2018 и 10 000 т/2023	Project implementation reports,annual MEW reports
Product indicator	**Indicator**	**Measurement unit**	**Base value**	**Target value**	**Source of information**
	Landfilled waste amount	Ton	1 123 750[116]	786 625[117]	
Indicator included in the implementation framework	**Indicator**	**Measurement unit**	**Base value**	**Target value**	**Source of information**
	Projects financed via FIs	Number	0	100	Monitoring reports on FIs
	Leverage effect	Funding attracted from other sources/public support for WSS projects	0	4	Monitoring reports on FIs
	Management costs	% of total credit amount	0	4%	Monitoring reports on FIs

[116]According to the National Waste Management Plan 2014-2020, permitted quantity as of 2013
[117]As of 2020

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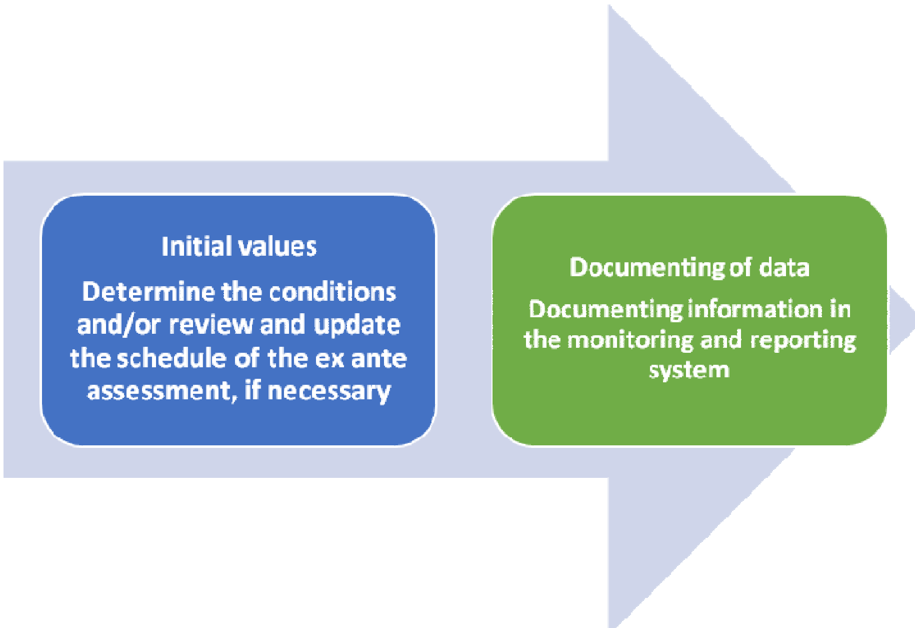
7. Assumptions for reconsideration of the ex ante assessment.

This component of the assessment goes through the following stages:



7.1. Risk assessment

One of the tools that can improve the management of financial instruments by the MA is risk assessment.

MAs can analyze and assess the risks and take appropriate steps to prevent the risks, based on lessons learned and good practices. Therefore it is necessary to propose measures to overcome the risk.

The risk management strategy is an integrated approach that includes:

- ✓ Determining risks and their classification;
- ✓ Assessment of the impact of risk;
- ✓ Assessment of the likelihood of risk;
- ✓ Preparation of a risk matrix in terms of their distribution;
- ✓ Implementation of measures to address prioritized risks.

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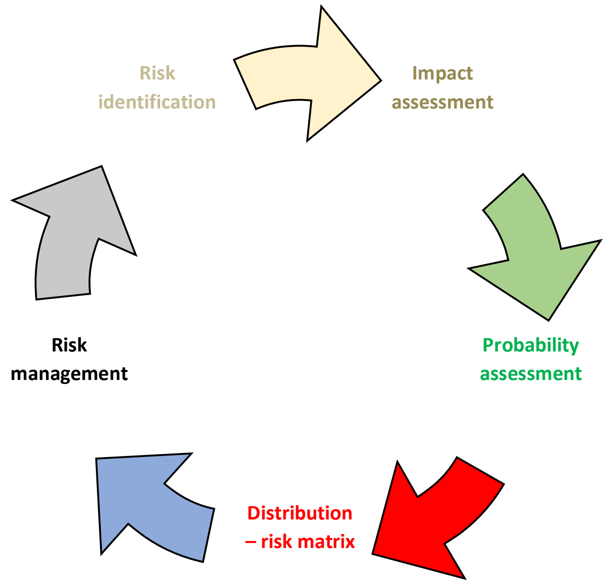

Addressing - measures

Risk identification (defining the risk factors) and determination of the risk carrier

The first step in the risk analysis is to identify all the relevant financial instrument risks (quantifiable and qualitative), in order to compile a list (risk register). The register should be the basis for risk assessment. However, it is necessary to determine risk carrier so as to plan targeted and adequate mending actions, depending on the specifics of the carrier.

Assessment of risk impact

In assessing the risk impact, i.e. potential losses, it is important to quantify the effects of this risk only once and to ensure that the same risk is no longer taken into account in the formation of the basic costs.

To conduct this assessment more effectively, risks should be categorized according to their importance (as *critical (C), serious (S), moderate (M), negligible (N))* and start by concentrating on the most significant first.

In assessing the impact of risks it is important that they be expected costs (not just planned costs), methodologically one can proceed on the basis of empirical evidence to determine whether this is possible, or at least use conventional estimates.

Risk assessment does not mean focusing only on the direct effects of a few or more certain risks, but also detect the overall effect of the risks and evaluate their possible interactions.

Besides the evaluation of the risk impact, the time period for the possible consequences to should be followed. This affects the net present value (NPV) of this influence. In discounting the overall impact of risk, it should be spread over the entire duration of the financial instrument.

Assessment of risk probability

The potential impact of a risk has to be associated with the probability of its occurrence. Therefore the assumed parameters and procedures that need to be followed in assessing the possibilities need to be logical and well-documented.

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Tel./Fax: 02/987 24 82; E-mail: office@bim-bg.com

Both the assessment of the risk impact and the categorization of the likelihood of their occurrence are useful methods for fixing the priorities in this process (eg. *frequent, possible, probable, remote, impossible*).

Risk matrix

Logically, after the assessment of the risks identified, *a risk matrix is prepared according to their distribution* taking into account their importance and likelihood of occurrence.

Likelihood of occurrence	**Importance of risk/impact**			
	Negligible	**Moderate**	**Serious**	**Critical**
A (*frequent*)	**S**	**S**	**C**	**C**
B (*possible*)	**M**	**S**	**S**	**C**
C (*probable*)	**N**	**M**	**S**	**S**
D (*remote*)	**N**	**N**	**M**	**S**
E (*impossible*)	**N**	**N**	**N**	**M**

Risk management plan

Principal risk management methods are:

- ✓ *Risk avoidance* - reengineering a process or activity so as to avoid the risk
- ✓ *Risk diversification* - transfer and distribution of the risk on a variety of levels, in order to prevent the initial high risk on one level
- ✓ *Control of risk* –development and implementation of control measures to prevent, identify and rectify risk and its consequences
- ✓ *Share the risk* – with other business partners and parties to the contract
- ✓ *Transfer of risk* – to a third party by delegating certain functions
- ✓ *Acceptance of risk* – when other methods to control risk are unreasonably expensive

The choice of the most suitable method involves balancing the costs of implementing each option, as well as the potential benefits. Overall, the cost of risk management should be proportionate to the benefits received. Preferred methods are those where a significant risk reduction is achieved at a relatively low cost.

In most cases it is unlikely that a single method is the complete solution for managing a risk. It is often necessary to use a combination of methods, eg. reduction, transfer and risk monitoring.

The selected methods should be applied in accordance with the risk management plan.

Risk management is a continuous process. In order to ensure monitoring of the risk management process, monitoring measures to address the risks and therefore effective risk control, it is necessary to take the following actions:

- ✓ Maintain a risk database
- ✓ Organize periodic review of the measures to control and overcome risk

The managing authority may develop procedures for assessing and monitoring risk, which would become part of the overall process of risk assessment and thereby the guide for OP implementation.

Risk categories	Types of risk that fall into the category
Administrative risks	Lack of commitment from the government, lack of support from financial institutions, poor coordination with similar initiatives or instruments
Management risks	Poor project/programme management; poor planning, monitoring and control; inadequate coverage, lack of capacity to manage projects by MAs and beneficiaries; lack of response to the changing needs of the beneficiaries, selection of fund manager, clarity and simplified rules for implementation, facilitated reporting and monitoring procedures
Financial risks	Risks in providing resources, risks posed by the partners, co-financing risks, too restrictive investment strategy, risks associated with the choice of fund manager, lack of interest on part of financial institutions, grade (%) co-financing – a well-balanced instrument between public and private funding - to attract private investors to the fund
Organizational risks	Poor management organization, poor management of change, lack of interest by the beneficiaries, need for legal changes

The assessment might show that risks have been overestimated. In this case additional volume of the same financial contribution can be provided (a higher leverage).

The monitoring system needs to monitor risks and regularly report:

- ✓ Annual monitoring and reporting on application and implementation of FIs; Information collected on an annual basis by the monitoring system can demonstrate very quickly the need to update.
- ✓ Predefined conditions and interim target values of indicators to be compared with the data from the monitoring system;

7.2. Schedule (time period), according to which will the assessment be updated on the achievement of specific targets and results under the relevant priority axis or under a specific measure.

The plan for FI performance evaluation should be consistent with the evaluation schedule under OPE 2014-2020.

Review and update the estimated use of financial instruments under OPE

Market conditions and investment trends may undergo changes before and during administration of financial instruments. In this sense (Art. 37 (2) of the General Regulation), it is provided that the MA may require a review of the ex ante assessment, if the changes in the environment occur.

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Sofia 1000, 23 William Gladstone Str., fl. 1
Tel./Fax: 02/987 24 82; E-mail: office@bim-bg.com

If the expected results of the use of FIs are not met before mid-term (at the end of 2017), the investment strategy could be updated. The following conditions need to be present:

Little correlation between the proposed targets and performance. (measured by monitoring the indicators). If there is a large discrepancy between the two, it could jeopardize the achievement of targeted results and then the targeted results would need to be updated. The investment strategy and added value need to be updated;

Insufficient resources in the proposed support schemes to meet the demand: if the volume is too small and the need – large, then FIs cannot achieve the set targets. If the payment process is too fast or too slow, this may compromise the use of FIs. In that case the investment strategy would need to be reevaluated and updated:

- ✓ If the evaluation shows that the market situation remains unchanged, but the utilization rate has been undervalued or overvalued;
- ✓ The implementation is in line with the set targets, but the market situation has changed, where that change has resulted in a significantly higher or lower demand for the support schemes.

The volume can be increased or decreased, but technical support could also be added or other measures could be taken to increase the utilization rate, provided that the evaluation results show the following:

(1). The ex ante assessment is not precise in terms of the expected results, public investment needs have been undervalued or overvalued;

(2). The ex ante assessment is precise, but the environment has changed and the level of market failures might be higher or lower.

Not evaluating the risk in the application of FIs. When a situation arises where the risks of use of FIs are higher than expected, leading to losses in FI application and violation of the revolving nature of FIs. The inspection could review and update the risks to ensure the appropriate level of revolving funds and from there – the leverage effect.

The assessment might show that risks have been overestimated. In this case additional volume of the same financial contribution can be provided (a higher leverage).

The monitoring system needs to monitor risks and regularly report:

- ✓ Annual monitoring and reporting on application and implementation of FIs; Information collected on an annual basis by the monitoring system can demonstrate very quickly the need to update.
- ✓ Predefined conditions and interim target values of indicators to be compared with the data from the monitoring system;
- ✓ Specialized or ongoing assessments.

List of Appendices

Appendix №001. List of interviews and a protocol summary.

Appendix №002. Report from the focus groups.

Appendix №003. Survey among respondents / potential beneficiaries under OPE 2014 – 2020.

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Sofia 1000, 23 William Gladstone Str., fl. 1
Tel./Fax: 02/987 24 82; E-mail: office@bim-bg.com

Appendix №004. Survey among municipality respondents / potential beneficiaries under OPE 2014 – 2020.

Appendix №005. Questionnaires for surveys with potential beneficiaries.

Appendix №006. Checklist for ex ante assessment completeness.

Appendix №007. Recommended funding amount under axis 1 of OPE.

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Sofia 1000, 23 William Gladstone Str., fl. 1
Tel./Fax: 02/987 24 82; E-mail: office@bim-bg.com