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## Appendices

Detailed analysis and background

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## 1. Financial guarantees detailed background

### 1.1. Existing guarantee products

The difficulties in accessing adequate long term funding and finding appropriate funding structures are a major barrier to investment. Following the 2008 crisis, banks are not only more reluctant to lend but the terms on which they are prepared to do so are increasingly restrictive, with regards to funds, ticket size and pricing. As a result, many developers are looking to governments to ease the slowing down in project development by offering incentives and redefining risk/return models with structural concessions; hence the continued (and in some cases renewed) interest in guarantees. When properly structured, guarantee products may allow bankable projects that are currently on hold (because of changes in risk appetites, or different and new rules which banks face in respect of capital adequacy) to go forward. Guarantee products could have the effect of lengthening tenors and reducing costs.

This section is intended to look at guarantee products that apply to urban related projects, including urban infrastructure, but is not intended to look at all of the guarantee products available today. However, where there are guarantees in other sectors/regions that could apply to urban projects in a JESSICA setting, these are also identified.

Table 1: Guarantee products available in the market

GUARANTEE NAME	TYPE OF GUARANTEE
<b>European Investment Bank and European Investment Fund</b>	
Joint European Resources for Micro to Medium Enterprise	Equity, loans or guarantees to finance and support small and medium sized enterprises.
<b>European Investment Bank</b>	
Trans-European Transport Network Projects	Guarantees for lower than expected revenues that might occur because of lower than anticipated traffic volumes in the critical early phases of project operation
Competitiveness and Innovation Framework	Facilitate access to loans and equity finance for SMEs. SME guarantee facility (SMEG) provides loan guarantees to encourage banks to make more debt finance available to SMEs.
Project Bond	Credit enhancement to support the senior debt issued by the project company for large infrastructure projects.
<b>World Bank Group</b>	
Partial risk guarantee (World Bank)	Coverage for private sector projects. Covers debt financing against specific sovereign contractual obligations committed to the project.
Partial credit guarantee (World Bank)	Coverage for public sector projects and/or entities and covers debt service default for specified payments regardless of the cause of default.
Risk sharing facility (IFC)	Loss sharing agreement between the IFC and an originator of assets in which IFC reimburses the originator for a portion of the principal losses incurred on a portfolio of eligible assets .
Partial credit guarantee (IFC)	Promise of full and timely debt service payment up to a predetermined amount. Typically, the sum that IFC pays out under the guarantee covers creditors irrespective of the cause of default .
Political risk insurance (MIGA)	Covers investors/lenders for cross border investments against political risks.
<b>European Bank for Reconstruction and Development</b>	
Partial risk guarantee	These range from all-risk guarantees whereby the Bank covers lenders against default regardless of the cause, to partial risk-specific contingent guarantees covering default arising from specified events
<b>Asian Development Bank (and other regional development banks')</b>	
Partial credit guarantee	Covers nonpayment by the borrower or issuer (for any reason) on the guaranteed portion of the principal and interest due
Political risk guarantee	Covers against certain political risks.
<b>Private insurers (monoline insurers and other private insurers)</b>	
Monoline wraps	Insure the timely interest and principal payments on bonds
Trade insurance	Political risk cover as well as commercial credit risk insurance

The table highlights some of the guarantee schemes available in the market. It is not meant to be an exhaustive list but provides the types of products that are available in the market today.

Guarantees can generally be classified as follows:

- **Credit guarantees** (partial credit guarantees or full credit guarantees or wrap guarantees), which cover losses in the event of debt service default, are provided by some multilateral agencies and private insurers (e.g. monoline insurers);
- **Export credit guarantees** that cover losses for exporters or lenders linked to exports of goods and services. These are provided by national ECAs. The ECAs of the Organisation for Economic Cooperation and Development (“OECD”) are bound by “consensus” rules, which are used to ensure consistency and coordination among the agencies and seek to dictate the types of cover that agencies can offer; and
- **Political risk insurance (“PRI”)** that covers losses linked to well-defined political risk events (e.g. transfer restrictions and currency inconvertibility, expropriations (creeping and outright), war and civil disturbance, non-honouring of arbitral awards, acts of terrorism). PRI is provided to investors and lenders by private insurance providers, export credit agencies, and multilateral agencies.

Table 2 – Types of Guarantees and what they cover

	Credit Guarantees	Export credit guarantee or insurance	Political risk guarantee or insurance
Corporate debt • Commercial risk • Political risk	✓ ✓	✓ ✓	✓
Sovereign debt • Commercial risk • Political risk	✓ ✓	✓ ✓	✓
Equity • Commercial risk • Political risk			✓

As explained further on, the focus will be primarily on credit guarantees as they are the most relevant in the JESSICA context and outweigh political risk and export risk considerations.

Also, it is important to emphasize that JESSICA guarantees could be used for both debt and equity instruments, something which is not always the case for many existing guarantee products as will be shown in the next section.

### European Investment Bank Group experience

**The Joint European Resources for Micro to Medium Enterprises (“JEREMIE”)** initiative was launched in 2005, and is a joint initiative of the EC and the EIF. It is intended to cover the gap identified in the SME financing market. As such, it offers EU MS, through their national or regional MAs, the opportunity to use part of their EU SF to finance SMEs by means of equity, loans or guarantees. This can be done (but it is not a prerequisite) through a revolving HF acting as an umbrella fund.

The HF can provide to selected financial intermediaries SME-focused financial products including guarantees, co-guarantees and counter-guarantees, equity guarantees, (micro) loans, export credit insurance, securitisation, venture capital, business angel matching funds and investments in technology transfer funds. The HF can be managed by the EIF or by other financial institutions. MAs can award management either directly to the EIF or any national institution or indirectly by way of tender to a financial institution through a service contract. This allows the MAs to delegate some of the tasks required in implementing JEREMIE – such as establishing specific criteria for making investments, appraising and recommending operations, negotiating contractual arrangements, monitoring and reporting on the performance of the HF – to appropriate professionals.

As an umbrella fund, the HF can partner with a wide spectrum of local SME financial institutions, e.g. SME finance operators, venture capital funds, loan funds, technology transfer vehicles, microfinance providers, banks and guarantee funds. The funds made available to these financial institutions by the HF are used to finance the creation and development of SMEs. In most cases, JEREMIE offers venture capital, intermediated loans and guarantees, with the general purpose of promoting SMEs. Some of the funds have focused on guarantees as a single product, e.g. the German Guarantee Fund for Microcredits, with the public bank *Investitions und Förderbank Niedersachsen* acting as the fund manager.

In the first phase of the JEREMIE initiative 2006-2007, the EC’s Directorate General for Regions (“DG REGIO”) mandated EIF to undertake preparatory evaluations of the gaps between supply and demand and related market failures in the regions, and to propose actions to be taken. From 1 January 2007, JEREMIE entered in its second phase, when the program became operational. Each participating programming authority held tenders to appoint Fund Holders to manage the JEREMIE initiative in close cooperation with the MS or MAs. Through the JEREMIE HF, the EIF manages funds made available from ERDF and related public expenditure granted for utilisation under the JEREMIE initiative.

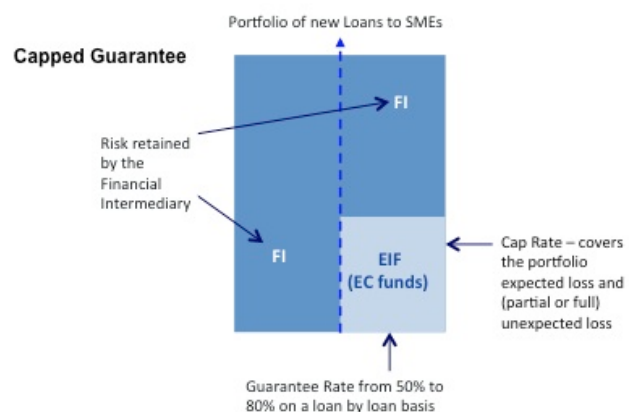
The FIs contemplated in the JEREMIE initiative are designed to create a leverage effect on the managed funds, i.e. market-based instruments create opportunities for public-private cooperation. The program is also designed to reinforce the capacity of SMEs to raise additional financing by strengthening their capital base or by addressing a portion of the financing risk which some investors or lenders are not willing to take. Furthermore, the professional management of JEREMIE funds provides incentives for the European financial sector, banks and investors, to co-invest or lend to SMEs.

The FIs designed within the JEREMIE framework are very flexible. Each Fund Holder can implement various types of instruments varying from equity and quasi-equity to venture capital, loans or guarantees for the benefit of SMEs in the regions.

JEREMIE is also an adaptable tool since FIs can be managed flexibly over a period of time: during the financial period 2007-2013, for example, and in consultation and cooperation with the MAs, the JEREMIE Fund Holder can re-allocate the resources to one or other FI and product, depending on the effective demand. When looking at the added value of JEREMIE, the program is designed to optimise the use of ERDF funding and to simplify the management of financial engineering by the MA. It operates as a ‘toolbox’ of FIs that enables regions to set up targeted financial actions in favour of SMEs. This point is crucial as it applies to JESSICA as well.

In the management of HFs, EIF provides a number of guarantees, including the first loss portfolio guarantee (“FLPG”). The purpose of the FLPG is to stimulate bank lending to micro, small and medium-sized enterprises by providing credit risk protection (in the form of a first loss portfolio capped FG) in order to reduce the particular difficulties that SMEs face in accessing finance because of the lack of sufficient collateral in combination with the relatively high risk they represent.

Both capped and uncapped guarantees are provided. The illustration shows a capped guarantee which has been used in JEREMIE operations and which could be replicated in a JESSICA type guarantee facility. The objective is to provide better access to finance for targeted SMEs (addressing a market gap). The added value for the financial intermediary includes the credit risk cover and potentially capital relief.

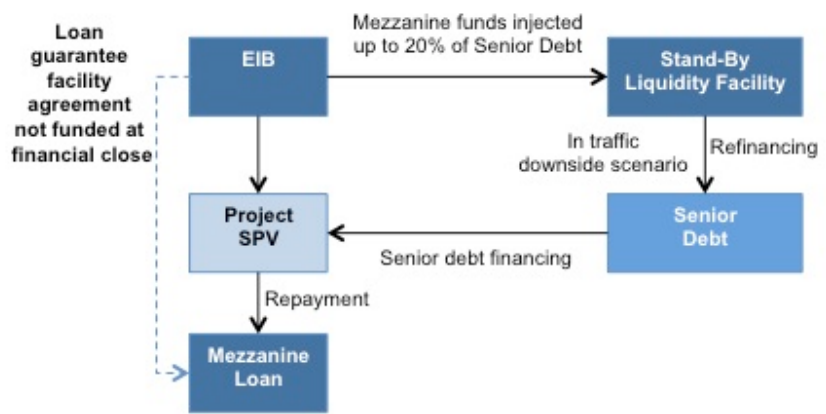


Partial first loss portfolio capped guarantee (using typically an EC contribution) providing credit risk coverage on a loan by loan basis, for the creation of a portfolio of new loans/leases to SMEs by a Financial Intermediary, up to a maximum loss amount (cap). It can also be structured as a counter-guarantee.

High leverage: depending on the Guarantee Rate and Guarantee Cap Rate set (e.g for a 50% Guarantee Rate and 25% Guarantee Cap Rate, leverage would be 8x- and potentially up to 20x).

**Trans European Network Transport:** The Loan Guarantee Instrument for Trans-European Transport Network Projects (“LGTT”) provides cover for lower than expected revenues that might occur because of lower than anticipated traffic volumes in the critical early phases of project operation. It is a tool specifically designed to allow greater private sector participation in Trans-European Transport Network infrastructure (“TEN”) projects that are exposed to traffic risk, i.e. large infrastructure networks of transport, energy and telecommunications underpinning the developmental and integration goals of the EU.

The stand-by liquidity facility guaranteed by the LGTT should not normally exceed 10 per cent of the total amount of the senior debt (up to 20 per cent in some cases e.g. high traffic volatility during the ramp-up period with strong indication of stabilized traffic and acceptable debt service capacity post ramp-up). The amount of the guarantee is subject to a maximum ceiling of EUR200 million per project pursuant to the EIB



Structured Finance Facility rules (“SFF”). The SFF is EIB’s main facility for increased risk taking, established to support projects of European importance including large-scale infrastructure schemes.

The principal aim of LGTT is to improve the ability of the borrower to service senior debt during the initial operating period or “ramp-up” phase of the project, regardless of the initial traffic revenue. This effectively covers the period from the completion of the project to the 5th anniversary of the completion date (up to seven years in special cases). By providing contingent mezzanine debt to mitigate the downside traffic risk scenario, LGTT allows the capital structure to be more robust to project uncertainties and mitigates some of the refinancing risk in mini-perm structures.

Whilst LGTT is clearly designed for large scale cross border infrastructure projects (and not the scope or size of projects that JESSICA is designed for), there are two elements of the coverage provided that are of particular interest to JESSICA: (i) coverage for lower than expected revenues (demand risk) in (ii) the early stages of operation (ramp-up period) of the project.

Table 3 – CIP Results up to October 2012

Results by October 2012	
Loans provided to businesses	221,043
SMEs supported	191,583
Actual utilisation (of maximum portfolio volume available)	52.1%
EIF intermediaries	40
Countries covered	20

**Competitiveness and Innovation Framework Programme (“CIP”).** The EC allocates resources to the EIF under the CIP. The CIP has several schemes and a budget of over EUR1bn to facilitate access to loans and equity finance for SMEs where market gaps have been identified. Indeed, financial institutions have tightened their credit policies post crisis, creating great difficulties for SMEs in trying to obtain debt finance. They cover different needs depending on the stage of development of SMEs. Within the CIP, the SME guarantee facility (SMEG) provides loan guarantees to encourage banks to make more debt finance available to SMEs, including microcredit and mezzanine finance, by reducing the banks' exposure to risk. SMEG provides co-, counter- and direct guarantees to financial intermediaries

providing SMEs with loans, mezzanine finance and equity. The programme has achieved a substantial multiplier effect of approximately 16 times the guaranteed loan amount. CIP’s success, in part, is due to its very narrow and focused niche market. EU policies pay particular attention to SMEs since these companies are viewed as the backbone of the European economy and the engine of growth and employment.

**Europe 2020 Project Bond Initiative (“PBI”):** The PBI is designed to stimulate capital market financing for large-scale infrastructure projects in the areas of trans-European networks in transport and energy, and broadband telecommunications. It will enable promoters of infrastructure projects to attract additional private finance from institutional investors (insurance companies and pension funds) by providing credit enhancement to project companies raising senior debt in the form of bonds to finance infrastructure projects. The improved credit quality of the bonds is expected to facilitate their placement with institutional investors. The EIB will provide credit enhancement in the form of a subordinated instrument (either a loan or contingent facility) to support the senior debt issued by the project company. The project company will generally be a PPP established to build, finance and operate an infrastructure project.

In the past, capital market issues were an important source of financing for infrastructure projects. Monoline insurance companies guaranteed the full credit risk of senior lenders. Since the financial crisis there have been few new issues guaranteed by the monoline insurers. Furthermore, the sovereign debt crisis and pressure on banks' balance sheets from higher regulatory capital and other requirements (Basel II and III) have constrained other sources of long-term infrastructure financing.

An additional regulation that will influence the cost of financing for infrastructure assets is the Solvency II Directive - 2009/138/EC ("Solvency II), an EU directive that codifies and harmonises the EU insurance regulation. It is a fundamental review of the capital adequacy regime for the European insurance industry. It aims to establish a revised set of EU-wide capital requirements and risk management standards that will replace the current solvency requirements. The revision process aims to: (i) take account of current developments in insurance, risk management, finance techniques, international financial reporting and prudential standards; (ii) streamline the way that insurance groups are supervised and recognises the economic reality of how groups operate; (iii) strengthen the powers of the group supervisor, ensuring that group-wide risks are not overlooked and ensure greater cooperation between supervisors. The new system will lay down quantitative requirements and how to calculate them and qualitative requirements (risk management and supervision requirements) for supervisory reporting and disclosure of information.

There is therefore a need to find new ways to promote private sector financing of infrastructure projects without increasing direct public funding and therefore public indebtedness. The Europe 2020 Project Bond instrument is designed to provide an alternative to financing projects through bank loans or public sector grants in order to close the infrastructure-financing gap. If a project can be appropriately structured, grants and project bonds could potentially be combined.

More specifically, the point with the Project Bond is to divide an issuer's debt into various tranches or layers of different seniority, creating different types of debt with varying risk/return characteristics, and attract different types of investors. The debt is split into two tranches, whereby a senior tranche is securitized and turned into a Project Bond (placed with institutional investors), and a subordinated debt obligation (funded or unfunded), is underwritten by EIB. The Project Bond is designed to expand on some of the features of LGTT by (1) potentially covering other project related risks (construction, operations, performance, traffic), and (2) expanding the eligible sectors while including transport, energy and environment. In its pilot phase (now underway and which will run until 2016), the Project Bond will support trans-European networks in transport and energy as well as broadband and information and communication technology.

The pilot phase of the PBI was launched November 7, 2012, and the scope is to test the project bond concept during the remaining period of the current multi-annual financial framework 2007-2013. According to the EIB, the pilot phase will benefit from EUR230 million from the EU budget and will focus on encouraging capital market contributions worth more than EUR4 billion for infrastructure investment in the transport, energy and communications sectors. The instrument is intended to be an integral part of the EU's "Connecting Europe Facility" for 2014-2020.

It is too early to say whether or not the credit enhancement provided by the Project Bond can achieve its objective. In a press release on November 29, 2012, for example, Fitch Ratings indicated that whilst a project bond credit enhancement instrument (whether in the form of funded subordination or unfunded letter of credit) could improve a project's credit metrics to a level in line with ratings in the 'A' category, projects would also need to display a reasonably strong standalone credit profile. The credit enhancement is unlikely to transform an otherwise sub-investment grade rating to one in the 'A' category. Fitch further indicated that the unfunded instrument could improve the construction phase risk profile of a project by providing additional subordinated liquidity to fund cost overruns or to replace a defaulted contractor. Also, the instrument can enhance a project's rating profile during operations as, in the event of material stress; it can be used to partially prepay senior debt to restore cash flow coverage levels. Following a drawing the project bond credit enhancement can be assimilated to subordinated debt, as it is repaid through a cash sweep after senior debt service. Amounts repaid can be redrawn, potentially providing future liquidity support.

The project bond is primarily designed for large-scale infrastructure projects (like LGTT) and, as such, is less relevant for JESSICA type operations. However, some of the concepts need to be examined more closely as they could be ‘imported’ into parts of the guarantee structure which will be discussed subsequently in this Study:

- The Project Bond credit enhancement may expand on LGTT (which can cover demand risk during the ramp up period for example) by covering other project related risks such as construction, operations, performance, and traffic. These are the types of risks that will also be present in smaller JESSICA type projects.
- The credit enhancement of the Project Bond capped at 20%. Again, whilst the cap rate itself may or may not be relevant for JESSICA, the concept itself is one of the features that should be part of any guarantee structure put in place, i.e. putting a cap rate at a level sufficient to attract third parties to the project.

### Other multilateral and bilateral experience

#### World Bank Group (“WBG”)

The WBG includes the World Bank (International Bank for Reconstruction and Development, the “IBRD”, and the International Development Association, “IDA”), the Multilateral Investment Guarantee Agency (“MIGA”), and the International Finance Corporation (“IFC”). All four institutions offer guarantees, some of which may overlap.

Table 4 – World Bank guarantees results since inception

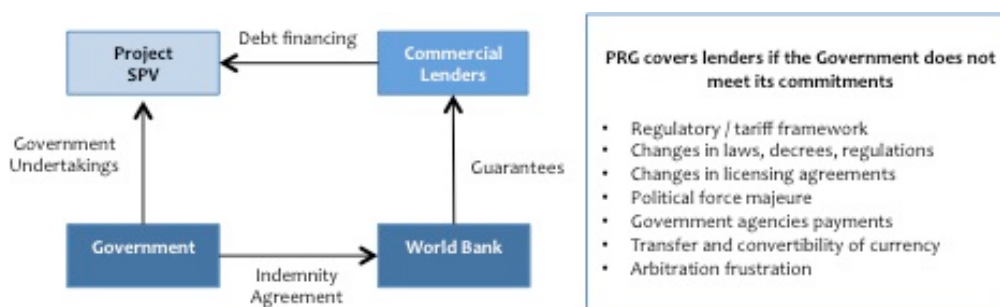
World Bank guarantees cumulative results to date	
Number of Guarantees	<ul style="list-style-type: none"> <li>• 37 guarantees issued</li> <li>• Value of US\$4.5 billion</li> <li>• 30 countries</li> </ul>
Leverage	<ul style="list-style-type: none"> <li>• US\$27 billion in project financing mobilised. All of the guarantees, except for two PBGs, have been for infrastructure (power, oil and gas, and transportation)</li> </ul>
Type	<ul style="list-style-type: none"> <li>• 25 PRGs</li> <li>• 8 PCGs</li> <li>• 4 PBGs (Policy Based Guarantees)</li> </ul>
Recent transactions	<ul style="list-style-type: none"> <li>• PBG in Serbia in FY11</li> <li>• PBG in Macedonia in FY12</li> <li>• Botswana PCG in FY10</li> </ul>
<small>Source: Chapter 3 of “The World Bank Group Guarantee Instruments 1990-2007, An Independent Evaluation” by the International Bank for Reconstruction and Development, 2009.</small>	

World Bank (“WB”) guarantee products are risk mitigation tools that help reduce the fiscal burden of governments, catalyse private sector finance in support of development objectives, facilitate access to the international debt and capital markets on more favourable terms, and leverage Bank resources.

As far as the WB is concerned, these instruments can only help if there is credible movement towards reform in the sector (e.g. in the areas of collection, losses, tariffs, financial viability). Also, guarantees require a counter guarantee from the host country. It goes back to the point that guarantees, as well structured as they may be, will not make a bad project

good; nor will it address underlying structural issues in the sector.

**The World Bank Partial Risk Guarantee (“PRG”)** is generally intended for private sector projects (greenfield projects, privatisations, concessions or other PPP structures) and covers debt financing (loans and bonds including debt provided by sponsors in the form of shareholder loans) against specific sovereign contractual obligations committed to the project. The PRG will normally cover extended maturities that are necessary to make the project financially viable. These are structured so as to provide the minimum coverage necessary to mobilize private financing.

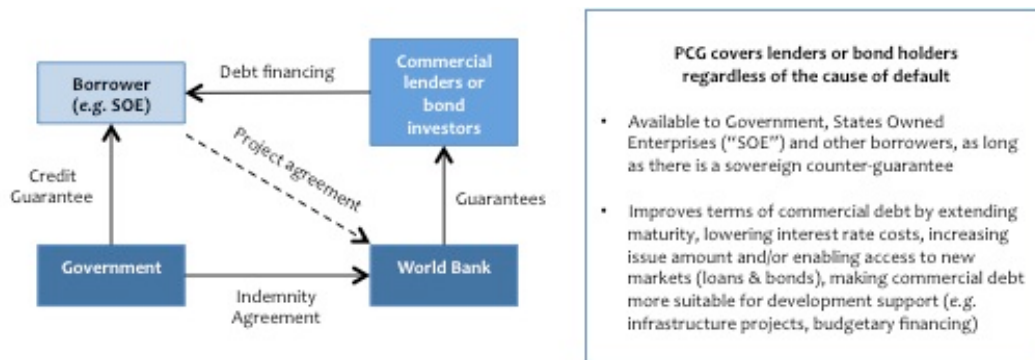




PRGs are suited for greenfield or existing projects that depend on government contractual undertakings such as build-operate-transfer (“BOT”) concession agreements, PPPs, and privatisations. Projects can be identified (i) through the on-going dialogue between the WB and the host country, (ii) by project advisers for the government, and (iii) by project sponsors / lenders who approach the WB directly. In all cases, the project needs to comply with the on-going country assistance strategy (between the WB and the host country).

In terms of due diligence, the WB will appraise the project to ensure that it meets the WB’s technical, environment, economic and financial criteria. Several agreements will then be signed: (i) a guarantee agreement between the WB and the beneficiary of the guarantee (a lender for example) that contains all the terms and conditions of the PRG; (ii) a project agreement between the WB and the project company, which includes undertakings to the WB (e.g consent requirements for changes to project agreements, compliance with WB safeguard policies); and (iii) an indemnity agreement between the WB and the government under which the government indemnifies the WB in case the WB has to make payments under the PRG.

The **World Bank Partial Credit Guarantees (“PCG”)** are generally intended for public sector projects and/or entities. They cover debt service default for specified payments. Any projects funded by the government or other public-sector entities, which meet the WB’s appraisal criteria for an investment project, are eligible. There is no sector restriction but refinancing is normally not eligible. The borrower of the guaranteed debt can be the sovereign government, its agency, or a state-owned entity (e.g. utilities, financial institutions). PCGs can be used for any commercial debt instruments (loans, bonds) provided by any private institution, and they cover both foreign currency and local currency debt.



PCGs can cover a portion of the debt service payments (principal and/or interest) regardless of the cause of default. The structure and coverage can be determined flexibly on a case-by-case basis at the level required by a specific debt instrument and the market, to the extent that commercial lenders share the credit risk of the borrower in a meaningful manner and allow the extension of debt maturity and/or lower interest rate costs. PCGs typically cover extended debt maturities necessary to make the project financially viable. Whilst PCGs may be offered along with a WB loan to the same borrower for the same project, they can also be offered on a stand-alone basis.

The **World Bank Policy Based Guarantee (“PBG”)** cover private lenders against the risk of debt service default by the sovereign government. Although these instruments are similar to the PCGs, PBGs are designed for general balance of payments support (i.e. the proceeds of the guaranteed debt can be used for any budgetary purpose). PBGs are available for countries that have a strong track record of performance with a satisfactory social, social and macro-economic policy framework and a strategy for gaining access to international financial markets. In terms of eligibility requirements, PBGs are used for any commercial debt instruments (loans and bonds) provided by private institutions. The structure is designed to be flexible (based on market conditions and the nature of the debt instrument), and the coverage is determined on a case-by-case basis so that the risk is shared between the lenders and the borrower the guarantee results in debt maturity extension and/or lower interest rates.

Table 5 – World Bank Policy Based Guarantees

Policy Based Guarantees	
Serbia <sup>1</sup> (February 2011)	Macedonia <sup>2</sup> (October 2011)
<ul style="list-style-type: none"> <li>Supports Government's public expenditure reform programme</li> <li>PCC allows country to enter international loan market for the first time by issuing €292.6 mm 6-year bullet loan. Without the guarantee, country could only achieve maturity of 3-4 years.</li> <li>Guarantee covers principal repayment risk on a non accelerable basis (it does not guarantee interest payments).</li> <li>Borrowing spread of 100bps over Euribor (plus lender arrangement fees) results in significant savings</li> </ul>	<ul style="list-style-type: none"> <li>Supports Government's program aimed at strengthening sustainability of public finances, improving performance of social protection and functioning of labour markets</li> <li>Designed to improve access to international financial / capital markets (improved pricing and tenor)</li> <li>PCC of €100 mm for €130 mm bank loan from international bank loan market (Deutsche Bank and Citibank) with 5-year bullet maturity</li> <li>Interest rate on the commercial loan = 5-year Euro swap rate plus 234 bps (plus lender arrangement fee)</li> </ul>
<small><sup>1</sup> Source: World Bank, "Proposed Policy Based Guarantee of up to Euro 300 Million", January 14, 2011 (Report No. 58222-YF).  <sup>2</sup> Source: World Bank, "Proposed Policy Based Guarantee of EUR100 million", October 14, 2011, (Report No. 59914-MK).</small>	

The above description of the PCG is relevant since the next programming period (2014-2020) is expected to include PBGs in the ESI Funds regulation. The rationale behind this PBG would be to improve the conditions of commercial borrowing or bond emission of national or regional authorities, thus increasing the amount of money raised to finance Europe 2020 related structural reforms within

the scope of ESI Funds. Designs currently looked at include (i) placing the ESI Funds allocation in a fiduciary account to serve as full or partial collateral, and (ii) using the ESI Funds as a risk-sharing instrument by sharing the credit risk with a national or international financial institution.

### IFC Partial Credit Guarantees

A PCG represents a promise of full and timely debt service payment up to a predetermined amount. Typically, the sum that IFC pays out under the guarantee covers creditors irrespective of the cause of default. The guarantee amount may vary over the life of the transaction based on the borrower's expected cash flows and creditors' concerns regarding the stability of these cash flows. IFC tailors guarantees to meet the needs of both borrower and creditors. They are structured to reduce the probability of default of the debt instrument and increase the recovery if default occurs. In general, IFC's objective is to offer the minimum amount of guarantee necessary to facilitate a successful transaction. In principle, this should allow the borrower to obtain the lowest possible funding cost, allow the investors to maximize returns given their risk tolerance, and mobilize the maximum amount of borrower financing for a given level of IFC credit exposure.

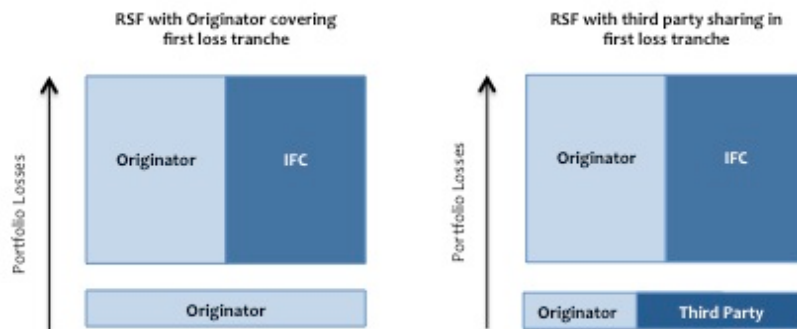
### IFC Risk Sharing Facility ("RSF")

The RSF is a bilateral loss sharing agreement between the IFC and an originator of assets in which IFC reimburses the originator for a portion of the principal losses incurred on a portfolio of eligible assets. The originator may be a bank or a corporation. This has been used, for example, to expand available financing for SMEs in South-eastern Europe, and for EE schemes. These RSFs can cover loans for a number of sectors, e.g. mortgage, consumer, student, school, EE, and SME businesses. Portfolios of corporate receivables can also be considered.

As IFC points out, the product is most appropriate for originators requiring credit risk protection but not funding. The product can be particularly helpful when introducing a new product or when targeting new consumer or business segments. The absence of historical loss experience can often be a constraint on the extension of credit to these new markets. The product therefore allows the originator to share some of the risk of loss with IFC. With this product, IFC can reimburse an originator for a fixed percentage of incurred losses that exceed a predefined threshold (or first loss). Eligibility criteria for the underlying assets are pre-agreed between IFC and the originator.

In a RSF, the IFC can reimburse the beneficiary or originator of assets for a predefined percentage of the incurred losses that exceed a predefined threshold, i.e. first loss. Both institutions will have come to an agreement upfront on the eligibility criteria for the assets to be covered. The new assets will normally have to be added to the portfolio during a ramp-up period of 2-3 years (or until the portfolio has reached a size that was agreed upfront between both institutions). Once the portfolio has reached its maximum, new assets may not be added but the IFC remain liable in

the sharing of the losses as the portfolio amortises. Subsequent recoveries are then shared on the same risk sharing formula.



There are many options for structuring this product, two of which are presented above. In the first instance, the originator assumes the first loss. Once the first loss is exhausted, IFC will share the risk *pari-passu* with the originator, covering up to 40% of excess principal losses. The second example is similar, except that the originator shares the first loss with a third party.

### Multilateral Investment Guarantee Agency

MIGA provides Political Risk Insurance (“PRI”) to support new cross border investments by private sector investors and lenders in emerging markets. PRI consists of five main political risks: (i) currency inconvertibility and transfer restrictions; (ii) expropriation and similar measures; (iii) war and civil disturbance including acts of terrorism; (iv) breach of contractual obligations; and (v) non-honouring of sovereign financial obligations. Investors can choose one or all coverages depending on their risk appetite and needs for their equity investments and/or debt financing. The amount of guarantee varies, while the tenor of the guarantee ranges from a minimum of 3 years to 15-20 years. As a PRI provider, MIGA requires that the host government issue its non-objection to the project, thereby showing support for the proposed investment. MIGA has designed a separate PRI Programme for SMEs to facilitate and encourage SMEs at a flat cost.

Guarantees provided by MIGA are expected to improve the overall risk-return profile of the project, reduce provisioning requirements for lenders, and lower cost of financing. It also offers an element of deterrence against host government interference, gives investors the necessary confidence to invest in new markets, and provides for the mediation of investment disputes. Since inception, MIGA has broadened its PRI coverage to bond issues and Sharia compliant financing guarantees. One example is a private placement for a toll road in a country that could not raise any financing beyond five to seven years. With MIGA PRI, it was able to raise funding for 20 years, lower the cost of borrowing by improving the credit rating and thereby implement a project that would not have been otherwise possible. This type of PRI coverage has opened up opportunities for further debt financing for projects in emerging markets where foreign investment is scarce.

PRI is not directly relevant for the type of guarantees envisaged for JESSICA operations. However, the breach of contractual obligations coverage that is sometimes offered by some PRI providers is interesting to consider. Indeed, the trigger for that particular coverage could be the non-honouring of a specific obligation by the municipality or the state (e.g. non payment of a pre-agreed fee structure by the municipality to the ESCO as a result of energy savings).

### Other agencies that provide guarantee products

There are a number of other regionally based multilateral institutions, which provide various types of guarantees. Many of them developed and modelled their guarantee and insurance products on those offered by the WBG, e.g. ADB, AfDB, IADB, IDB. Since they provide guarantees that are very similar to those provided the WBG, it is not necessary to expand on the products but it is a useful reminder that most institutions have developed guarantee products to fill a market need.

- The European Bank for Reconstruction and Development (“EBRD”) provides all-risk guarantees (covering lenders against default regardless of the cause) and partial risk-specific contingent guarantees covering default arising from specified events.
- The Asian Development Bank (“ADB”) provides political risk guarantees and partial credit guarantees to lenders, covering bank loans, loans made by shareholders, loans guaranteed by shareholders or third parties, capital market debt instruments, bonds, financial leases, letters of credit, promissory notes, and bills of exchange. ADB’s guarantee product is normally used for financial services and capital markets (banking, leasing, insurance, and funds) and infrastructure (power, transportation, water supply and waste treatment, and telecommunications).
- Additional examples of agencies that provide similar guarantee products (be they PRGs, PCGs, or PRI) include the Inter-American Development Bank (“IDB”) and the African Development Bank (“AfDB”).
- There are also specialized agencies such as GuarantCo which was set up to help address and overcome existing constraints in the supply of local currency debt financing to infrastructure projects (including urban projects such as affordable housing) and to help match the demand for local medium and long-term funding.
- Finally, there are numerous bilateral agencies and ECAs, which provide guarantee products. ECAs provide guarantees to exporters or commercial banks supporting those exporters (for the supply of goods and services) to cover payment defaults by the buyer or borrower. The guarantee can include commercial and political risk (comprehensive cover) or political risk only. The role of ECAs in funding infrastructure projects is expected to expand as the commercial banks find it increasingly difficult to provide the type of debt that is needed for such developments. The new regulatory regime for banks is the main driver as Basel III banking accords impose much higher regulatory capital requirements on long term lending and effectively limits maturity mismatches that will make long-term lending required for infrastructure assets more challenging and costly. Given the current environment, a number of ECAs which currently only provide guarantees (e.g. Norway, Finland, and Denmark) are looking to add lending instruments to their Programmes to join those that already do, e.g. U.S. Exim, EDC of Canada, and JBIC of Japan. For most European ECAs, direct lending programmes are not an option given the on-going crisis. Instead, these ECAs will look to expand the loan guarantees in terms of size and location to support commercial lending. ECA covered loans may not retain their current zero risk weighting under Basel III but they will still have a lower capital charge than uninsured loans which should allow banks to provide debt at lower levels.

## Private providers of FGs

### Monoline insurers

They are, traditionally, insurance companies that provide guarantees to issuers, often in the form of credit wraps that enhance the credit of the issuer. They initially provided wraps for municipal bond issues, which rarely defaulted, insuring the timely interest and principal payments on bonds. The companies rely on "AAA" ratings, for confidence in the quality of their guarantee. The "AAA" rating is then transferred to the insured assets as part of the insurance wrap. If a borrower fails to make payments the insurer takes over responsibility for the interest and principal payments.

Although most monolines were founded in the U.S., a third of their investments in 2007 were in Europe. In the UK, for example, they guaranteed £24 billion of infrastructure lending through PFI schemes and also provided wraps on whole business and future flow securitizations. An example of such an instrument developed for a portfolio of infrastructure assets was EPIC I (Essential Public Infrastructure Capital), EPIC II and EPIC III by DEPFA Bank. The bank identified a portfolio of high-quality PPP loans that formed the basis of a synthetic Collateralised Loan Obligation (“CLO”) issue. By carrying out the CLO issue, DEPFA effectively securitised the debt service payments receivables from a number of PPP loans in its portfolio and pledged these cash flows in favour of investors that guaranteed the repayment of principal to the bank in the event of a borrower default. This provided regulatory capital relief and provided investors with access to high-quality investment opportunity with management of the portfolio retained by DEPFA Bank.

Monolines also insure the debt of corporations, sovereigns and mortgage and other asset-backed securities. This is usually done using credit derivatives in structures called collateralized debt obligations (“CDO”) as discussed below.

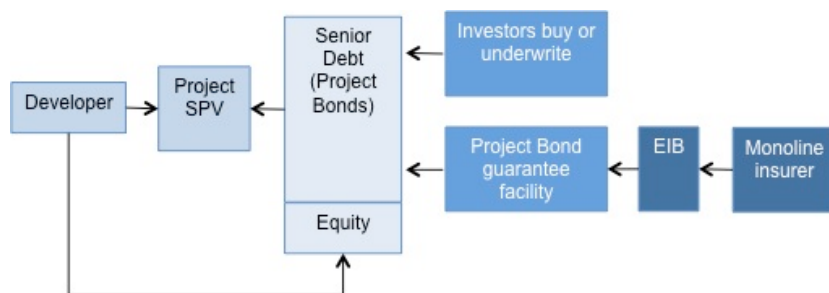
Insurers are typically paid the full, non-refundable premiums for insuring debt when the insurance is written. These premiums are then recognized on its balance sheet over the life of the policy, due to regulatory and accounting principles; the purpose of this principle is to link the premiums paid to the average life of the wrapped obligations.

In the period 2002-05, credit markets changed quickly as investment banks and hedge funds introduced new financial products, *i.e.* new instruments to hedge against credit risk, essentially replacing some traditional forms of debt insurance. Derivatives allowed capital markets to provide “insurance” to other investors, bypassing the need for insurance companies. Credit default swaps (“CDS” - an insurance contract against the default of a referenced bond) gained significant market share. Demand for CDOs also grew, as a way of packaging several types of debt obligations together and then selling tranches of varying credit quality to investors. Monoline insurers therefore got into this business and expanded their product offerings to include credit enhancements for other types of bonds, such as mortgage backed securities (“MBS”) and CDOs; the premiums paid were much larger than those in the thin profit margin business of municipal bond insurance.

Two of the largest monoline insurers (MBIA and Ambac) started out in the 1970s as insurers of municipal bonds issued by American cities and counties, and like other monoline insurers were listed on the NY Stock Exchange. Some of the Europe based monoline insurers have been funded by the banks (CIFG by Natixis). More recently and until 2008, much of their growth came via structured products, such as asset-backed bonds and CDOs. The total outstanding amount of paper insured by monolines reached approximately \$3 trillion by 2008. When subprime mortgages soured, bond insurers such as Ambac and MBIA were on the hook to pay up. Their credit ratings subsequently dropped (as capital adequacy was viewed as insufficient based on revised loss forecasts on mortgage-backed debt from risky residential borrowers that is held in the companies' insurance portfolios), which meant issuers were less willing to buy insurance from them. In 2005 bond insurers covered around 57% of new bond issuance, and by 2009 that figure had fallen to 9%, whilst in 2011 the figure was down to 5% with Assured Guaranty as the only active provider of FGs<sup>18</sup>.

Many continue to argue that the industry can and should be restructured. The National League of Cities in the U.S. (non-profit organization) for example, believes that there should be a mutual insurance company owned and operated by local governments. For this to work, monoline insurers would need to be able to demonstrate their ability to provide insurance as well as monitoring and surveillance capabilities (a point made by the various credit rating agencies). In 2012, the first new start-up, since the crisis, was launched (Build America Mutual - mutual organisation, 100% owned by participating municipalities) with a rating of AA from Standard & Pooers. It is limited to municipal general obligation and revenue bonds that are secured by pledged tax revenues or essential public purpose revenues. And in a sign that monoline insurers may make a comeback, Assured Guaranty insured a £100 million PFI contract at Worcestershire Royal Hospital in the UK in early 2012.

Monoline insurers are interested in working with EIB, *e.g.* on the project bond. In one of the structures that they have proposed (Assured Guaranty) during the consultation period, the monoline insurer would effectively act as a reinsurer by assuming a proportionate share of performance risks of the project bonds, thereby freeing capacity for EIB.



The key to remember when looking at the monoline insurers, is that structured products were at the heart of the financial crisis (not the infrastructure projects that benefited from wraps), and these are the products that ultimately brought down much of the monoline insurance industry (who were looking for higher yield), *e.g.* structured Financial products such as CDOs that were backed by residential mortgage-backed bonds and other asset backed securities. The traditional areas where monoline insurers provided wraps (municipal bonds) rarely defaulted. Likewise, the underlying infrastructure projects insured by monolines were not the root of the problem, an important point to understand.

<sup>18</sup> Standard & Poor's, Ratings Direct, “The U.S. bond insurance industry is on a path to re-emergence, but of a different profile”, July 23, 2012.

Many projects continued to perform and, where there were problems, often had more to do with the underlying basics of the project (e.g. unsustainable tariff structures) and the risk allocation.

### Other private insurers

There is a very active private insurance market that provides PRI and commercial credit risk insurance to investors/exporters and lenders. It includes approximately 10 corporate insurers (including Sovereign, Chartis (formerly AIG), and Zurich) and 25 syndicates in the London-based Lloyds market. The private market is considered as more flexible than the public counterparts because it is not constrained by the public policy concerns of bilateral or multilateral agencies. However, when it comes to non-payment risk, there generally has to be a trade element in the transaction.

Insurers that are available for “pure” payment risk in infrastructure projects, including urban development projects, (i.e. those projects where there may not necessarily be a trade or export element) will be limited to two or three insurers (e.g. Axis Insurance and SwissRe) who may be able to provide EUR30-40 million in insurance per project, i.e. approximately EUR60-70 per transaction. Furthermore, as insurance coverage is sought for these types of projects at the municipal/regional (i.e. sub-sovereign) level, it becomes even more difficult because insurers have not had a good experience. One possible way to unlock capacity in this segment is by looking at reinsurance whereby the insurer is looking at a portfolio of risks, as opposed to a single project risk. This would be in line with a portfolio-focused investment approach of JESSICA-type UDFs.

### Funds

Several funds have been established after the financial crisis, with some trying to provide a bond-financing solution to European infrastructure debt markets (e.g. Hadrian’s Wall Capital). Their approach combines project/asset specific cash credit-enhancement in the form of subordinated bonds provided by investors in funds advised by HWC, together with a package of services for structuring, executing, monitoring and reporting that is tailored to meet the requirements of senior bondholders. The results have not been too encouraging. In part, the issue is that attempts to mimic the previous monoline wraps need to attract the same institutional investors who bought monoline instruments. Given the experience, the investors are very reluctant to move forward.

### Rating agencies

The development of bonds as well as other structured finance products (CDS, MBS, and CLO) created the need for an independent verification of the credit risk of the underlying instruments. Credit rating analysis covered areas of key importance to potential investors (e.g. institutional investors) and insurers (monoline): structural features to ensure bondholders’ protection including termination clauses, structural subordination, and other features like quality and stability of the regulatory framework, political risks, credit risk of public grantor, “bankruptcy remoteness” of an SPV from its sponsors, and debt covenants. The independent verification of risks was considered crucial, and resulted from a lack of resources amongst investors to properly assess this risk, and the fact that infrastructure is considered a complicated asset class. Therefore, receiving an acceptable rating has been the key requirement to qualify for issuance of certain financial products. Irrespective of the reliance of credit ratings in general (and this is not the remit of this Study), as well as the costs involved in receiving such ratings, they provided the required additional verification to form a suitable base of underlying infrastructure assets for Financial products that attracted a broader universe of long-term investors to fund the deals at attractive terms.

The need for such independent verification is similar to the mechanism employed when assessing a Fair Rate of Return (FRR) of urban projects to confirm presence of viability gaps. FRRs are usually established either through (i) a competitive process among potential investors (ii) comparable investment projects, or (iii) the consultation of independent experts. In case such independent experts are used, their analysis on the FRR may be used to complement the credit risk analysis described above.

## Relevance to the JESSICA framework

A number of public and private sector guarantee products have been reviewed in this section, and they generally fall into three types of products: credit guarantees, export credit guarantees, and political risk insurance. If one looks at multilaterals alone, one can see that most if not all of the regional banks offer some form of guarantee products, and many are currently looking for ways to expand the product offering given the demand in the market and the need to leverage scarce resources.

The WBG has, for example, undertaken a major consultation in 2012 to look at how to revamp / expand its guarantee program to ensure that there is an efficient deployment of guarantee products amongst the WB, MIGA, and IFC but, as well, to respond to the need to better leverage scarce resources. That exercise is also meant to ensure that financial leverage is a major consideration in providing the guarantee (an issue that is addressed later in this Study in respect of JESSICA), *i.e.* each guarantee needs to assess financial leverage taking into account project and country circumstances and prevailing market conditions.

Whilst many of the guarantees that have been identified can be used in sectors in which JESSICA operates, a good number of them have less relevance. Guarantees such as the PRI provided by MIGA are clearly designed for emerging markets as they provide insurance to investors and lenders against political risks. While the Agency provides coverage against breach of contract (an important factor for infrastructure projects), the insured must first obtain a final and binding award, which can make it difficult for lenders. What MIGA brings though, is its affiliation with the WBG and its ability, therefore, to mediate disputes before they escalate and actually result in a claim. This is why it has had very few claims over its near 25-year history.

ECAs can provide PRI as well as comprehensive coverage but this is generally related to export related transactions and so has less relevance for JESSICA. There are countries though where an ECA may also have other functions, *e.g.* Kredex in Estonia which provides (i) support to companies that are expanding in foreign markets (via loans, credit insurance and guarantees), (ii) loan guarantees for purchasing homes, and (iii) loans, guarantees and grants for EE projects. Kredex is a member of the European Association of Mutual Guarantee Societies (AECM), which was created in 1992 with the support of the EC. They all have in common the mission of providing loan guarantees for SMEs who have an economically sound project but do not dispose of sufficient bankable collateral. They are active as non-profit organizations at national, regional or local level. Four main typologies exist: Mutual Guarantee Societies, other types of Private Guarantee Societies, Public guarantee institutions and PPP initiatives. The specific choice for one or the other model reflects the economic and legal frameworks of the respective countries.

Private insurers are also very active in the PRI market but like their public sector counter-part (MIGA), it is less relevant for JESSICA. Where they may have a role to play may be at the reinsurance level. Private reinsurers could, for example (and depending on the structure), take on a first loss position, or share in the second loss. There are multiple options possible at the portfolio level, as opposed to the project level.

The table below highlights those guarantee products that are the most relevant for JESSICA. Monoline insurers have suffered as a result of the 2007-09 financial crisis, and are still in the process of rebuilding. Nonetheless, the coverage provided by monoline wraps (especially those that were used in Europe to wrap infrastructure assets, including urban development projects) remains of interest and relevant for JESSICA, *e.g.* risk analysis, pricing mechanism, and use of reinsurance. Private insurers could also be a source of reinsurance, depending on the size of the proposed guarantee facility, and should therefore be looked at more closely.

Table 6 – Relevant Guarantee Products for JESSICA

Guarantee Product	Key Feature	Relevance for JESSICA
JEREMIE (EIB)	<ul style="list-style-type: none"> <li>Ability to support SMEs via equity loans or guarantees with or without a HF</li> </ul>	<ul style="list-style-type: none"> <li>Useful experience in respect of revolving nature of instrument, pricing, structures, payment certification</li> </ul>
Partial Risk Guarantee (see WB)	<ul style="list-style-type: none"> <li>Coverage to lenders if the Govt. does not meet its commitments (specific obligations covered)</li> <li>Normally covers extended maturities. Designed to provide minimum coverage to mobilise financing</li> </ul>	<ul style="list-style-type: none"> <li>Suited for greenfield and existing projects, dependent on Govt. undertakings where an SPV is set up</li> <li>Designed for projects with long maturities</li> </ul>
Partial Credit Guarantees (see WB, IFC)	<ul style="list-style-type: none"> <li>Coverage to lenders for public sector projects</li> <li>Normally there are no sector restrictions</li> <li>Covers part of debt service regardless of the cause of default</li> </ul>	<ul style="list-style-type: none"> <li>Suited for projects where there may not be an SPV (Borrower is Govt., sub-sovereign, SOE) and where private parties are providing services</li> </ul>
Risk Sharing Facility (see IFC)	<ul style="list-style-type: none"> <li>Loss sharing agreement between IFC and an originator of assets (bank or company)</li> <li>Originator assumes first loss, after which IFC and originator share the risk on an equal basis up to a pre-defined percentage of excess losses</li> </ul>	<ul style="list-style-type: none"> <li>Suited for SMEs, energy efficiency schemes and other sectors</li> <li>Useful for introduction of new business segment by the bank or company</li> <li>Useful for originator needing credit protection as opposed to funding</li> </ul>
Private insurers	<ul style="list-style-type: none"> <li>Flexibility as they are not constrained by public policy concerns of bilateral or multilateral agencies</li> </ul>	<ul style="list-style-type: none"> <li>Private insurance products could be used at the portfolio level as a reinsurance tool</li> </ul>

PRGs and PCGs (provided by various institutions including WB and IFC) are directly relevant as they show how guarantees can remain flexible and be designed in a way to put in place the minimum amount of guarantee required to mobilise additional financing. A number of features of these types of guarantee products would be useful in a number of JESSICA type projects, e.g. insurance of later maturities, coverage of specific government obligations at various level (sovereign, regional, municipal), loss sharing mechanisms amongst insurers and insureds (and potentially third parties), insurance of existing or green-field projects, credit enhancements of portfolio of similar investments. Equally, the IFC’s RSF is relevant for JESSICA since the programme has been used to expand available financing for SMEs for EE schemes.

The JEREMIE programme needs to be looked at closely in the structuring of JESSICA guarantees as it has experience in this area (both in terms of products but as well as in its multi-layer architecture). Of particular interest, and as described earlier, are the capped and uncapped guarantees. Likewise, the experience to date in respect of pricing, payment certification and leverage are useful indicators for JESSICA.



## 1.2. Risks associated

### Risk allocation issues

The table highlights some of the risks at various stages of the project life cycle and, depending on the risk, these are allocated to the developer, the contractor, the lender, the government, or the guarantor. There are obviously many other risks to consider which could have an impact on the project's ability to service the debt and therefore trigger a claim event under a guarantee.

Table 7 – Risk allocation amongst the various parties

Risk Allocation (developer, contractor, lender, government...)			
Development		Construction	Operation
<ul style="list-style-type: none"> <li>• Technical feasibility</li> <li>• Commercial / financial feasibility</li> <li>• Project economics</li> <li>• Permits / authorizations</li> <li>• Third-party intervention</li> <li>• Political change</li> </ul>	<ul style="list-style-type: none"> <li>■</li> <li>■</li> <li>■</li> <li>■○</li> <li>■○</li> <li>■○✓</li> </ul>	<ul style="list-style-type: none"> <li>• Schedule</li> <li>• Cost</li> <li>• Performance</li> <li>• Design changes</li> <li>• Interest rate escalation</li> <li>• Consequential damages</li> <li>• Force Majeure / country risk</li> <li>• Currency changes</li> <li>• Availability of foreign exchange</li> <li>• Permits/authorisations</li> <li>• Political risks</li> </ul>	<ul style="list-style-type: none"> <li>■◆</li> <li>■◆</li> <li>■◆</li> <li>■◆</li> <li>■◆</li> <li>■◆</li> <li>■◆○✓</li> <li>■◆</li> <li>■◆○✓</li> <li>■◆○</li> <li>◆✓</li> </ul>
			<ul style="list-style-type: none"> <li>• Market changes</li> <li>• Capacity / production shortfalls</li> <li>• Fuel / materials supply interruption and cost escalation</li> <li>• Operations and maintenance - cost escalation</li> <li>• Interest rate escalation</li> <li>• Currency depreciation</li> <li>• Statutory change / civil unrest / strikes</li> <li>• Force majeure</li> <li>• Third party liability</li> <li>• Plant residual value</li> <li>• Debt service</li> <li>• Demand risk</li> <li>• Refinancing risk</li> </ul>
	<ul style="list-style-type: none"> <li>■ Sponsor risk</li> <li>○ Contractor</li> <li>◆ Lender</li> <li>◇ Government</li> <li>✓ Guarantor/insurer</li> </ul>		

These risks need to be looked at in detail so as to highlight which parties are best positioned to take a specific risk. It is important to ensure that the risks are allocated to those parties that are best able (and motivated) to assume them, and to reduce the residual risks in the project to a level that the sponsors/developers can prudently manage. The key is that for each UDF project, all risks must be identified and evaluated before the project is launched and financial commitments are entered into.

The risk classification can be based on the life cycle of each project (development, finance, construction and operation phases) and may include: location risk, planning risk, completion-on-time risk, completion-within-budget risk, performance risk, change-in-demand risk, change-in-supply risk, escalation risk, statutory political risk, and Force Majeure. Detailed definitions for each risk classification are necessary before attributing the specific materiality for each risk to projects under review.

Using the concept of "community of interests", each risk is then attributed to one or more of the project participants, including the originator(s) and beneficiaries of the respective UDF. More specifically, the "community of interests" refers to a risk sharing concept whereby each identified project risk is attributed to the party best suited to cover that risk; either by contractual means, direct funding or external insurance. The concept assumes that while each project party pursues different interests, a proper project arranging process will cause those interests to be properly aligned and to become mutually supportive, thus providing additional viability to the project. Thus, in addition to allocating risks to one or several specific parties ("Who?"), one needs to review the mechanisms by which such allocations are conducted ("How?"), as well as the legal, commercial and financial consequences of each allocation mechanism.

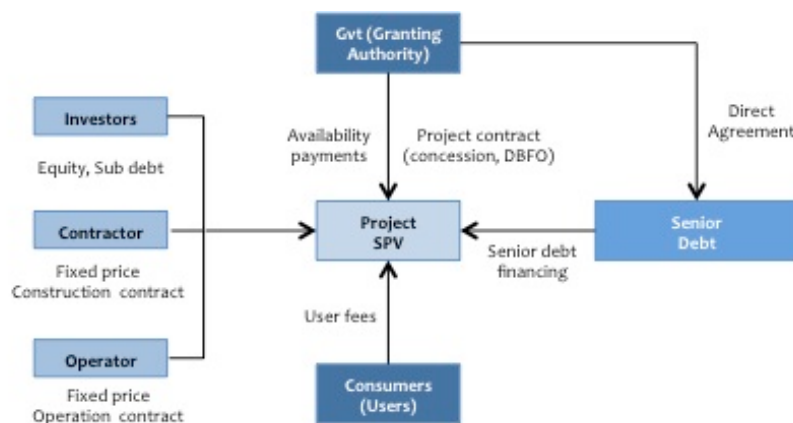
It is useful to look at two clusters of projects that would qualify for JESSICA type operations: (1) social infrastructure projects that could include hospitals, universities, schools, administrative buildings, and (2) regulated utilities that could include water and sewage, and electricity transmission and distribution. This is by no means intended to include every possible sub-sector that falls under JESSICA (in the current or in the upcoming programming period) but it does provide a good representation of the types of risks that JESSICA type projects will face.

**Social infrastructure projects**, in the context of urban development projects, will typically have the following features (a typical, and simplified, structure is shown below):

The Borrower normally enters into a fixed price, date certain, construction contract with a construction contractor, and a fixed price services contract with an operator at financial closing. The Borrower’s obligations under the Concession are passed down to the Contractor and Operator. The subcontracts normally are supported by parent company guarantees, bonds, letters of credit, liquidated damages and reserve accounts. Operators usually provide various low-tech, simple, services such as cleaning, catering, maintenance and security.

In “accommodation“ projects (e.g. schools, hospitals, prisons) risk transfer can be achieved through availability based payment mechanisms, whereby the payment is made assuming the facilities are available in line with agreed criteria. The project company will not want to take a risk on the number of school students, hospital patients, or prisoners (as they feel they are unable to control this).

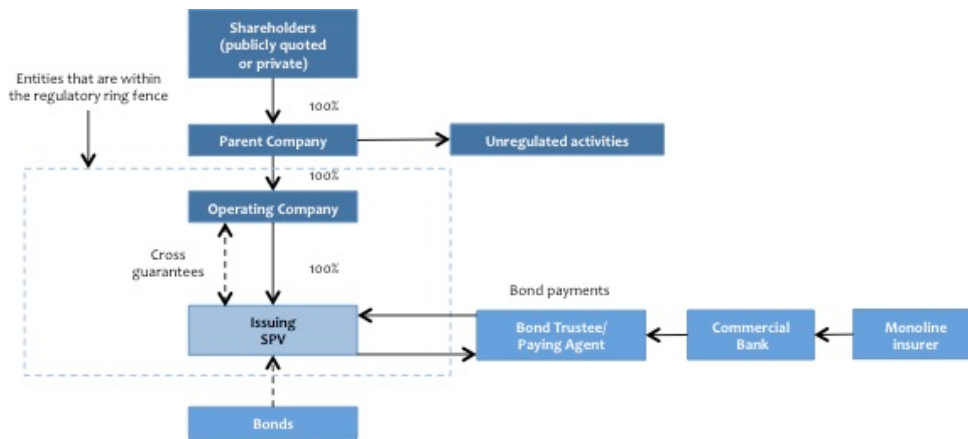
Concessions provide for compensation payable by the Grantor in certain circumstances. Full compensation will generally be payable for *force majeure* or grantor default (including nationalization) and market value (less rectification costs) for borrower default.



Financing may include some or all of the following features:

- Construction is funded using long term bank loans/bonds and sponsor equity/subordinated debt, which is repaid over the operational life of the asset.
- Bank loans / bonds have senior ranking priority and are secured on project cash flows and are generally made to special purpose vehicles.
- Debt may amortize on a sculpted basis, maturing 6-18 months before the end of the Concession. Lenders generally have strong contractual controls over the project and its cash flows, including robust distribution tests and comprehensive information and financial covenants. Lenders typically benefit from various direct agreements which facilitates step-in should the project get into significant difficulty and they wish to take control.

Amongst the key drivers is the need for stable revenue streams from strong counterparties, which may or may not have government support. The borrower will typically receive regular payments from the grantor once the project is completed and operational. That price will have been set at financial closing and will be designed to cover operation and maintenance costs, debt service and a return on equity. Grantors may benefit from some sort of support from the central government (e.g. the NHS Trusts in the UK benefit from the Residual Liabilities Act and Deeds of Safeguard and local authorities will receive support in the form of PFI credits).



**Projects in the regulated utilities** space (which includes, amongst others, water and sewage, electricity transmission and distribution) have some similar characteristics: (1) regulators want stable investment grade credit ratings to enable the water and energy sectors to raise the finance at a level which will provide affordable water and electricity to the general public; (2) the licensees need to raise finance on a regular basis given the high capital investment requirements; (3) those same licensees own long life assets which earn a regulated and steady return which in turn should make it easier to raise long term finance; and (4) prices will normally be set by reference to inflation and will take into account the scale of capital investment Programmes, cost of capital, operational costs and environmental regulations. A typical (simplified) structure would look as follows (although the part with monoline cover, which would have been typical just a few years ago, would be very different today as previously explained).

In many of these types of projects, there will be a number of restrictions and requirements imposed on the licensee or the operating company. For example, failure to meet the required performance standards may result in penalties being imposed by the regulator and dividends to be prevented from distribution to shareholders. Also, there will be restrictions on the business activities of the operating company as well as prohibitions on cross subsidies for other members of the parent company (effectively ring fencing the regulated asset).

The table below looks at a number of risk-related (or risk allocation) issues that can come up in projects, and their implication and relevance for JESSICA projects.

Table 8: Risk allocation issues to consider

Risk issue	Implication / relevance for JESSICA
<p><b>Loss sharing:</b> In the case of the projects reviewed (and for future guarantee operations), we can look at the issues of loss sharing, <i>i.e.</i> whether a loss sharing mechanism has been implemented and if so, whether the project has benefitted from it in terms of time to funding and closing as well as other sustainable benefits. This issue is relevant during all phases of the project (development, construction, operation). As shown below in one of the projects, a government may want/need improvements in small district heating units in municipalities (where the technology is obsolete), and will encourage developers to tackle the problem. But what happens if at the very beginning, there is no seed capital available, and if later there are no (credit enhanced) loans available to finance the deals?</p>	<p>(1) As far as guarantee products are concerned, the loss sharing mechanism goes to the heart of proper risk allocation. With respect to guarantees, a UDF would want to ensure that there is a loss-sharing feature, whether at the project or portfolio level. This could involve, for example, first loss features (both at the project and portfolio level if there is a reinsurance element involved), pro-rata sharing of losses, caps on guaranteed percentage as well as caps on guarantee amounts that are paid out, and deductibles.</p> <p>(2) Given the multi-layer management architecture of JESSICA (MS/MA/HF/UDF), some thought must also be given to the loss sharing at the various levels of the architecture. This would be the case in the event of severe losses within the guarantee facility for example.</p>

**Expected losses:** One needs to review the impact (if any) of expected losses in the financial solution for each project and determine its benefit to the project funding and closing. Expected losses are a key component of pricing and, more generally, the risk based pricing framework that the UDF and/or HF may want to use when setting up the guarantee facility. It will include economic exposure, claims frequency, severity of losses and recovery prospects. The claims frequency will be the most difficult to quantify since, unlike life insurance, there will not be an available actuarial table. However, a number of risk based pricing models have tried to quantify this risk (e.g. MIGA) by looking at historical averages in the industry or sector, events correlation, and “halo” effect (if any) provided by the guarantor.

This issue goes to the heart of a proper risk management approach by the guarantee facility *i.e.* credit analysis, selection of projects, adequate diversification, etc. (1) In the JESSICA context this means that the guarantee facility (whether a HF or a UDF manages it) needs to have the tools and resources to ensure proper risk management. (2) There are also implications for the timing of the funding, *i.e.* funding as and when guarantees need to be put in place, or funding upfront when the HF or UDF is set up. In the latter case, one would want to ensure that there is a healthy pipeline to start with (diversification being a key factor), and that such pipeline is properly monitored at all times. Upfront funding would also give the entities that benefit from guarantees comfort that the facility has the adequate resources to face potential claims.

**Creditworthiness of parties:** While each of the parties involved in a project may affect its success differently, those parties attached to the project's core viability need to demonstrate minimum credit worthiness, usually expressed in the amount of financial resources provided by that party to the project. An equity sponsor may contribute a limited amount of cash while senior lenders and suppliers provide credit lines, off-takers promise to pay for output and government officials may pledge services to the project - all contingent claims and liabilities against the project have to be tested for their credit worthiness. An assessment of the credit worthiness of the various project parties will assess the likelihood that a borrower will default on its debt obligations. The availability of assets and the extent of liabilities will help determine the probability of default, which will be factored in the risk based pricing model.

This issue is important for the project in terms of proper guarantee structure selection and allocation of risks, and in terms of the stakeholders in the JESSICA architecture (UDF, HF, MA) since, as described in other parts of the paper, beneficiaries will do their own analysis on the credit worthiness of the guarantee provider. Taking ESCOs related projects as an example (which, is an area that could benefit from the proposed guarantees), the creditworthiness issue needs to be addressed at various levels: the ESCO will be concerned that the municipality has the financial resources to pay the ESCO when energy savings are realised (and that the funds are not only available but not diverted to other expenditures); the municipality will be concerned that the ESCO has the necessary balance sheet to carry out the project successfully; the UDF/HF will be concerned that both parties have the financial ability to carry out the project in order not to have a claim on the guarantee, etc.

**Subrogation rights:** The existence (or the waiver) of subrogation rights may determine the financial position of a project in default. Once the guarantor has paid compensation to the beneficiary, the guarantor is subrogated to the extent of the guaranteed loss for which compensation is paid to all of the beneficiary's rights, title and interest in its right to receive all or part of the loan payment that is subject to the guaranteed loss. In practice, those rights will depend on which part of the financing has been guaranteed, and whether or not there are other creditors to the project with rival claims on the security.

For the UDF or HF managed guarantee facility this is a key issue as it is at the heart of any subsequent recovery efforts and has an impact on the guarantor's own rating. Whilst it is normal for a guarantee provider to pay out claims (that is the nature of the business – although one would want to ensure that those claims are minimised through prudent underwriting), the important thing will be that once a claim has been paid, the guarantee facility will still have rights; and the exercise of those rights should or may lead to partial or total recoveries on the amount of the claim paid out.

**Inter-creditor issues:** Most projects rely on a combination of equity, debt and mezzanine funding, augmented by one or more guarantees. Once the project has reached closing, the funding instruments must be administered during the construction operation phases. Depending on the size of a project, inter-creditor issues range from a few and simple covenants (usually handled by one "Agent Bank") to a legal mammoth with a whole team of Agent Banks (see Eurotunnel). For the UDF, this is an issue that will need to be addressed very carefully since, depending on the structure, there may be different parties involved (some of whom may claim senior positions).

This issue may be less relevant for smaller projects where there may not be an SPV. However, in projects where an SPV has been set up, and where one might have investors (local and foreign), lenders (local and foreign – including senior lenders, subordinated lenders), and a number of parties from the public sector (a municipality for example, or a regulatory body), a proper analysis of the inter-creditor issues will need to be looked at closely to anticipate what happens when things go wrong, e.g. ranking of various instruments used, waterfall of payments, competing claims, etc.

**Conflicts of interest:** When an MA sets up a HF, which in turn sets up one or several UDFs, it is understood that these funds will provide financial products (including guarantees) in areas which fall under JESSICA type operations. One needs to make sure that policy objectives do not get mixed or confused with ensuring that the guarantee facility is financially sound and self-sustaining. Failure to do so will inevitably result in conflicts of interest amongst the various parties to the project, result in projects being pursued for the wrong reasons, and undermine the financial viability of the guarantor.

In principle, this issue is addressed by the nature of JESSICA type projects; eligibility requirements include the need for the project to fall within an integrated plan for urban regeneration, i.e. projects are normally in line with the MA's objectives. However, if a guarantee facility is set up at the HF level, and the facility has been co-funded, or co-guaranteed, by a government entity, conflicts of interest could arise when/if a claim materialises, e.g. a claim resulting from a municipality's failure to make payments. There might be good reasons for the failure to pay (the contractor might not have met several milestones) but one would want to ensure that no undue pressures are put on the guarantee facility. The latter would need to be able to make an independent decision on the validity of the claim.

**Payment obligations:** All risk allocation eventually leads to payment obligations amongst the parties involved or between the project parties and outside third parties. Their contractual arrangements need to be reviewed and checked against possible and potential counterparty risk. For the UDF guarantee facility, the issue will need to be addressed at various levels, and will be closely linked to the timing of guarantee premium payment adopted for example.

Given the multi-layer architecture of JESSICA, it is crucial to make clear upfront where responsibility for pay-out of claims sits. If for example, a HF suffers multiple claims at the same time, such that the paid-in capital is insufficient to meet the claim payments, one would want to know upfront if there is recourse at a different level of the JESSICA architecture (e.g. the MA).

**Reinsurance:** A transaction in which one party, the reinsurer, in consideration of a premium paid to it, agrees to indemnify another party, the reinsured, for part or all of the liability assumed by the reinsured under a guarantee that it has issued. The reinsured is also referred to as the original or primary insurer or the ceding company. Reinsurance is a mechanism, which allows a better distribution of risk, and at the same time creates additional leverage for the underlying guarantee facility.

When setting up a UDF or HF (with an embedded guarantee facility) reinsurance mechanisms could be considered at various stages: (1) at the project level whereby individual guarantees might be reinsured in the private market or with other agencies; (2) at the UDF portfolio level whereby a reinsurer might reinsure (on a treaty quota share basis for example) a pool of projects. Similarly, a local institution (be it a development bank or national insurance agency) might be interested in coming at the reinsurance level.

**Moral hazard:** This refers to changes in the insured's behaviour that are due to having the insurance in place. More specifically, it is the incentive for taking additional risk because the beneficiary is protected against losses. The guarantor can take a number of measures to address this issue. These might include pricing to risk (there is an argument that subsidised pricing will provide the wrong incentive), including a deductible (effectively forcing the insured to assume a first loss position), and excluding certain risks, which the insured should have been expected to avoid. The issue of moral hazard is something that is looked at closely in the guarantees industry (e.g. private insurance market, WBG) and always needs to be taken into account.

In the context of a UDF and/or HF managed guarantee facility, the issue would need to be addressed when looking at pricing considerations. Part of the problem is likely to be mitigated by the very nature of JESSICA operations since projects need to fit within an existing urban master programme.

### Review of existing/potential projects

We have reviewed five projects to look at their main challenges from the development to the operation phase, whether these are green-field or brownfield projects. Typical risks and challenges will be linked to revenue risk, demand risk, contracts without the necessary enhancements, lack of seed capital at development stage, which has a knock-off effect on commercial lending availability, and on-going local government support.

Table 9: Project risks and issues

Country	Project
Poland	Żywiec Hospital: first ever PPP initiative in the Polish healthcare sector, success is key to addressing deterioration of healthcare asset-base. Issue of revenue risk resulting from the lack of stability of contracts with the public payer National Health Fund, which creates significant deterrent for larger scale capital investments.
Poland	Network of small-scale CHP installations across the country: urban regeneration projects suffer from a lack of interest from financial partners while they are still in the development / construction phase. Issue of public budget constraints at local level. Combination of start-up risk for developer and challenges faced by commercial lenders opens opportunity for seed capital and guarantees.
Germany	Unna Administrative Building: arranging private financing took too long and involved KfW plus international funding because local private sector was unfamiliar with PPP scheme and reluctant to assume the risks.
Latvia	Housing, EE: Huge needs to renovate housing, particularly multi-apartment blocks, EE improvements to such buildings are both a Latvian and EU priority objective.
Poland	Development of regional airports: to finance refurbishment / extension of regional airports, some regions (voivodeships) have implemented ambitious investment programs that to certain extent have been co-financed via EU Regional Operating Programs <i>Infrastructure and Environment</i> , with balance of financing from shareholders (Marshall offices and other shareholders including the company PPL – Polish state-owned airport holding company) or on the commercial market. Issue of future traffic risk and on-going support from local government in the future.

Depending on its size and location, a project will see the involvement of most if not all of the following parties:

1. Government officials - elected or appointed - from the legislative, executive and judicial branch who are involved throughout the life cycle of a project in fixed or variable form;
2. Planning and design professionals who provide the preliminary analysis (pre-feasibility or feasibility studies) for a project upon which other parties base their respective decisions and influence the critical path of a project;
3. Technical engineering professionals who determine the scope of capital expenditure for a project based on one or more feasible solutions for its implementation ("Capex component");
4. Commercial professionals (marketing, operations, maintenance) who determine the potential revenues and respective operating costs for a project based on one or more feasible solutions for its implementation (the "Revenue/Opex component");
5. Financial engineering professionals who provide a comprehensive financial solution based on (2) - (4), mindful of the framework provided by (1) above and based on the availability of certain FIs / terms and conditions provided by defined financial markets;
6. Suppliers and off-takers, whose motivation, capacity and performance depend on the type and sector of a project, the selected solution provided, and financial engineering during its life cycle.

These different parties, as will be seen in the five case studies below, play different roles in the project structures, and will have different tolerance levels for risk. In identifying potential guarantee structures, it is therefore key to identify those parties best positioned to assume different types of risks. Failure to address the risks adequately, or to properly understand the perception of the risks among the various parties, could result in projects being delayed or never achieving financial close. This section therefore looks at potential examples of market failure and how guarantees might address the problem.

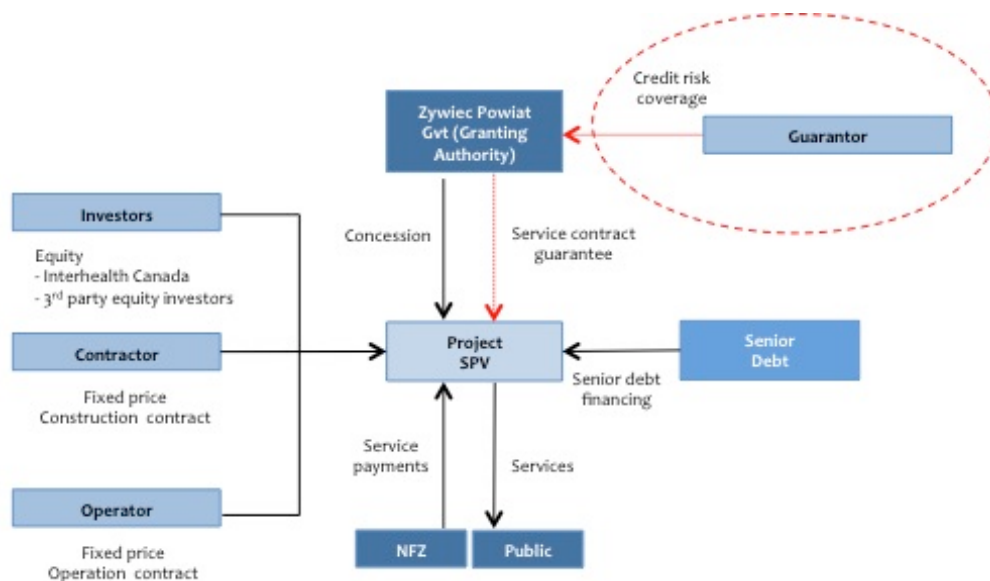
Poland – Żywiec Hospital	
<b>Project</b>	Development of a 352-bed facility across an 18,400m <sup>2</sup> area in the southern Silesian province of Poland, representing the country's first hospital PPP. Expected total CAPEX is approx. PLN 200 m.
<b>Parties</b>	<i>Contracting Authority:</i> Powiat Żywiec (cluster of local municipalities) <i>Preferred bidder:</i> Interhealth Canada <i>Other parties:</i> Polish National Health Fund (NFZ), EDC (Canada's ECA)
<b>Structure</b>	30-year DBFO contract under which the contracting Authority grants the concessionaire: use of greenfield land as the site for the new hospital; current site and all assets of the existing hospital; assignment of existing contracts for payments from National Health Fund (NFZ).
<b>Risk Sharing</b>	<p><i>Contracting Authority:</i></p> <ul style="list-style-type: none"> <li>• Ensure adequate roads and utilities access to the site</li> <li>• Not to open any other facilities which could be used to provide clinical services and effectively compete with the hospital (this obligation refers also to all municipalities within the region)</li> </ul> <p><i>Concessionaire (InterHealth Canada):</i></p> <ul style="list-style-type: none"> <li>• Design, build, equip, finance and operate the New Hospital on the greenfield site</li> <li>• Obtain all necessary building permits and complete and commission the new hospital</li> <li>• Ensure the provision of the clinical services being delivered at present by the Contracting Authority to the standards agreed in the PPP Contract</li> <li>• Transfer all staff working at the existing hospital to the new hospital when it opens and continue to employ them for a period of 5 years</li> <li>• Refurbish parts of the existing hospital and use it for long term care</li> <li>• Hand back the assets at certain at the end of the contract term</li> </ul> <p>Concessionaire may also (1) provide additional health services in the Żywiec community, and (2) use surplus real estate assets to increase the revenue stream (with a preference for healthcare services)</p>
<b>Key Dates</b>	<ul style="list-style-type: none"> <li>• November 2009 – Public tender initiated by Powiat Żywiec</li> <li>• 9 companies submitted Expressions of Interest, including: InterHealth Canada, Strabag, VAMED, GE Medical Systems and local players – competitive dialogue conducted with the bidders</li> <li>• Only one company, InterHealth Canada, submitted the bid in the end – most of bidders who decided not to submit BAFO said the risk profile was not acceptable</li> <li>• 15 September 2011 – PPP contract signed. Based on publicly available information, Interhealth Canada has 12 months to achieve Financial Close (which has been postponed and is now expected in 2013)</li> </ul>



**Main project issues: payment mechanism (revenue risk)**

The payment mechanism adopted in the contract relies on payments made directly by the National Health Fund (NFZ), for medical services provided to private parties. The key problem with this structure is the method by which NFZ contracts services. In order to create competition in the Polish healthcare market, NFZ contracts services via public tenders, normally on an annual basis, with annual contracts, and on some occasions 5-year contracts. While this promotes competition amongst healthcare operators, it does create a significant barrier for private financing of large Capex without any guarantee in respect of potential future revenue streams.

Given that this is the only general hospital in the Powiat (county), it has some degree of protection by effectively enjoying a natural monopoly position. However, this significantly limited the number of potential bidders as well as created a challenge for commercial debt financing.



To address the problem, it is believed that Zywiec Powiat agreed to back the project in respect of the contract level from NFZ (details of contract levels and detailed legal form unknown), and provisioned for adequate treatment of a cancellation or limitation of NFZ contract below a certain threshold as an event of default in the PPP contract. This effectively limits the revenue risk to a general concessionaire performance, as in other project finance types of deals, and significantly reduces the payment risk on the public side.

Nonetheless, lenders remained uncomfortable with the credit risk of Żywiec Powiat, whose financial position and own revenue stream could not guarantee its performance in accordance with the PPP contract, in the event NFZ does not contract or limits its service contract. Moody’s has recently rated Żywiec Powiat Baa2.

Although the Contracting Authority or Interhealth Canada has never confirmed it, the project is perceived as challenging by potential lenders, and delays in financial close could indicate problems with raising bank loans at terms that are acceptable to the project and the lender. It is the market’s understanding that the risk could be addressed by Canada’s ECA by covering Żywiec Powiat credit risk, thus further reducing the revenue risk.

As the first ever PPP initiative in the Polish healthcare sector, its success is viewed by the Polish government as critically important to address the deterioration of the healthcare asset-base where around 600 hospitals have been identified to be in a condition which does not meet EU regulations.

Poland – Network of small-scale CHP installations across the country	
<b>Project</b>	Substantial strategic pipeline of 500-600 MWe to repower existing heat installations. Business model crafted by local developer based on the substantial demand from financially constrained small- to mid-size municipalities to replace and upgrade their old, environmentally unfriendly and technologically obsolete coal-based power and heat generation plants with modern, gas-fired CHP technologies.
<b>Parties</b>	<i>Contracting Authority:</i> Various local municipalities across Poland <i>Developer:</i> Local developer
<b>Structure</b>	The local developer has injected seed-capital to cover initial expenses to set up a platform of projects (including acquisition of land and funding of preparatory works).
<b>Risk Sharing</b>	<p><i>Contracting Authority:</i></p> <ul style="list-style-type: none"> <li>As a rule, municipalities do not have financial resources to meet CAPEX requirements and attempt to treat projects as entirely commercial ventures, including privatisations of entire district heating networks, with no subsequent involvement of the municipality.</li> <li>Long-term lease of land (including land owned by local district companies) might be considered.</li> <li>Certain obligations such as upgrade of heat transmission network might be undertaken either directly by local municipality or district heating company.</li> <li>Some form of support agreement for local district heating companies might be considered.</li> </ul> <p><i>Private developer:</i></p> <ul style="list-style-type: none"> <li>Development and operation risk to be borne by the private developer and secured by revenue structure and risk mitigants: <ul style="list-style-type: none"> <li>⇒ Electric energy (45%): Long-term off-take contract with one of Polish utilities, with the pricing based on formula referencing market volumes and prices over the 12 preceding month period, reduced by the discount.</li> <li>⇒ Yellow certificates (20%): Long-term off-take contract with one of Polish utilities, with the pricing based on formula referencing market volumes and prices over the 12 preceding month period, reduced by the discount.</li> <li>⇒ Heat (35%): Mid-term contracts with local authorities / district heating companies / end consumers, based on annual tariff determined individually in each local market, but subject to national tariff regime and approval by the energy regulator.</li> </ul> </li> </ul>
<b>Key Dates</b>	<ul style="list-style-type: none"> <li>Project under development since 2010</li> <li>Long-term contract signed with one of Polish utilities end 2010</li> <li>Construction works relating to first 3 installations to start Q2 2013</li> <li>3<sup>rd</sup> party equity and bank financing under arrangement</li> </ul>

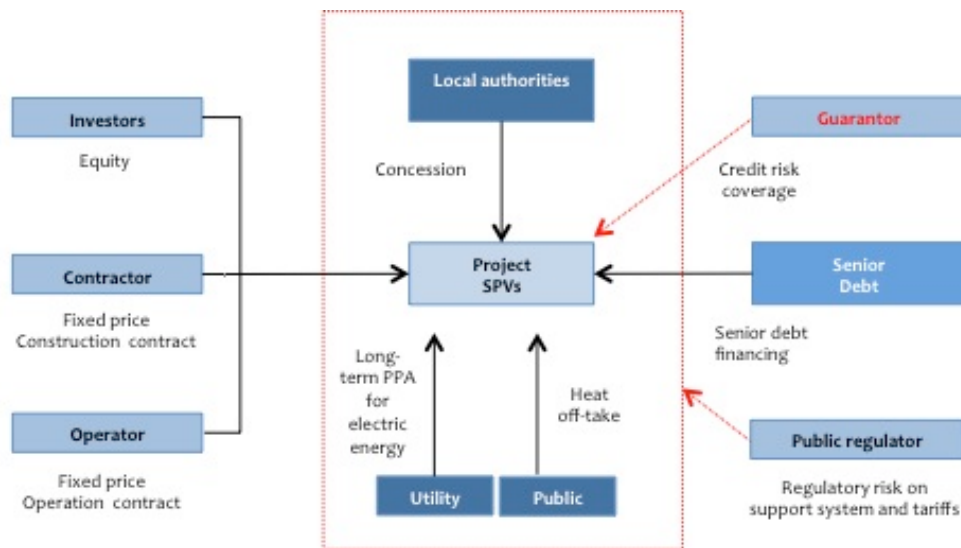
**Main project issues: development stage**

The developer has found significant interest in the acquisition of operating assets, both from local utilities as well as local and international financial investors. The challenge faced by the developer is the further financing of development and construction works.

Whilst the project offers a balanced risk profile during the operational phase (especially via long-term off-take agreements with financially sound utilities), which assumes exit options in the future, the development phase has its own unique challenges.

Larger municipalities can attract interest from larger players (contractors/developers) such as Dalkia or Fortum, but what about the smaller communities?

Many urban regeneration projects suffer from a lack of interest from financial partners while they are still in the development / construction phase. Public budget constraints at the local level make these investments difficult or impossible to be funded publicly, and create a significant need for private funding in this sector.



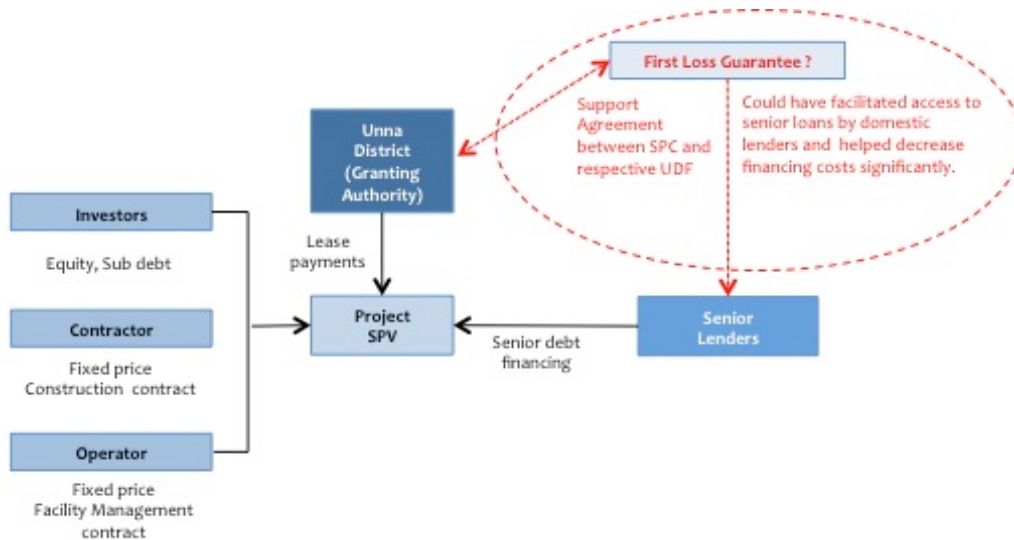
In this specific case, the project could benefit from a JESSICA type UDF in two ways: (1) small amount of seed capital during the development phase as the various projects are rolled out; and (2) guarantees to financial institutions in the period leading up to, and including, the operational phase.

Germany – Unna District Administration Building (“Kreishau Unna”)				
<b>Project</b>	<p>The Unna District (population 409,524) covers 10 municipalities in North Rhine Westphalia, in the east of the Ruhr Metroplex. The District Administration Building (“Kreishaus Unna”) is located in Unna (population of 66,202).</p> <p>This project is a typical example of a PPP scheme employed under the recently developed legal framework. Burdened by increasing personnel and maintenance costs, in early 2005 the Unna District entered into a PPP scheme with German construction company Bilfinger Berger (today, “Bilfinger”) to refurbish its existing administration building from the 1960s and provide facility management services throughout the 30-years contract life (including a 5-year extension option). Contract volume is EUR 90 million.</p>			
<b>Parties</b>	<ul style="list-style-type: none"> <li>Contracting Authority</li> <li>Operator</li> <li>EPC contractor</li> <li>SPV Shareholders</li> </ul>	<ul style="list-style-type: none"> <li>Kreishaus Unna</li> <li>HSG Zander Rhein-Ruhr GmbH</li> <li>BB Hochbau GmbH</li> <li>Bilfinger Berger PI International Holding GmbH (90%) and Kreis Unna (10%)</li> <li>Bilfinger Berger Project Investments GmbH</li> <li>Kreis Unna</li> </ul>		
<b>Structure</b>	The SPV that was set up (PBKU) is owned by Bilfinger (90%) and Kreis Unna (10%).			
<b>Risk Sharing</b>	<p>Planning Phase (2005)</p> <ul style="list-style-type: none"> <li>“Fit for purpose”, functionality risk</li> <li>Change orders</li> <li>Permits, public approvals</li> </ul> <p>Facility Management (2006-today)</p> <ul style="list-style-type: none"> <li>Increased facility mgt. costs</li> <li>Increased maintenance costs</li> <li>Capacity/utilization risk</li> <li>Security, vandalism</li> <li>“Transfer in good condition” risk</li> </ul>	<ul style="list-style-type: none"> <li>Bilfinger</li> <li>Unna</li> <li>Jointly</li> <li>Bilfinger</li> <li>Bilfinger</li> <li>Bilfinger</li> <li>Bilfinger</li> </ul>	<p>Refurbishment, Construction (2006-2006)</p> <ul style="list-style-type: none"> <li>Site handover</li> <li>Soil condition, pollution</li> <li>Increased construction costs</li> <li>Delay in completion</li> </ul> <p>General</p> <ul style="list-style-type: none"> <li>Force Majeure</li> <li>Change of law</li> <li>Financing (interest, repayment, collateral)</li> <li>Inflation risk during construction</li> <li>Inflation risk during facility mgt.</li> </ul>	<ul style="list-style-type: none"> <li>Unna</li> <li>Jointly</li> <li>Bilfinger</li> <li>Bilfinger</li> <li>Unna</li> <li>Unna</li> <li>Bilfinger</li> <li>Bilfinger</li> <li>Unna</li> </ul>

**Main project issues:**

Not all of the risk mitigation was conducted at the beginning of the project. Instead, the parties agreed to meet at regular intervals to review the project status and identify potential adverse development throughout the project lifecycle. There are bi-monthly meetings to manage current events.

The special purpose company (PBKU) is reviewed quarterly on the quality of services provided by the facility manager, and the tenant evaluates the contractual deliverables. An annual inspection of the whole building augments these review efforts.



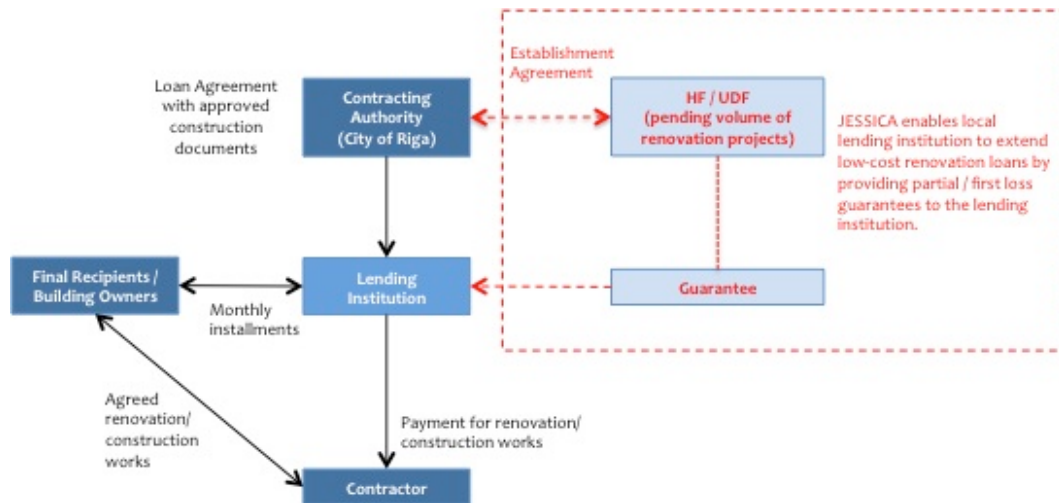
Local construction and service companies benefit from the on-going involvement with overhaul and repair works under PBKU's cost contingencies. The public sector's liabilities are limited to the pre-agreed lease contract arrangements over the life of the contract.

Arranging the private financing took too long and involved KfW as well as international funding because the local private sector was unfamiliar with the PPP scheme and reluctant to assume the risks. A guarantee structure could have reduced funding costs as lower cost funds could have been provided by regional lenders (e.g. Sparkasse, Genossenschaftsbank). Instead, Bilfinger had to approach KfW-IPEX and Sumitomo Mitsui (including very risky EUR/JPY swaps) to get the project closed.

The EPC contractor had to use its own credit lines to get the project moving. A UDF would have been helpful in mobilizing local funding sources; using JESSICA guarantees would have facilitated access to local lenders. The PPP scheme should be employable for other municipalities in Germany with proper ERDF eligibility.

Latvia – Energy Efficiency of Housing (EEoH)	
<b>Project</b>	<p>Latvia has an enormous need to renovate housing, particularly multi-apartment blocks. Energy efficiency improvements to such buildings are both a Latvian and EU priority objective. The expected capex for such renovations in Riga and participating Latvian municipalities is in excess of LVL 1 billion.</p> <p>Legal studies indicate that a "path finder" revolving fund structure could be established within the existing programming period as some residual State aid and/or EU grants would be required to enable a smooth transition into the 2014-2020 programming period.</p>
<b>Parties</b>	<p>Contracting Authority:</p> <ul style="list-style-type: none"> <li>• Initial phase: Riga City Council / Riga Energy Agency</li> <li>• Subsequent phases: new UDF to be established under respective Ministry or Latvian Credit Guarantee Agency</li> </ul> <p>Other parties:</p> <ul style="list-style-type: none"> <li>• Lending Institutions from the private sector</li> <li>• ESCOs (eligibility to be determined on case-by-case basis)</li> <li>• Owners of multi-apartment residential buildings</li> </ul>
<b>Structure</b>	<p>Establishment of a contracting authority within Riga City Council for implementation of initial phase renovation measures to be augmented by establishing a new UDF for the implementation of subsequent phases.</p> <p>UDF would provide guarantees to eligible private sector lenders to achieve a notable multiplier effect and to facilitate lending by the private sector.</p>
<b>Risk Sharing</b>	<p>Contracting Authority:</p> <ul style="list-style-type: none"> <li>• <i>Selection of investments on the basis of proven eligibility.</i></li> <li>• <i>Registration of eligible loan transactions and provision of management capacity for establishment of UDF.</i></li> <li>• <i>Establishment of HF if concept is adopted by more Latvian municipalities.</i></li> </ul> <p>Lending Institutions:</p> <ul style="list-style-type: none"> <li>• <i>Credit default risk would still be managed by private sector lenders.</i></li> <li>• <i>Provide facilities and bear loan/guarantee default review checks.</i></li> </ul>

Preferential loans introduced after the expiry of grants within the recent Programming period proved to be not motivating enough. Hence, the need to establish a pilot UDF of EUR 10-20 million to provide guarantees to private sector lending institutions to enable them to extend larger volumes of loans to ESCOs or directly to building owners.



Further to required legal and accounting discussions, the City of Riga, as Contracting Authority, would establish the UDF. If a sufficient number of other municipalities agree to this approach, a ministerial level entity such as the Latvian Credit Guaranty Agency would establish a HF, and each of the participating municipalities would establish their respective UDF.

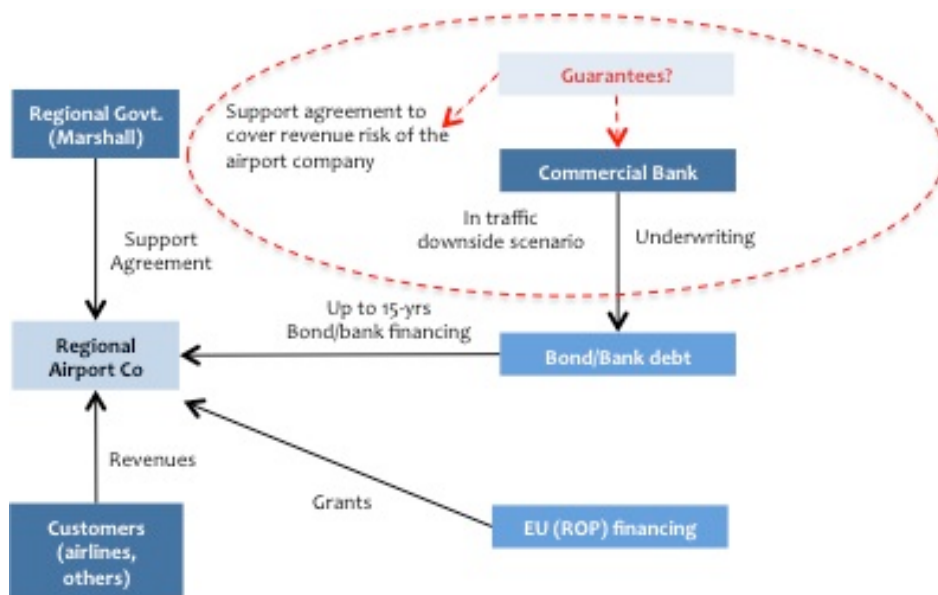
The respective construction contracts would be signed between the Contracting Authority, the Contractor and an Administrator, to be appointed by the building owners. Payment for construction work would occur directly between Lender and Contractor upon confirmation by Administrator that renovation/construction works have been carried out satisfactorily and all payment flows are in line with the loan agreement.

Poland – Financing redevelopment / expansion of Polish regional airports	
<b>Project</b>	<p>In order to finance the refurbishment / extension of regional airports, a couple of regions (voivodeships) have implemented ambitious investment programs that, to a certain extent, have been co-financed via EU Regional Operating Programs <i>Infrastructure and Environment</i>. The balance of financing for the airport companies needed to be funded either directly from shareholders (Marshall offices and other shareholders including the company PPL – Polish state-owned airport holding company) or on the commercial market. Due to the financial limitations of existing shareholders, several companies were looking for external source of finance, with a few deciding for a bond issuance, including:</p> <ul style="list-style-type: none"> <li>• Mazowiecki Airport Warsaw Modlin (PLN 150mm)</li> <li>• Reymont Airport in Lodz (PLN 190mm)</li> <li>• Ławica Airport in Poznań (PLN 128mm)</li> <li>• Wrocław Airport (PLN 230mm)</li> </ul>
<b>Parties</b>	<p>Public partners: Local airport companies and local governments (Marshall offices across Poland)</p> <p>Lenders: Bank Pekao S. A. (Unicredit Group) as bond arranger and underwriter</p>
<b>Structure</b>	<ul style="list-style-type: none"> <li>• The bonds have been structured as mid-term obligations of the regional airport company that will service the debt through future revenues from airport operations.</li> <li>• In addition to customary security used for project finance projects (mortgage on real estate and a pledge on equipment as well as movable property of the company), the bond was secured via a support agreement from the Mazowieckie to the respective Voivodeship.</li> <li>• As the commercial banks did not feel entirely comfortable with the revenue profile of the regional airports, the Mazowieckie Voivodeship entered into a support agreement intended to increase the share capital through the acquisition of new shares should the airport company not be able to meet its obligations to redeem the bonds as agreed in the issuance program.</li> <li>• Thanks to the support agreement, the bank (and potentially end investors) were able to accept the risk profile and offer a FI that did not directly influence the public sector balance sheet and offered relatively attractive pricing and tenors (the longest bond maturity of 12 years is for Wrocław).</li> </ul>
<b>Risk Sharing</b>	<p>With the support agreement, local governments (Marshall offices) effectively backed the project related risks that should hinder the redemption of bonds as agreed in the program. In particular, the agreement addresses the potential revenue risk of the airport’s revenue stream should the latter not be able to secure repayment of bond obligation, and allows the risk profile to be based on the credit risk of the “guarantor”, i.e. the local government.</p>



The potential for financing urban/regional projects via municipal and/or regional companies includes: regional airports; acquisitions of rolling stock for regional/urban public system; leisure infrastructure (e.g. aqua parks, including Wroclaw and Poznan).

There is a need to address potential project risks, and in particular future revenue risk, via support agreements from “sponsors”, be it the municipality or the regional government. Taking into account potential risk areas for the “guarantor” with the support agreement in tax, State aid as well as accounting treatment areas, the use of tailored-made guarantees / support instruments should have a beneficial influence on potential urban development projects bearing the revenue risk from end-users.



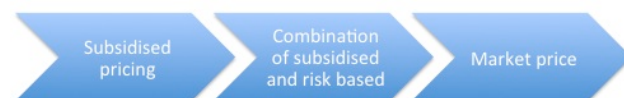
### 1.3. Pricing of FG

#### Pricing options

When looking at the various pricing options available (taking into account the unique architecture of JESSICA), one needs to address a number of issues:

- I. Factors that determine the optimal amount of capital for the guarantor (be it the HF or the UDF) to hold: the capital can be paid upfront, or as is more likely in the programming period 2014-2020, in various instalments. In the case of the latter, the funds might be disbursed annually (as is the case for JEREMIE). If the HF or the UDF runs out of capital against which it can issue guarantees (*i.e.* it reaches its pre-agreed leverage ratio of capital to guarantees), then it may not issue any new guarantees until the next capital contribution. It would be up to the HF or UDF to look at its pipeline of projects at the end of the year so as to anticipate the amount of capital that will be required the following year. Another option as practiced by some multilaterals, would be to have callable capital, which means that the full amount of the capital is not transferred to the HF or the UDF but is held in reserve (it could be at the MA or EU level).
- II. Availability of reinsurance: this would further leverage scarce resources and distribute the risk across several parties who are best equipped to take that risk. Options include quota share treaty reinsurance (where the reinsurer plays a passive role and reinsures the guarantees at a pre-agreed level), and facultative reinsurance, which is done on a deal-by-deal basis. One would then need to determine whether the losses are share *pari passu* or via some other pre-agreed mechanism (first loss, second loss, etc.).
- III. Need to reflect cost of internal capital and possible default in the premium: this raises questions related to whether or not the guarantor is pricing to risk (effectively reflecting market prices) or providing guarantees at a subsidised level. In the case of the former, there will be a range in the available market price and JESSICA might decide to be at the lower end in order to address the market gap or failure. In the case of the latter, subsidies might be considered by JESSICA to encourage certain types of projects that would otherwise not get financed? A third option (which would be more in keeping with the way some other institutions have proceeded on this question), is for the guarantor to do a combination of both, *i.e.* certain projects are priced to risk and others are charged below market rate (effectively these are subsidized) to achieve policy objectives? The only issue to address with respect to pricing below market rates will that related to what does or does not constitute State aid.
- IV. One might expect that the premium charged for a project, or an asset, would equal expected claims for that asset + cost of allocated internal capital – default option value (which reflects the expected value of unpaid claims if the guarantor defaults). The latter point raises other questions as to where the guarantee ultimately sits; it can be the UDF, or more likely, the MA.

One then needs to decide whether or not the guarantee facility is pricing to risk or not. There are various examples in the market place.



- Some guarantors (MIGA for example) will price the guarantee based on an estimate of the total cost (covering both the cost of the risk taken on and the administrative costs) plus expected losses and risk load.
  - There will of course be issues with how well the costs are estimated. The alternative approach would be to set a price equal or close to the market price that others are willing to charge. On the surface, this might appear attractive. It recognizes that a market for this guarantee product cover exists, that investors normally have alternatives, and that guarantor operates within this market. In practice, this may not be as easy as the point here is for JESSICA guarantees to help get projects off the ground which might not otherwise be able to in the current market or simply because the risks are such that lenders, contractors, or developers are unable or unwilling to assume them.

- In an attempt to assist SMEs, MIGA developed the Small Investment Programme by applying an expedited and simplified underwriting process with lower fees. In effect, the premium earned on other transactions allows the institution to target a group of investors, which would otherwise fall under the radar screen of most guarantors and would therefore find it very difficult to proceed with the investment.
- The WB uses its loan equivalent pricing for guarantee products, and it does not need to price PRGs for sector or country risk. It charges a guarantee fee and a front-end fee, and in addition, may also charge an initiation fee and processing fee for a private sector project. Charges are based on the concept of loan equivalency and may differ from one guarantee structure to the other. For IBRD countries, the guarantee fees are equivalent to the spread on the loans, whilst for IDA countries, the guarantee fees are equivalent to the service charge on IDA credits.

Table 10: WGB Guarantees Pricing <sup>(1)</sup>

	Fee type	IBRD			IDA
		PRG	PRG enclave for IDA countries	PCG and PBG	PRG
Upfront charges (one-time fees)	Front-end fee	25 bps (on max exposure under the guarantees)			N/A
	Initiation fee	15 bps on guaranteed amount or \$100,000 (whichever is greater)		N/A	15 bps on guaranteed amount or \$100,000 (whichever is greater)
	Processing fee	Up to 50 bps of guaranteed amount		N/A	Up to 50 bps of guaranteed amount
Recurring charges	Guarantee fee: charged on max. aggregate disbursed and outstanding amount of PRG, and on NPV of guarantee exposure for PCG and PBG.				
	Average maturity – Up to 12 years	50bps	200 bps	50 bps	75 bps
	Average maturity > 12 to 15 years	60 bps	21- bps	60 bps	75 bps
	Average maturity > 15 to 18 years	70 bps	220 bps	70 bps	75 bps
	Standby fee		N/A		0 bps

<sup>(1)</sup> Source: <http://siteresources.worldbank.org/INTGUARANTEES/Resources/guaranteepricingFY11.pdf>

- Since the host government (of the country in which the investment is located and the guarantee provided) must provide the WB a mandatory government counter-guarantee, the WB effectively passes the risk of default on the commercial loan to the government. The risk to the WB is therefore that the government will not repay the loan under the counter-guarantee, i.e. same risk as a normal lending operation. The above raises a number of issues especially with respect to the issue of whether or not the WB pricing structure distorts the market for PRI (especially with some of the other private sector arms of the WB that provide guarantees and who price to risk).
- As far as ECAs are concerned, the pricing of export credit guarantees will normally be based on the risk classification of the guarantor, the buyer and the borrower, which in turn reflects the creditworthiness of the three parties.
  - The OECD rules on this matter, “Arrangement on Officially Supported Export Credits” (“Arrangement”) limits the pricing of medium and long term (repayment period 2 years or more) Buyer Credit, Credit Risk and Letter of Credit Guarantees by setting Minimum Premium rates based on the target country and on the risk classification of the buyer/borrower/guarantor. The ECAs of

- the OECD-countries may not undercut these minimum rates. There are special rules in place for a few sectors (ships, nuclear power plants and aircraft).
- Under the OECD rules, there are specific rules for project finance type transactions: (i) longer repayment term of up to 14 years; (ii) possibility of having repayments made in unequal instalments and for interest payments and principal repayments to be made less frequently than semi-annually).
- Monoline insurers have generally targeted two thirds of the available spread as the insurance premium (keeping in mind that their initial business, municipal bonds, have maturities of 20-30 years). It is interesting to look at some of the general features in their approach to pricing and other related matters as it may have some bearing on how a guarantee facility within a HF or a UDF would approach this issue.
    - **Reinsurance:** monolines then looked for reliable and committed sources of reinsurance through simple quota share treaty support, which allowed them to leverage their capital base.
    - **Payment of premium:** Premiums are in the form of non-refundable upfront premiums, which means the full amount of the premium is paid at the time of the issuance of the guaranteed bonds. In some structured finance deals (3-12 years), premiums might be paid in instalments (monthly or quarterly in arrears) over the life of the insured credit obligation. To mitigate some of the risks associated with this payment method, the premium will usually come first in the waterfall of payments.
    - **Accounting for premiums:** Based on regulatory rules and Generally Accepted Accounting Principles (“GAAP”) rules, the premiums that are paid are earned or recognized over a long time according to amortization schedules. This links the premium, which is paid to the average life of the wrapped obligation so as to provide stability for the fiscal stability of the monoline insurer.
    - **Adjusted gross premium (“AGP”):** The present value of the future instalment premiums is an important statistic and when added to earned premium to date results in AGP for a given origination year. The estimated total AGP for a risk portfolio contributes to the balance sheet capital strength. Subtracting from AGP the present value of expected underwriting and operating costs, as well as the estimated ultimate loss costs, results in an estimate of the economic value added.
    - **Payment of claims:** When there is a default, the monoline insurer only pays the interest (and eventually principal) amounts as and when they are due, *i.e.* there is no acceleration on the payment of the claim following an event of default.
    - **Leverage:** Monolines traditionally operated at much higher leverage amounts than many other financial markets because the insured portfolio was viewed to be relatively low risk (very few examples of defaults – lower default rate than AAA rated corporate bonds) and the limited liquidity requirements they faced (since, as mentioned earlier, claims are paid over time and are not accelerated). This obviously changed as monolines expanded the scope of their activities (see earlier references), *e.g.* non tax-payer supported, project based, public finance transactions like hospitals, stadiums, and toll roads.

Payments from structured finance deals such as CDOs are normally made in monthly or quarterly instalments over the life of the insured obligation. In CDOs, monolines insure payments on a portfolio of assets. CDOs insured by monolines typically have a cushion whereby the monoline is not required to pay claims until a certain per cent of defaults in the CDO portfolio is reached. Monolines hold the insurance contracts to maturity and are not subject to payments due to changes in market value of the securities they insure. They are, however, required to recognize the market value of insurance sold with credit derivatives when they report earnings. Most monolines are not required to post collateral against their credit derivatives positions, even if they are downgraded or the securities they insure are downgraded.

Once the general pricing philosophy has been established, it is necessary to look the various pricing and premium payment options available to the guarantee facility.

#### Payment of Premium – Timing (options)

- Payment of the premium can be made upfront in one lump sum (example of monoline insurers and ECAs). If this option is pursued, the guarantor needs to decide whether or not the claim can be accelerated, that is, will

the guarantor pay the claim upfront when it is recognized, or will it pay it in instalments (as per the loan agreement for example).

- Payment of the premium can be made in instalments. This has the effect of lowering the financing costs upfront and can take the pressure off, especially for some of the smaller projects.
- Closely linked to the issue of timing of premium payment is the issue of cancellations. The latter if not monitored properly and/or taken into account in the pricing, will have an impact on the guarantee facility's (whether it sits in a UDF or an HF) financial strength and sustainability.

#### Payment of Premium – Differentiated pricing

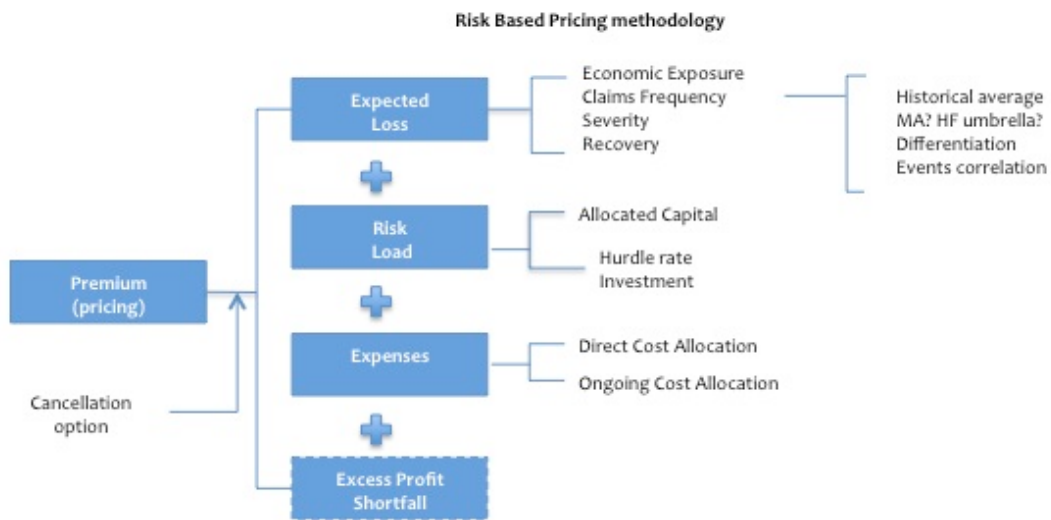
- **Debt vs. Equity:** Assuming one will provide guarantees to both equity and debt; one might consider different pricing for both instruments. Equity, for example, will go in immediately, and will be at risk; as well, in the event of a claim, the guarantor would be exposed to the full amount immediately (unlike a debt instrument, where the guarantor might compensate the lender, in the event of a default, according to the amortization schedule).
- **Sectors:** There are quite a number of “sub-sectors” which fall within JESSICA's eligible investments (taking into account the current programming period as well as the upcoming 2014-2020 programming period). Potential projects in these sectors may attract different levels of interest. The case might therefore be made that certain sectors might benefit from reduced premium rates so as to encourage investors and lenders in that sector, e.g. office space for SMEs, IT and / or R&D sectors, redevelopment of brownfield sites (including site clearance and decontamination).
- **Tenor:** Pricing might also change based on the tenor of the guarantee requested. Thus, a lengthier tenor (say 10 years) might require a higher premium as compared to a shorter tenor of 5 years for example. An option here would be to offer the possibility to the beneficiary (as is practiced in the private insurance market) to have a guarantee for 5 years which automatically rolls over if there are no claims (and if the beneficiary still needs the cover; this allows greater risk sharing between the guarantor and the beneficiary).
- **SMEs:** Pricing could be reduced for smaller projects (e.g. projects under EUR1 million); however this would mean that larger companies or commercial banks would benefit from cheaper rates simply because the project is smaller. Alternatively, instead of looking at the size of the project, one could look at the size of the investor (i.e. an SME) and provide cheaper rates for those investors.
- **Guaranteed percentage:** Pricing can also be affected by the guaranteed percentage which is negotiated. The cover can be comprehensive (case of monoline wraps), it can be 90-95% (case of most PRI providers), and it can be tailor-made (private insurance market). By lowering the guaranteed percentage, there is effectively an element of risk sharing, which one might want to use to lower the premium rate. In the case of JEREMIE, for example, risk sharing is employed both at the portfolio level (guarantee cap rate) and at the project level (guarantee rate if a maximum of 80%).
- **Variable pricing:** Another consideration for pricing is whether pricing should be fixed or variable once a guarantee is issued. While the pricing will become more complex, variable pricing is not common and would be popular amongst the buyers of guarantee, and will most likely entice them to stay with a guarantee rather than cancel a policy when the risk parameters appear to be improving or the investor starts to feel more comfortable. A fixed price to cover administrative expenses and all other parameters being variable annually would also protect the guarantor when risk parameters worsen. Many guarantee providers have thought about this but not implemented a variable pricing model as it is more complex and this may be an opportunity for JESSICA to be unique and innovative.

### Pricing methodology

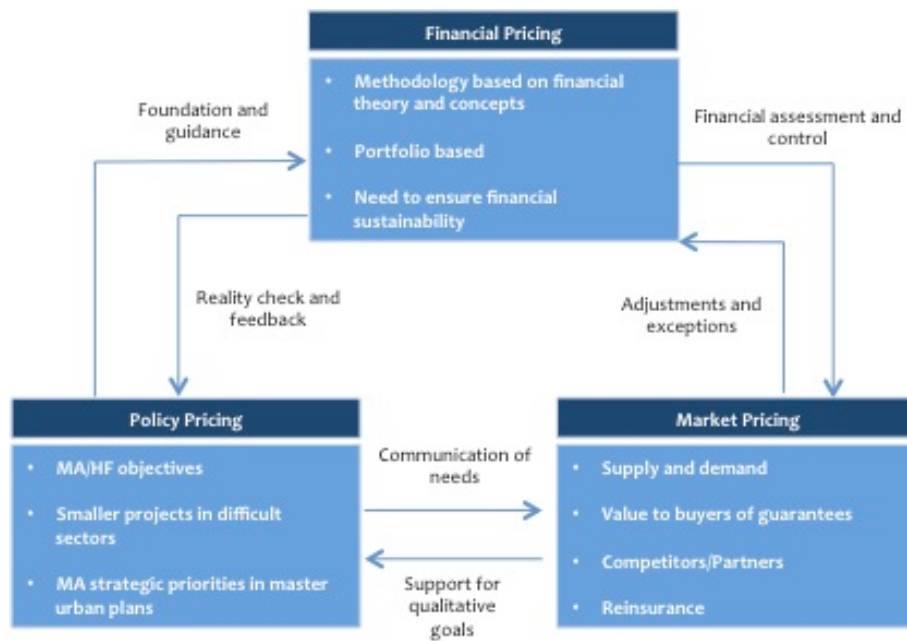
Any discussion of pricing cannot be done in isolation but must be discussed in the context of a risk management framework of which pricing is but one element (risk based pricing, reserves, capital adequacy, portfolio management, investment management exposure limits, performance measurement). A pricing model will be used with (or be part of) an economic capital (EC) model, which measures how much of available operating capital is currently utilized and how much is projected to be utilized in the future under various growth scenarios of a guarantee portfolio. EC is a widely recognized risk management tool in the banking and insurance industries, and is defined as the amount of capital an organization needs to hold in order to sustain larger than expected losses with a high degree of certainty, over a defined time horizon and given the risk exposures and risk tolerance of the organization.

Economic capital models are developed to calculate the loss distribution for a guarantee portfolio as well as for investment risk. In these types of models, institutions may define their economic capital as the 99.99th percentile of the aggregate loss distribution over a one-year horizon, minus the mean of the loss distribution, a definition that is in line with industry practice. The main type of risk, whose loss distribution is modelled and measured, is the risk of claims on policies in the guarantees portfolio. The theoretical foundation for modelling this type of risk is a set of regression models, drawing on historical data on claim frequencies, severity, recovery, and correlations of claims events in different countries and across various types of guarantees.

When a proper model is in place (presumably at the HF level), various stress tests can be used to generate modelled capital consumption, as compared with available operating capital, as a primary capital adequacy assessment. In addition, because of the binary nature of claims and the potentially large impact on the guarantor’s cash flows from individual contracts, the loss distribution measures need to be complemented with estimates of actual claims situations, if they were to occur. Capital adequacy is therefore also assessed on a second level, where the cumulative impact on the guarantor’s liquid assets from consecutive claims is simulated over a ten-year horizon, and compared with a prudential minimum liquidity level.



A risk based pricing approach would include a number of elements (see above) whereby the premium or pricing is based on expected losses, the risk load, and the expenses (plus or minus excess profits/shortfall and impact of cancellation). The key to understand is that the components of a pricing framework will include financial, market and policy pricing issues.



In summing up, the guarantee normally needs to be priced such that the expected loss (e.g. if the loss can be 100, and has a 10% chance of happening during the insurance period, then the expected loss is 10), plus the administrative costs incurred in writing that guarantee, will be at least covered by the price charged for covering that guarantee contract. There is greater flexibility with respect to JESSICA given the fact that funds originate from grants; although one would probably want to instil a proper credit culture by being close to market price in some instances (albeit at the lower end of the market price).

There are other complications and additions one may need to consider. For example, if premium is paid up-front, and hence can be invested and earn a return prior to when a claim is paid out; with respect to administrative costs, does one include only the marginal additional cost of writing the additional insurance contract, or assign a proportionate share of all the administrative costs of running the insurance company – naturally, the latter will increase the premium rate and does have the risk of pricing itself out of the market. Also important but difficult is building in a target minimum return on capital employed (capital held in reserve by the insurance company, so that it can show to customers and regulators that it can pay out on claims, even if incurred tomorrow, to some high probability such as 99%).

The key consideration when setting up the pricing (and keeping in mind the options highlighted in Section 3a) is that pricing, as far as the buyer of the product is concerned, needs to be transparent, simple and predictable.

## 1.4. EU Regulatory framework

### Regulatory framework overview

An overview of the EU regulatory framework applicable to guarantee-based FIs, both in the current and next programming period, should include:

- The State aid rules relevant for guarantee projects;
- Indications from other relevant publications such as the COCOF guidance notes; and
- The latest proposed texts concerning SF regulations for the next programming period.

### Who can provide a guarantee and to whom?

In the context of FIs, guarantees can be provided by:

- The MS, usually in the form of guarantee schemes;
- MAs, normally under the JESSICA or JEREMIE schemes in the 2007-2013 Programming Period; and
- Financial intermediaries acting as HFs.

Guarantees are provided to enterprises (primarily SMEs) that must not be in financial difficulty.

### Accounting for a guarantee that enables financing for both eligible and non-eligible project components in the same project portfolio/development

There is no specific provision within the Regulations for determining how to account for a guarantee that includes eligible and non-eligible components but, as in any other aspect of ERDF projects, it follows that using a fair and equitable methodology for apportioning the guarantee amounts would be required. This methodology should take into account the proportion of eligible and non-eligible guarantees provided together with the relative risk of each loan being guaranteed.

### Can a guarantee enhance lending from a Financial Intermediary, which will not provide ERDF contributions to urban projects?

When a UDF provides loans or equity funding from an OP to an eligible project, the beneficiary of these is the underlying project itself. In the case of guarantees however, the beneficiary will be the financial intermediary (bank, fund, etc.), and not necessarily the underlying project directly.

The question, therefore, is whether there are existing regulations either within the current or future programming period to clearly state that guarantees issued by UDF from ERDF funding to a financial intermediary should only cover the loan amount provided for eligible project expenditure, *i.e.* preventing the guarantee from covering more than just the eligible proportion of the loan.

Article 78(6)(c) of EC Regulation 1083/2006 states that “eligible expenditure shall be...any guarantees provided including amounts committed as guarantees by guarantee funds”. However, this does not state that the guarantee has to be limited to a loan to an eligible project.

There is a reference in the 2012 COCOF note (“Revised Guidance Note on Financial Instruments under Article 44 of Council Regulation No 1083/2006”) which states in paragraph 6.1.6 that “*It must be established through appropriate records and documentary evidence that the equity investments, loans, guarantees or other forms of repayable investments provided to final recipients were effectively used primarily for SME support or for the implementation of urban development projects or for investments in renewable energy/energy efficiency in buildings.*” However, this does not cover the situation of a guarantee of a loan to a project, which has eligible and non-eligible elements. There are no specific references to this issue in the draft 2014-2020 Regulations.

To conclude, although it would be expected for this issue to be identified and set out in funding agreements between the MA and the financial intermediary, this is not clearly set out in the Regulations and would be an area where further clarification would be of benefit.



## Potential State aid implications

If an individual guarantee or guarantee scheme does not comply with the market economy investor principle, it is deemed to entail State aid. The value of the State aid is the difference between the appropriate market price of the guarantee provided individually (or through a scheme) and the actual price paid. The prospective aid amount in a guarantee (or scheme) must be assessed by reference to its relevant terms.

### Programming Period 2007-2013 – State aid rules for guarantee projects and indications from other relevant publications such as the COCOF guidance notes

The relevant regulations and guidance notes relating to guarantee projects for the 2007-2013 period are as listed below:

- Commission Regulation No 1083/2006
- Commission Regulation No 1828/2006
- Commission Regulation No 284/2009
- Commission Regulation No 1236/2011
- COCOF guidance note from July 2007: “Note of the Commission services on Financial Engineering in the 2007-2013 Programming Period”
- COCOF guidance note from December 2008: “Guidance note on Financial Engineering”
- COCOF guidance note from February 2011: “Guidance note on FEI under Article 44 of Council Regulation No 1083/2006”
- COCOF guidance note from February 2012: “Revised guidance note on FEI under Article 44 of Council Regulation No 1083/2006”
- Commission Notice on the application of Articles 87 and 88 of the EC Treaty to State aid in the form of guarantees
- Commission Regulation No 800/2008 (“General Block Exemption Regulation”)

Below is set out what each document states about guarantees and guarantee-based products.

#### Commission Regulation No 1083/2006

Article 44 of Commission Regulation No 1083/2006 states that the SF may finance expenditures in respect of FIs including guarantee funds and UDFs. Article 44 also states certain rules relating to the setup of HFs and how these can be procured.

Article 78 states that resources returned to the operation for investments undertaken by funds as defined by Article 44, or left over after all guarantees have been honoured, shall be reused by the competent authorities of the MS concerned for the benefit of urban development projects or of SMEs.

#### Commission Regulation No 284/2009

This Regulation amends slightly the Regulation 1083/2006 to allow the award of a contract directly to the EIB or EIF (the previous Article 44 (b) wording stated that EIB and EIF were one of the options for the award of public grants by the MS) as well as some other minor relaxations given the financial crisis.

#### Commission Regulation No 1828/2006

Introductory paragraph 26 of Commission Regulation No 1828/2006 acknowledges that contributions to FIs from an OP or other public sources as well as the investments made by them in individual enterprises are subject to rules on State aid under the Community Guidelines on State aid to promote risk capital investments in small and medium sized enterprises (OJEU ref: 2006/C 194/02).

Article 43 states that MAs shall take precautions to minimise distortion of competition in the venture capital and lending markets. Article 44 provides that the terms and conditions of a contribution from a MS to a HF and from a HF to a guarantee fund shall be set out in funding agreements to be agreed between the respective parties.

Articles 45 and 46 state the additional provisions applicable for HFs (Article 46) and FIs other than HFs and UDFs (Article 45) in terms of the types of urban development projects they are allowed to invest in.

#### **Commission Regulation No 1236/2011**

This Regulation amended Regulation 1828/2006 by allowing Financial Engineering Investments in activities, which the managers of the financial engineering investments judge to be potentially economically viable. The original restrictions were that investment could only be made at the establishment, in the early stages, including seed capital, or on expansion of those enterprises.

#### **COCOF guidance note from July 2007: "Note of the Commission services on Financial Engineering in the 2007-13 programming period"**

The guidance note sets out the interpretation that the Commission would give to the terms 'operation' and 'beneficiary' in the context of Financial Engineering Investments. It sets out certain provisions and interpretation of other elements of the Regulations including the ceiling and eligibility treatment of HF management costs. The note sets out interpretations of what constitutes State aid (in terms of management costs) in the case where MS or MAs implement an operation comprising contributions to support Financial Engineering Investments through HFs. Finally, documentation requirements in terms of retention of supporting documents for expenditure under Financial Engineering Investments are detailed.

#### **COCOF guidance note from December 2008: "Guidance note on Financial Engineering"**

This note sets out various interpretations and provisions on Financial Engineering Investments. It covers recycling of funds after guarantees have been honoured which shall be used for the benefit of urban development projects or of SMEs. The note also discusses the interaction between rules on revenue generating projects and financial engineering under Article 44 of Regulation 1083/2006. It also states that an exit policy must be in place.

#### **COCOF guidance note from February 2011: "Guidance note on FEI under Article 44 of Council Regulation (EC) No 1083/2006"**

Of particular relevance to guarantees is paragraph 4.1 of this guidance note. This states that there must be an appropriate multiplier ratio between amounts contributed from the EU budget and the overall volume of additional financing made available to enterprises and other final recipients as a direct consequence of this contribution. The target range of the multiplier ratio depends on the specific market conditions and the characteristics of the guarantee operations, or of the underlying loans or loan portfolios and the inherent target investments. When deciding to provide a contribution to guarantees/guarantee funds, managing authorities need to follow sound financial management principles and market best practice as the basis for determining the target range of values for the expected multiplier ratio.

At partial or final closure of the Programme, eligible expenditure in the context of guarantees will be the total of any guarantees provided including amounts committed as guarantees by guarantee funds. This might include:

- Guarantees covering a multiple amount of disbursed loans which have already come to their expiry date of repayment term of the underlying loans and for which no guarantee calls were made or in respect of which, as the case may be, the guarantees have already been honoured;
- Guarantees covering a multiple amount of disbursed loans in respect of which the guarantees will have to, or might still need to be, honoured after the closure because the expiry date of repayment of the underlying loans falls after the closure; and
- Guarantees covering certain amounts for which the financial intermediary has failed to issue and disburse new loans at the closure.

The value of the 'guarantees provided' is eligible for co-financing if it reflects that the principles of sound financial management and best practice have been taken in to account in order to avoid over-guaranteeing (i.e. setting aside more EU financial resources for guarantees/guarantee funds than necessary to cover expected and unexpected losses from loans). If the financial intermediary has not issued and disbursed the agreed amount of new loans to final

recipients that justify the full use of the guarantees, the eligible expenditure will have to be calculated by taking into account the appropriate ratio between effectively disbursed and planned/agreed loans.

#### **COCOF guidance note from February 2012: "Financial Instruments"**

This note revises the February 2011 note in the context of the Regulation 1236/2011. It has minimal impact on guarantees specifically.

#### **Commission Notice on the application of Articles 87 and 88 of the EC Treaty to State aid in the form of guarantees**

This Notice sets out specifically the details about the State aid issues when using guarantees. It starts by clarifying that all forms of aid, including the provision of guarantees, can be classed as State aid. Guarantees provided by the MS or through MS resources may constitute State aid.

Even if no payments are made under the guarantee (*i.e.* if the loan is fully paid without need to use the guarantee), State aid can still be present.

Both the 'borrower' and the 'lender' can receive State aid under guarantee schemes depending upon the nature of the scheme. If a guarantee or guarantee scheme does not bring any advantage to an undertaking, there is no State aid. An individual guarantee will not be considered as State aid if all the following conditions are met:

- The borrower is not in financial difficulty;
- The extent of the guarantee can be properly measured when granted;
- The guarantee does not cover more than 80% of the loan (however, this limitation does not apply to guarantees covering debt securities); and
- A market price is paid for the guarantee.

Similar provisions apply to guarantee schemes. The note also sets out rules on valuing the State aid if it is present in the guarantees or guarantee funds.

#### **General Block Exemption Regulation**

The GBER as set out in EC Regulation 800/2008 sets out types of State aid that can be exempted from requiring approval by the Commission prior to being provided. Article 5 states that the GBER only applies to transparent aid. In the context of guarantee schemes, these are deemed as transparent if:

- The methodology to calculate the gross grant equivalent has been accepted following notification of the methodology to the Commission and the methodology explicitly addresses the types of guarantees and underlying transactions at stake; or
- Where the beneficiary is an SME and the gross grant equivalent has been calculated on the basis of the safe-harbour premiums laid down in the Commission Notice on the application of Articles 87 and 88 of the EC Treaty (as above section).

#### **Programming Period 2014-2020**

The regulations for the 2014-2020 period have not yet (as at November 2012) been finalised. However, proposed regulations were published in 2011. The relevant proposed regulations and factsheet relating to guarantee projects for the 2014-2020 period are as listed below:

- Proposed Commission Regulation 2011/0276 ("common provisions")
- Commission Factsheet "Financial Instruments in Cohesion Policy 2014-2020"

Below is set out what each document states about guarantees and guarantee-based products.

#### **Proposed Commission Regulation 2011/0276 ("common provisions")**

Articles 32-40 set out some of the general principles around financial instruments in the 2014-2020 Programming Period.

## 2. FG for District heating, a small scale project in Eastern Europe

### 2.1. Selected case study

#### 2.1.1. Local context

##### Energy sector in Poland

**Electric energy market:** The Polish power generation mix relies heavily on coal and lignite (accounting for close to 90% of power generation<sup>19</sup>). Installations are relatively old, with more than 60% of the generation capacity being more than 20 years old. Since most power stations were built in the 60s and 70s, they will need decommissioning in the coming years<sup>20</sup>. It is estimated that to replace old capacity and meet growing demand, one GW of new power capacity needs to be built each year. Declining allocation of free CO<sub>2</sub> (down to 50% in 2013 from 90% in 2012)<sup>21</sup> will provide the necessary incentives to market players to add cleaner power generation capacity in the future. In addition to an obsolete electricity generation asset base, the transmission infrastructure is insufficient to cope with expected increases in demand, which calls for the construction of smaller scale local generation units.

**Heat energy market:** The energy regulator regulates the Polish heat market. Heating tariffs apply to generation, distribution, transmission and supply. Tariffs are based on planned regulated revenues, which are net of: (1) justified return on capital employed; and (2) justified planned annual costs (decreased by revenues from sales of electricity and certificates). Tariffs are approved for a period of one calendar year (minimum period). It is rare that tariffs are approved for a much longer period.

##### District heating in Poland

Poland has the largest district-heating network in the world. There are district-heating networks in over 300 cities and towns. Both generation units and heat networks, which were mainly built during Soviet times (over 44% of the district heating networks are over 20 years old)<sup>22</sup>, require modernisation investments.

Cogeneration units generate approximately 48% of heat and 17% of power volumes in Poland.<sup>23</sup> However, as in the case with electric energy, the heat production fuel mix is also dominated by coal (over 75%), followed by oil (9%) and gas (4%).

Given the age of existing units and environmental restrictions, there is a significant potential for investments in replacement capacity (conversion to gas, biogas and biomass). With no actions undertaken, and with the increased cost of emissions, local communities and businesses will face sharp increases in heating bills, as well as a growing environmental burden. However, many local governments of smaller towns in Poland cannot afford the required capital investments to replace existing installations with more environmentally friendly models (high-efficient gas cogeneration units or biomass installations) and seek for new ways of funding such investments.

<sup>19</sup> “Polish energy mix 2050” (“Mix energetyczny 2050. Analiza scenariuszy dla Polski”), Polish Ministry of Economy (Ministerstwo Gospodarki), 2011, p. 7.

<sup>20</sup> Prof. Zbigniew Maciejewski, “Condition of the national electricity system”, Energy policy, vol.14, 2011 (“Stan krajowego systemu elektroenergetycznego”, Polityka Energetyczna, t.14, 2011”).

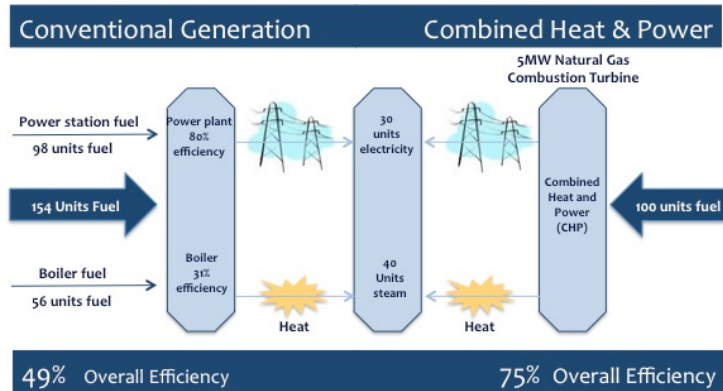
<sup>21</sup> Polish Energy Statistics – ARE (Polish Energy Market Agency).

<sup>22</sup> Andrzej Olszewski, Chamber of Commerce Polish Heat in Warsaw (Izba Gospodarcza Ciepłownictwo Polskie w Warszawie) “District heating as part of the development of cogeneration in Poland” (“Sieci ciepłownicze, jako element rozwoju kogeneracji w Polsce”).

<sup>23</sup> Ministry of Economy, “The report evaluating the progress made in increasing the share of electricity produced from high-efficiency cogeneration in the country's total electricity production”, March 2012 (“Raport oceniający postęp osiągnięty w zwiększaniu udziału energii elektrycznej wytwarzanej w wysokosprawnej kogeneracji w całkowitej krajowej produkcji energii elektrycznej”).

**Why modern cogeneration projects offer a promising business proposal?**

CHP is a technology that allows for simultaneous generation of heat and power from a single fuel or energy source, at or close to the point of use. CHP is a highly effective and environmentally friendly power and heat generation technology. It allows for 75-80% (potentially up to 90%) overall efficiency compared to 45-50% for traditional power combined with a separate boiler system<sup>24</sup>.



- Significant environmental benefits

CHP contributed to 15% of GHG emissions reduction in the EU between 1990 and 2006. According to the IEA, CHP can reduce power sector investments by 7% over 25 years (period 2005 – 2030) as a result of the reduced need for transmission and distribution networks, and the displacement of higher-cost generation plants.<sup>25</sup> Expected environmental benefits are also considerable; in Europe, CHP has been estimated to contribute to 15% of greenhouse gas emissions reductions (57 megatons) between 1990 and 2006.

By 2007, the U.S. Environmental Agency (EPA) had supported the installation of 335 CHP plants, achieving CO<sub>2</sub> reductions, equivalent to removing 2 million cars from the roads or planting 2.4 million acres of forest<sup>26</sup>. In a study undertaken to assess the cost of carbon abatements policies in the Netherlands, CHP was identified as one of the least-cost solutions at EUR25/tonne CO<sub>2</sub>, lower than building insulation, condensing boilers and wind power.

- Support system

The compelling energy and environmental case for expanding CHP has pushed governments globally to establish policies to facilitate the development of CHP. The EU has issued a *Directive on the promotion of cogeneration based on a useful heat demand in the internal energy market 2004/08/EC* (CHP Directive) requiring MS to implement comprehensive legal frameworks to encourage the development of CHP (including grid access, authorisation procedures, identification of development opportunities, and high efficiency definition for incentive schemes).

Poland has established a specific incentive system based on *certificates of origin* to promote the development of environmentally friendly installations, including high-efficient CHPs. To qualify for the incentive system, (1) total EE of power must be at least 75% or 80% (depending on the type of installation), and (2) primary energy cost savings (compared to separate heat and electricity production) must be at least 10% (does not apply to co-generation units below 1MW).

The qualifying cogeneration energy producer receives a certificate (or yellow certificate<sup>27</sup>) for each unit (1MW) of electricity produced. The energy regulator sets the minimum percentage obligation for each energy generating and

<sup>24</sup> EPA – United States Environmental Protection Agency (<http://www.epa.gov/chp/basic/methods.html>).

<sup>25</sup> International Energy Agency, "Cogeneration and District Energy. Sustainable energy technologies for today... and tomorrow".

<sup>26</sup> Op.cit.

<sup>27</sup> Poland does not currently operate a system of feed-in tariffs to encourage the generation of renewable energy. Instead, a system of tradable certificates has been introduced. The Energy Regulatory Office ("ERO") issues differently coloured certificates (green, yellow, red, purple and brown) for generation of renewable energy from different sources to those who are generating their own renewable energy through an eligible installation. Yellow certificates are issued for electricity generated by high efficient CHP, either with a capacity of less than 1 MW, or generated from gas fuels. Energy suppliers, end-users and broker institutions are legally obliged to submit a certain number of certificates to the ERO before 31 March following the end of the year in which the certificates were purchased. If the obliged person does not present the required number of certificates, a compensation fee is payable. The level of the compensation fee varies, depending on the certificate category for which the quota has not been met. Every year, the ERO announces the compensation fee per unit for each class of certificate.

trading company as a share of energy generated through high-efficient cogeneration in the total energy generated or sold. The energy producers and suppliers can either: (1) ensure that their energy mix meets the requirements of the regulator; or (2) buy a certificate of origin from cogeneration energy producers (either directly or through the Polish Power Exchange); or (3) pay the substitution fee – a form of penalty for the energy producers or sellers who do not meet the regulator mix obligation. The sale of certificates provides an additional revenue stream to support CHP plants. Effectively, the level of the substitution fee creates a ceiling for the price of certificate of origin in the market.

Poland has adopted a support regime that should encourage the market to self-regulate. Unlike systems that are based on feed-in tariffs, the Polish system is based on certificates of origin that are subject to market supply and demand induced by the percentage obligation of share of environmentally friendly energy in total energy generated or sold, and the level of substitution fee to be paid. This prevents overheating of the market for green-energy production as a result of extraordinary profits generated thanks to the incentive system. Should the number of installations increase beyond the levels required by the national limits, the oversupply of the certificates of origin will force a market price reduction that should discourage potential further development.

### 2.1.2. Project description

A project in the district-heating sector has been identified for the purpose of this case study. The hypothetical project (which reflects typical projects in this sector) gives a good understanding of the project economics and challenges faced by private developers. The case study later looks at how some of the lessons learned here could apply to other sub-sectors (see section 2.1.4.).

#### General description

In the model case study, a private local developer has prepared the business model and project proposal. The business case is based on the substantial demand from financially constrained small- to mid-size municipalities to replace and upgrade their old, environmentally unfriendly and technologically obsolete coal-based power and heat generation plants with modern, gas-fired CHP technologies. The Project is small scale (12 MWt / 4MWe), in a small city in Poland, and may be replicated in a similar fashion in other locations across the country.

#### Project parties and potential project structure

*The Developer:* the local developer was established by a group of experienced entrepreneurs with previous experience in the real estate and service sectors (“Developer”). The Developer has injected seed-capital to cover initial expenses to set up the Project plus a platform of several other projects of similar nature (including funding preparatory works). The Developer’s strategy is to become a significant player in the development, construction, and operation of CHP plants in Poland. The Project will be developed via a dedicated SPV.

*Contracting Authority (“CA”):* the CA is a local district heating company, 90% subsidiary of the municipality, with the remaining 10% owned by the employees. The CA is a limited company duly registered in a company registrar that owns and operates the old generating unit as well as the entire district-heating network. The CA will be fully responsible for distributing and selling heat to its end-users. The CA will enter into a long-term agreement with the Developer under which it is required to do the following:

- Heat off-take for the entire output generated by the SPV at a regulated tariff (tariff setting mechanism is described further down);
- Upgrade of heat transmission network – this obligation has a smaller impact on the Project’s economics as all potential losses on transmission are to be covered by the CA;
- Cooperation in connecting new customers – this obligation is additional to third-party access (TPA rule) under which the CA is obliged to connect new market participants (both producers as well as consumers) subject to technical and economic viability;
- Non-competing clause that precludes the CA from building its own generating unit; and
- Long-term lease of the land owned by the local district heating company where the Project is planned.

For this case study, it is assumed that small and mid-size Polish municipalities do not have the financial resources to meet the CAPEX requirements to fund modern generating units; instead, they attempt to treat projects as entirely commercial ventures, including privatisations of entire district heating networks, with no subsequent involvement of the municipality. In this case, the municipality is involved indirectly via its district heating company. No further support agreements or other forms of municipal backing have been considered.

**Main project characteristics and economics**

- Location: Town of under 20,000 inhabitants in central Poland
- Generating unit: Power: 4MWe and Heat: 12MWt
- Total Capex: PLN 16 million
- Power / certificate Off-taker: Polish utility (investment grade)
- Gas supplier: PGNIG
- Heat off-taker: Local district heating company (non-investment grade)

**Main project revenues:**

- Electric energy (45%): Long-term off-take contract with one of the Polish utilities. Pricing is based on a formula that references market volumes and prices over the preceding 12-month period, reduced by a discount.
- Yellow certificates (20%): Long-term off-take contract with one of the Polish utilities. Pricing based on a formula that references market volumes and prices over the preceding 12-month period, reduced by a discount.
- Heat (35%): Mid-term contract with the district heating company based on an annual tariff determined individually in the local market, but subject to national tariff regime and approval by the energy regulator.

**Major project risks<sup>28</sup>**

There are a number of risks that need to be considered during the development, construction and operation phases. Developers will often argue that governments and multilateral institutions should help with risk mitigation rather than direct funding. This is echoed by commercial banks which have expressed serious concerns with regulatory risks for example, and the need for countries to establish a level playing field and reliable consensus in their national energy strategy.

Construction Phase	
<b>Technology failure</b>	The engines that will be used are tried and tested ( <i>i.e.</i> it is not a new technology) and warranties are available on reasonable commercial terms from equipment suppliers. Developer will employ experienced construction contractors and proven technology. Developer’s partners include experienced designers, with the intention of ensuring a fully coordinated approach to project design and implementation.
<b>Delays in completion</b>	Construction contracts will be made on a turnkey basis with date certain completion obligations by a reputable and experienced construction company.

<sup>28</sup> Rather than develop a section on project risks for each of the three case studies, the various risks (construction, development and operation) are highlighted and described in detail for the Polish case study only. This is meant to serve as an example of the types of risks, which a project might face during its various stages.

<b>Cost over-runs</b>	The Developer will manage its exposure to these risks through a combination of proactive control over design and a turnkey construction contract.
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A number of risk mitigants are available, including insurance, against the occurrence of construction risks identified above (construction all-risk, cost over runs, business interruption and marine cargo cover) as well as *force majeure*. The Polish insurance market is well developed and enjoys the presence of major international players (e.g. Allianz, AVIVA, AXA, and Generali), as well as PZU, which is currently the leading market player (local insurer group).

Most of the smaller developers and construction companies assess the costs of certain types of insurance such as business interruption as high, especially in the ramp-up period that does not relate to general business economics. In addition, the major market risks present in the Project, such as energy and gas price changes, or the existence and extent of the high-efficient energy support system, are not covered by commercial insurance.

Development Phase	
<b>Interconnection</b>	<p>Electricity: The small scale of the plant and reliability of electricity production means that it can be connected to the grid without unnecessary strain on existing infrastructure, thereby avoiding the well-publicised problems that have afflicted some larger-scale generators (especially wind farms with unstable electricity output) seeking grid connections.</p> <p>Gas: Due diligence on the cost and feasibility of interconnection of electricity and gas was undertaken by the Developer to ensure that the interconnections are feasible at reasonable cost. Gas distribution agreement with the local distribution system operator was concluded to address this risk.</p> <p>Heating: The Project is designed to interface with the local heating system. Designs reflect the age and nature of the distribution infrastructure.</p>
<b>Environment</b>	<p>Project failure or delays due to environmental problems. This risk needs to be taken into account mainly in case of green field installations. The Project is a new build plant in industrial areas where environmental impact is well known and a mitigation process exists for this type of risk.</p>
<b>Team</b>	<p>Experience / expertise: management team has no previous experience in development of small-scale co-generation plants. It has a track record in working with local governments and real estate development, which covers most aspects relevant to the Developer’s business (zoning, permits).</p> <p>Capacity: Developer employs and/or cooperates with individuals and companies that provide them with necessary projects knowledge and experience. Company structure is flexible and provides for expansion plans while the projects become operational.</p>

In terms of risk mitigants, it is important to note that, in accordance with Polish environmental regulations, power plants with a capacity of less than 25 MW in fuel rely on a simplified environmental procedure. These plants do not require a full Environmental Impact Report to receive a Decision on Environmental Conditions from local authorities<sup>29</sup>.

This exemption for smaller scale installations limits the risk of delays and/or project failure due to environmental impact assessment; one of the most serious risks in the development of energy generating installations in Poland. However, while the exemption limits the risk to some extent, it does not eliminate it and the environmental procedure accounts for one of the project development risks that cannot be fully controlled by the developer.

<sup>29</sup> Polish Law on provision of information on environment and its protection, public participation in environmental protection and the environmental impact assessment from 2008, (Ustawa z dnia 3 października 2008 roku o udostępnianiu informacji o środowisku i jego ochronie, udziale społeczeństwa w ochronie środowiska oraz o ocenach oddziaływania środowiska (Dz. U. Nr 199, poz. 1227, ze zm.).



Operation Phase	
<b>Heat</b>	<ul style="list-style-type: none"> <li>Increased capital outlays for improved insulation of buildings supported by the government and EU EE initiatives may result in lower demand for heat from existing customers. Risk is mitigated by the fact that a significant number of buildings have had insulation upgrades and current contracts reflect new demand profile and levels. Additionally, there is significant potential for new connections (up to 40% of consumers have their own heating systems which could be replaced by district heating subject to price incentive and connection availability).</li> <li>Heat pricing is subject to regulation and any cost pass-through is limited by what the regulator will approve and what the market will bear. Recovery of increased fuel or other costs, or compensation for the loss of yellow certificates, both of which the Developer would be entitled to under current rules, are subject to regulatory approval and market capacity.</li> </ul>
<b>Gas</b>	<ul style="list-style-type: none"> <li>If there are interruptions in supplies, current market rules provide for interruption to major industrial users first, not to providers to end-users such as the Developer in this case.</li> <li>Gas is the Developer’s single largest operating cost, accounting for 60-70% of revenues. The Developer is in discussions with Polish gas supplier PGNiG on the terms of gas supply (pricing and indexation formulae). Current pricing levels assumed in the financial model reflects current market tariffs and management’s expectations of a short-run rise in pricing triggered by the liberalisation of the gas market. Currently, PGNiG charges customers at regulated prices. The precise terms of regulation and the possible impact of competition on pricing, assuming that the market liberalisation proceeds as currently promulgated, are unclear. Should the Developer face further increases in gas prices in excess of the level of general inflation, the heat prices regulation terms should allow it to pass through a proportion of these costs to heat customers, subject to the overall level of competitive heat prices in the various locations that it plans to operate.</li> </ul>
<b>Market Price - Energy</b>	<ul style="list-style-type: none"> <li>Electric energy: framework agreement concluded with local utility based on market pricing formula. The Developer is therefore exposed to changes in market prices for electricity.</li> <li>The Polish electricity market is expected to undergo significant changes in the next few years as old, mostly coal-based generation installations will be retired and new facilities will be brought on line. This is expected to have two effects: (i) market participants will seek to recover the cost of new facilities, thereby increasing the implicit “capacity charge” in the system price; and (ii) the fuel mix in the system will change.</li> <li>Market participants therefore anticipate that power prices in Poland will increase significantly in real terms and have framed the business plan accordingly. If the expected price increase does not materialise and will not be reflected in compensating changes in gas prices, this will cause reductions in shareholder returns, and/or ability to repay senior debt.</li> </ul>
<b>Market Price – Yellow Certificates</b>	<ul style="list-style-type: none"> <li>The framework agreement with the utility provides for the purchase of yellow certificates at market prices. The system buyout prices (through substitution fees) limits the market price.</li> <li>Poland is currently reviewing its renewable energy and EE incentive schemes. Developer and market participants expect that the yellow certificates will survive these changes and management has planned accordingly. If they are withdrawn, the Developer will be entitled to partly recover the loss of income from its heat customers. The extent to which this will be achievable will depend on heat tariff levels and competition in individual markets. Taking into account Poland’s energy mix, potential changes in the EE incentive schemes will have limited influence on electric energy prices; therefore unfavourable changes in the support system would cause reductions in shareholders returns and/or ability to repay senior debt.</li> </ul>

### 2.1.3. Market failure

The financing for the project is currently blocked due to the lack of partners (especially equity providers and/or banks) who are willing to assume the project's development risk. The local developer has injected seed-capital to cover initial expenses but has reached the limit on further funding.

Whilst the project offers a balanced risk profile during the operational phase (especially via long-term off-take agreements with financially sound utilities), and assumes exit options in the future, the development phase has its own unique challenges:

- Lack of interest from larger non-cash constrained entities – while larger municipalities can attract interest from larger players (contractors/developers) such as Dalkia or Fortum, smaller communities / projects need to rely on smaller scale developers;
- Limited interest from commercial bank debt providers at the development stage due to development risk and exposure to the market risk (gas and energy prices as well as regulatory changes and pricing of yellow certificates).

### 2.1.4. Other sectors that could benefit

This section analyses the need for implementation of FIs in promoting other small-scale environmentally friendly energy projects as well as the potential use of guarantee structures in several sub-sectors, e.g. small scale biomass installations, small scale waste-to-energy installations (municipal waste), thermo-modernisation (including public buildings and private / social houses and commercial areas / companies), and street lighting.

The Polish Regions have identified the above-mentioned sub-sectors as areas that could support towns and cities achieve the following policy goals:

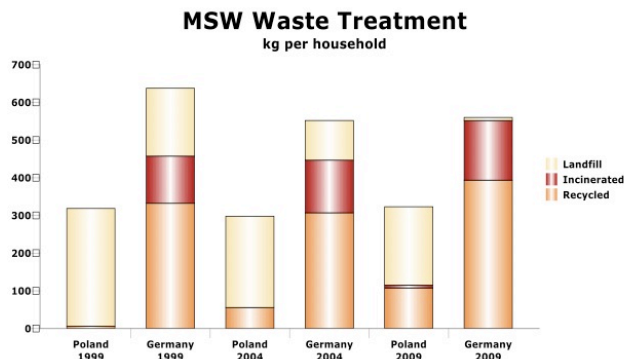
- Reducing pollution in urban areas;
- Giving access to energy at competitive prices;
- Creating direct and indirect entrepreneurship (including SMEs) and employment in the area;
- Helping revitalise unused urban areas, including sites requiring clearance and decontamination as well as post-military and post-industrial areas;
- Helping address community problems such as the treatment of household organic waste and sludge; and
- Generating public revenue from local taxes.

#### Sub-sector characteristic

**Small-scale biomass installations:** There is diversified interest in RE projects from private investors, including potential cooperation with local municipalities (e.g. offering a municipality shares in the project company in exchange for land for the biogas plant). Several municipalities (especially the smaller ones) have shown an increased interest in cooperating with developers / technology providers to promote small-scale ventures.

**Small scale waste-to-energy installations (municipal waste):** Waste management creates a challenge for most of the local governments that, in accordance with the new Municipal Waste Law of July 2011, are responsible for effective implementation of integrated waste management plans including modern collecting, sorting and recycling facilities as well as waste incinerators / gasification installations. Taking into account Poland's current status (see diagram below), obligations resulting from Directive 2008/98/EC on waste, and in particular obligations to significantly reduce the amount of waste sent to landfills, both regional and local governments are looking for ways to fund the required installations.

Waste treatment in Poland and Germany (Eurostat)



While larger cities will most probably find interested private parties (e.g. a PPP waste to energy project in Poznań that has recently been awarded to French SITA - Suez Environnement Group - backed by the Marguerite Fund), smaller local authorities would be able to benefit from tailor-made FIs. Local authorities are scrutinising the investments made via JESSICA in other countries. For example, the plastic recycling facilities or anaerobic digestion food waste projects funded by UDFs in London have raised particular interest and questions about the potential use of JESSICA instruments in Poland.

**Thermo-modernisation (including public buildings and private / social housing and commercial areas / companies):**

Thermo-modernisation has been developed in Poland for several years (housing associations and individual beneficiaries), with preferential funding support from BGK (Thermo-modernisation fund) and the National Fund for Environment Protection (NFOŚ). Lately, there has been increasing interest in thermo-modernisation of public buildings in cooperation with private investors or technology providers through PPPs or ESCO structures. The pilot EE projects with municipalities have been developed under PPP models, e.g. implementation of EE investments in cooperation with Siemens in public schools or kindergartens in the city of Radzionków. The recently signed project with the city of Karczew benefits from a 20% grant from the NFOŚ as part of the Green Investment System.

**Street lighting:** Street lighting is another type of investment that can reduce the municipal carbon footprint and increase security in underdeveloped urban areas. Several larger and smaller municipalities have expressed an interest in launching investment programmes for street lighting, preferably in cooperation with private investors that would reduce the impact of an investment on the public deficit. There has therefore been increased interest in using the PPP model for street lighting investments. There have already been several conferences and meetings with public bodies (local authorities), private investors, banks and multilaterals in that respect. Platforma Partnerstwa Publiczno-Prywatnego (Polish governmental entity established by the Ministry of Regional Development), together with the German entity Partnerschaften Deutschland, has published the standard documentation for street lighting projects used in Germany to facilitate the procedure for Polish public entities.

**ESCOs:** The market is still not developed, although there is significant interest from municipalities, technology providers and other entities. Because of the significant challenges faced by Polish municipalities as a result of the need to reduce the carbon footprint, the latter are looking for project delivery options that do not involve their balance sheet. ESCO initiatives may address thermo-modernisation of public buildings and street lighting, subject to off-balance sheet structures in the solutions adopted.

The off-balance sheet treatment should be ensured in a model when an ESCO undertakes to implement certain EE improvements aimed at reducing the cost of energy consumption (and potentially also other utilities such as heat, gas, water, etc.) in respect of specific buildings or installations. To ensure that there is no increase in the municipality's debt levels, the ESCO will bear the economic risk of achieving forecasted reductions. As a result, any capital expenditures incurred by the ESCO, as well as any potential profits from the venture, will only be paid from its share in the generated savings resulting from the introduction of EE improvements.

This approach is an attractive alternative to municipalities that limits the impact on their balance sheet. However, the entire risk linked to business results is shifted to ESCOs, which makes these projects less interesting to potential investors other than technology providers who generally do not have sufficient long-term financing to fund the ESCO projects. According to various market participants<sup>30</sup>, the potential financing for ESCOs would be unblocked through the

<sup>30</sup> Interview with Zbigniew Szpak, CEO of Krajowa Agencja Poszanowania Energii S.A.

use of first loss guarantees to partially cover the exposure of commercial lenders. Currently, there are several models under scrutiny to address the market failure in this area, and risk-sharing mechanisms are being considered.

### Subsector specific risks

	Biomass (gasification / incineration / others)	Waste to Energy	Thermo-Modernisation	Street lighting
Technology / Construction	Possible technology failure/ delays in completion and cost over-runs in case of new / untested technologies	Possible technology failure / delays in completion and cost over-runs in case of new / untested technologies	N/A. Well tested technologies	N/A. Well tested technologies
Environment	Environmental impact to be assessed and decision to be granted by local authorities. Possible local protests and delays associated.	Environmental impact to be assessed and decision to be granted by local authorities. Possible local protests and delays associated.	N/A. Brownfield projects, simplified procedure	N/A. Brownfield projects, simplified procedure
Inter-connection	N/A. Small scale plants can be connected to the grid without unnecessary strain on existing infrastructure	N/A. Small scale plants they can be connected to the grid without unnecessary strain on existing infrastructure	N/A	N/A
Energy market price	As is the case for CHP in case study	As is the case for CHP in case study	As is the case for CHP in case study	As is the case for CHP in case study
Support system	Change of law / support system, in relation to green certificates	Change of law / support system, in relation to green certificates		
Feed Supply	Reliability of feedstock represents a significant risk for biomass installations, which limits access to debt financing	New law on municipal waste (1 <sup>st</sup> July 2013), addresses risk via LT supply agreements with municipality. If LT agreement not possible, other risk mitigants required	N/A	N/A
Development risk	Nature of risk and issues that need to be addressed similar to the ones in the case study	Nature of risk and issues that need to be addressed similar to the ones in the case study		
Other Risks			Financial risks (actual value of savings made in comparison to CAPEX investments)	Counterparty risk – as street lighting infrastructure often belongs to local utilities structure more complicated for developer / municipality
Potential for creating ESCO	No	No	Yes	Yes

## 2.2. ESI Funds regional strategy

### 2.2.1. Regional and National Operational Programmes

Poland was one of the first countries to implement JESSICA as a tool for urban regeneration. At the initial preparation stage, several Polish regions showed an interest in adopting JESSICA as part of their ROPs, with five Voivodeships effectively implementing JESSICA. These are Wielkopolskie, Zachodniopomorskie, Śląskie, Pomorskie and Mazowieckie. The total amount of the programme was PLN 1,107.8 million, of which PLN 904.6 million was co-financed with European SF.

Based on the knowledge and understanding of Polish regions, and discussions with various stakeholders, the key rationale underpinning the Polish regional governments' decision to adopt JESSICA in the 2007-2013 Programming Period included one or more of the following reasons:

- The need to support sustainable urban transformation of Polish cities;
- The shortage of public funds available at the local level that might be used to fund urban development on a large scale, and which might (partially) be addressed by the use of FIs, especially taking into account public debt constraints in Poland;
- Concerns about the inability of smaller cities to attract investors for urban development projects as compared to large cities;
- Perceived need to test new FIs that will be used more broadly in the new financial programme 2014-2020, and that might to some extent replace the traditional grant-funding model;
- Incentives to use UDFs as a way of increasing and ensuring absorption of EU funds due to the adopted payment certification mode;
- Ensure long-term sustainability through the revolving character of the FIs, in that repayments are then reinvested into new urban development projects;
- Benefit from private sector expertise specialising in urban development investments;
- Desire to promote private sector involvement in urban regeneration projects, especially through PPPs that have been actively supported by most Polish local governments, albeit with limited success in most cases; and
- Help support the regional development policy objectives outlined in the NSRD 2010-2020.

Wielkopolskie Voivodeship was the first region in the EU to establish a HF with the EIB. With 7 out of 36 UDFs, and 5 out of 18 HFs, Poland is a forerunner in setting up JESSICA supported FIs to support sustainable urban development in Europe.

Table 11 - Urban Development Funds in Poland, 2007-2013

Region	UDF Fund Manager	Size (EUR mm)	Characteristics / Project Status (2013)
Wielkopolskie	• UDF Wielkopolska – BGK	66.3	General purpose UDF, 8 projects financed
Zachodnio - Pomorskie	• UDF for Szczecin Metropolitan Area – BZ WBK • UDF for the areas outside the SMA – BOŚ	33.1	General purpose UDFs, 3 projects financed
Pomorskie	• UDF for the cities with county rights - BGK • UDF for other cities – BOŚ	56.8	General purpose UDFs (larger / smaller cities), 5 projects financed
Śląskie	• UDF for JESSICA in Silesia – BOŚ (in cooperation with Fundusz Górnośląski)	60.0	General purpose UDF, 4 projects financed
Mazowieckie	• UDF for JESSICA in Mazovia – BGK (in cooperation with Masovian Energy Agency and Mazovian Development Agency)	40.0	General purpose UDF, call for projects on-going

There are some common characteristics in the implementation of JESSICA in Poland that reflect the specific situation of Polish regional governments as well as market reality. This will, to some extent, be relevant in the next Programming Period 2014-2020, and must therefore be taken into account by this Study:

- All five Polish MAs have signed agreements with EIB to create HFIs that manage the operations on behalf of Polish MAs;
- All UDFs have been established by Polish-based banks: BGK, BZ WBK and BOŚ with the market dominated by BGK, which has over 60% of UDFs by value;
- Loans are the only financial product used by the UDFs – this results mainly from regulations concerning State aid that generally limit exemptions to loans and guarantees for micro and SMEs;
- Polish UDFs have tailored investment strategies to accommodate the current development stage of the Polish financial market;
- JESSICA must operate within the national and EU legal framework. ROPs were signed and agreed well before the adoption of JESSICA in the current Programming Period, which proved to be challenging for MAs and required additional measures to be undertaken. Most regions had little room for manoeuvre to create tailor-made, region-specific, solutions but managed to implement projects within these structures;
- Pomorskie and Zachodniopomorskie regions have explicitly differentiated their UDFs between larger cities (agglomerations) and smaller cities; Mazowieckie and Wielkopolskie had specific requirements for their UDFs in the allocation of funds (cities below and above 50,000 inhabitants or special areas of intervention such as EE, regeneration or clusters).

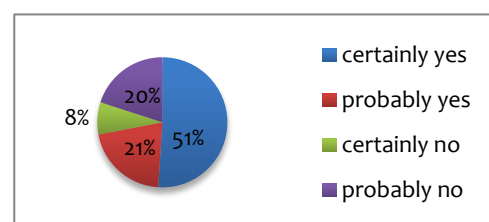
As of beginning of January 2013, Polish UDFs have signed 20 loan agreements. All 20 projects funded by the UDFs contribute to the wider rehabilitation and revitalisation of city areas. Project funding range is PLN 0.9 M – 50 M. All projects that have received loan financing from UDFs are real estate related transactions brought forward mainly by private investors.

Region	No. of loan agreements	Size (PLN mm)
Wielkopolskie	8	111.9
Pomorskie	5	105.2
Śląskie	4	36.2
Zachodniopomorskie	3	11.0

There are a number of lessons that can be drawn from the experience of implementing FIs through the JESSICA initiative that can be used in respect of the investment policy, strategy, and FI architecture to support investments in urban areas in the next Programming Period. Some of these are relevant for guarantees and/or other financial products in the energy and renewable sectors, and are listed below:

- **Adequacy of Regional Operational Programmes (“ROP”s):** In the Programming Period 2007-2013, FIs that were implemented through the JESSICA initiative within existing ROPs. The new Programming Period allows for certain provisions in new ROPs that should promote the use of FIs, including multi-funding and integrated approaches to urban development. This is important in order to avoid the competition of FIs with available grants, as has been the case on some occasions in the past. For example, in the case of the Zachodniopomorskie region, the call for projects announced by UDFs in effect competed with grant instruments offered for similar types of projects, resulting in unsatisfactory interest in JESSICA at the early stage of its implementation.

The strong preference for grants, as compared to repayable FIs, can be illustrated by the survey recently conducted by Ecorys among current beneficiaries of grants in the energy sector in Poland. When asked if they would “abandon their projects if preferential but repayable instruments replaced grants”, 72% of the beneficiaries



answered yes.<sup>31</sup> This could result in a natural preference for free funding, and does not necessarily mean that the use of FIs will not be successful in the future; but it does serve to illustrate the market sentiment at the present time, and potential challenges in implementing FIs in the future.

- **Public debt and involvement of municipalities:** Due to public debt constraints, as well as obligations to limit the deficit and current spending imposed on local authorities (municipalities, and regions), all potential solutions concerning FIs must take into account their possible impact on public debt and their accounting treatment in public accounts, e.g. contingent instruments such as global FGs if they are envisaged at the UDF level. The solutions proposed should also, if possible, recommend transaction structures that limit the potential impact of investments carried out by municipalities (directly or indirectly) on their balance sheets; this will be the single most important factor for municipalities, and/or their agencies, municipal companies and other legal entities.
- **Limitations due to State aid regulations:** This is important in the context of any wider use of FIs at all levels: MAs, HFs, UDFs and project level. State aid has been based on the Final Recipient level and allowed exemptions only for loans and guarantees to micro- and SMEs, for the purposes of implementing FIs through JESSICA in Poland (Commission Regulation (EC) No 800/2008 - General block exemption Regulation - via the Regulation of Minister of Regional Development no. 1709 from 21<sup>st</sup> December 2010). While this approach proved to be practical, it has its limitations, e.g. the use (and eligibility) of FIs for new investments only created problems for the use of FIs in some sectors such as thermo-modernisation (where the investments do not necessarily satisfy the definition or the requirement of “new”).
- **Multiplier effect:** the multiplier effect of using FIs (loan-based) through JESSICA has generally been relatively low in Poland. The potential use of guarantees (e.g. credit-enhancements, first-loss guarantees) could facilitate higher multiplier effects, faster absorption and higher turnover of funds (e.g. by guaranteeing the development or construction phase only and being able to reuse the funds after the phase is completed).
- **Default level / risk sharing:** While assessing the attractiveness of FIs and possible limitations to a more effective use of FIs in Poland, financial institutions and other stakeholders have pointed out the default levels that are accepted by UDFs. Potential agreement on higher than standard market default levels and / or risk sharing mechanisms that would offer higher loss guarantees to commercial banks should be taken into account, e.g. use of FIs in sectors and projects with different risk profiles (e.g. R&D or start-ups).
- **Insufficient collateral and equity contribution:** Experience gained in the implementation of FIs thus far has shown insufficient collateral and/or level of equity contribution to be one of the key barriers for applying for funding. This problem was mainly detrimental to smaller developers with an obsolete and limited asset base, and companies at the early stage of developments and SPVs. The use of guarantees could address this problem to some extent.
- **Project size:** Many projects that are currently financed through JESSICA instruments in Poland are very small. While not questioning the projects’ viability, there could be issues related to the effectiveness of such an approach. Regarding guarantees especially, one should consider a portfolio approach for projects of the same nature and risk profile that might be of key importance to certain sectors, e.g. EE.

### 2.2.2. Project costs eligibility

The rationale for selecting this case study is based on several factors: (1) while the main focus of Polish UDFs has been on straight-forward refurbishments of real estate assets, interviews with market participants and municipalities shows a strong market demand for district heating projects, and JESSICA could be suitable for these types of

<sup>31</sup> Final Report: Analysis of benefits and limitations of use of financial instruments as a support instrument for energy projects, (Raport końcowy. Analiza korzyści i ograniczeń przy zastosowaniu inżynierii finansowej jako instrumentu wsparcia projektów inwestycyjnych z zakresu energetyki), Ecorys, 14.12.2012

projects; and (2) energy projects address several of the objectives (and might form one of the priority areas for new ROPs) included in the 11 Thematic Objectives within the ROPs in the upcoming Programming Period.

Table 12 – Thematic Objectives – Programming Period 2014 -2020

Thematic Objectives 2014-20	Energy Efficiency	District Heating
Strengthening research, technological development and innovation	X	
Enhancing access to, and use and quality of information and communication technologies		
Enhancing competitiveness of SMEs, the agricultural sector and the fisheries and agriculture sector		
Support the shift to a low- carbon economy in all sectors	X	X
Promote climate change adaptation, risk prevention and management	X	X
Protecting the environment and promoting resource efficiency	X	X
Promoting sustainable transport and removing bottlenecks in key network infrastructures		
Promoting employment and supporting labour mobility		
Promoting social inclusion and combating poverty		
Investing in education, skills and lifelong learning		
Enhancing institutional capacity and an efficient public administration	X	X

The EE sector is of strategic importance for small-scale urban areas. Cost effective and reliable local heat delivery is a critical, high impact service for the (i) quality of life of residents, and (ii) competitiveness of commercial / industrial activities. Local authorities are required to ensure the supply of heat to their consumers, but are technically and financially challenged to do so.

The case study selected refers to a hypothetical small-scale project in the district-heating subsector, based on actual projects being developed and looking for financing in the market place today. The case study has been selected to illustrate the regulatory and business environment as well as the key characteristics of the business plan and challenges that are faced by developers of similar projects. Most of the findings and conclusions in the case study will be relevant to other sub-sectors, e.g. small-scale biomass installations; small-scale waste-to-energy installations (municipal waste); thermo-modernisation (including public buildings and private / social houses and commercial areas / companies); and street lighting.

### 2.2.3. State aid

State aid has been addressed in Poland (for the purposes of implementing FIs through JESSICA) by the Regulation of Minister of Regional Development no. 1709 from 21<sup>st</sup> December 2010 that was based on the Commission Regulation (EC) No 800/2008 (GBER). This means Poland has not decided for a notification of the JESSICA program, and the State aid issue has been regulated at a Final Recipient level basis.

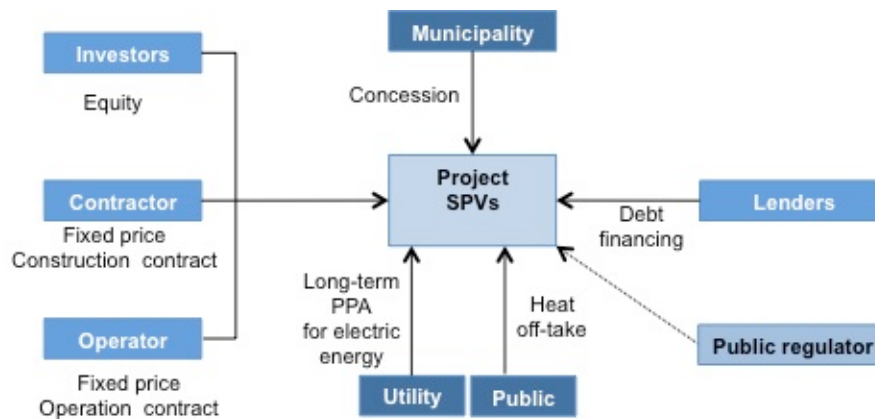
However, the rule that certain instruments can only be used for new investments created problems for the use of such FIs in some sectors, e.g. thermo-modernisation. Additionally, the State aid regulations adopted allowed exemptions only for loans and guarantees to micro- and SMEs.

This subject is of particular importance given the 800/2008 Regulation, which expires on 31st December 2013 and will need to be addressed at the EU level as well as locally in Poland.



## 2.3. FG structure

### 2.3.1. FG characteristics



In this specific case, the project could benefit from a JESSICA type UDF in two ways:

- Small amount of seed capital during the development phase as the various projects are rolled out. The seed capital could be made to the Project SPV either via use of equity FIs or via grants (e.g. ESI Funds funding for feasibility study and preparation of technical documentation); and
- Guarantees to financial institutions in the period leading up to, and including, the operational phase.

#### Benefits of using the proposed structure

The use of guarantee structures as proposed above should address several areas of importance for the use of financial products in Poland:

- **Multiplier effect and absorption rate:** FG can provide higher leverage of funds and multiplier effect. Guarantees could also facilitate a faster absorption rate and a higher turnover of funds distributed through FIs (e.g. a model where guarantees are made available at the development or construction phase only, and the funds are recycled after the phase is completed).
- **Default level / risk sharing:** low default levels accepted by UDFs have been named as one of the features limiting the attractiveness of FIs in Poland, both by the financial institutions as well as the final beneficiaries. The potential use of effective risk sharing mechanisms as proposed in the structure above, should address this problem and facilitate wider use of FIs in the sector.
- **Insufficient collateral and equity contribution:** As described earlier in the study, insufficient collateral and/or level of equity contribution are perceived to be one of the key barriers for applying for funding available via JESSICA. This problem was mainly detrimental to smaller developers with an obsolete and limited asset base, companies at the early stage of development, and SPVs – all relevant to EE projects. Effective use of guarantees as described above should address this area.
- **Revitalization element of investment:** Addressing the development phase risks via use of guarantees should unlock the use of FIs for funding revenue generating energy projects and facilitate diversification of urban regeneration projects that are currently focused on refurbishment of real estate assets in Poland.

### Areas to address to facilitate the implementation

The effective use of guarantee structures proposed above would be facilitated by addressing several areas / issues in the sector in the next Programming Period:

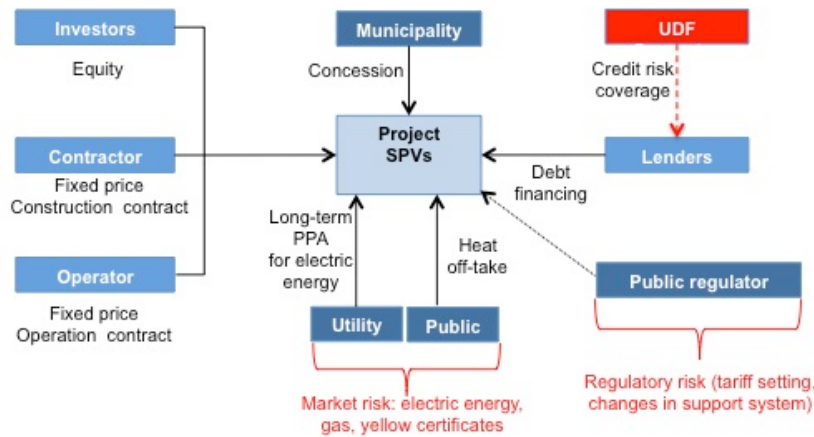
- **Regional Operational Programmes:** Unlike the current Programming Period 2007-2013 in which JESSICA had to be embedded in the already existing ROPs, the MAs can prepare the ROPs for the new Programming Period in a way that facilitates the use of FIs and encourages potential beneficiaries (in particular by avoiding competition between FIs and grant funding). With respect to this case study, MAs should identify EE in their priority axes in the ROPs, possibly by ring fencing certain amount of funds for this purpose. The potential opportunities to combine SF (especially ERDF and ESF) contributions in the Project should also be foreseen to enable, for example, the use of grants via ESI Funds for feasibility studies and preparation of technical documentation, and use of guarantees to fund CAPEX at the later stage.
- **Public debt and involvement of municipalities:** Given public debt constraints, as well as obligations to limit deficit and current spending imposed on local authorities (municipalities and regions), the potential solution proposed in the Case Study addresses these concerns. The proposed structures should have no impact on public debt and their accounting treatment in public accounts. However, should the structure be amended to seek more involvement at the municipal level, this potential impact on the municipality's balance sheet would need to be taken into account.

This would be relevant for similar projects where the municipality is the CA (not via its subsidiary), and/or guarantees (by way of example) a certain level of heat off-take or has a direct shareholding in the project company. Rather rigorous public finance law in Poland might result in the need for on-balance sheet treatment of the investment and additional indebtedness of the public entity. However, most of the projects in the energy sector should be feasible for development on a stand-alone basis, with no need for direct public involvement and additional burden on public households.

- **State aid:** Current regulations under the Regulation of Minister of Regional Development no. 1709 from 21<sup>st</sup> December 2010 limit the use of FIs to new investments. In the context of similar projects described above, where the refurbishment of heating networks is part of the business plan, the new regulation would have to be adjusted. State aid regulations in the current Programming Period have also influenced the potential use of guarantees since the general block exemption was extended only to loans and guarantees for micro- and SMEs. These two areas would have to be addressed to make the Project structure viable for this and similar projects.

After discussing the issue with the Ministry of Regional Development in January 2013, the Ministry understands the limitations of existing regulations and their influence on the feasibility of certain types of projects and FIs. The Ministry will prepare the country specific regulations for the new Programming Period 2014-2020 as soon as the terms of the new regulation of the EC that will replace the Regulation No 800/2008 are known. The existing 800/2008 Regulation expires on 31<sup>st</sup> December 2013 and the situation needs to be addressed. Once the tools to be adopted in the new EC Regulation are known, Polish Ministry of Regional Development will prepare the draft decree that will replace the existing Regulation of Minister of Regional Development no. 1709 from 21<sup>st</sup> December 2010.

- **Project pipeline:** The Project guarantee structure will be feasible for a portfolio of projects of the same nature and risk profile rather than for a single project. While the hypothetical Project presented in the Study represents significant potential for building an integrated quality pipeline that has been verified in the market, this needs to be market sounded, possibly by introducing a pilot project for a portfolio of 5-8 projects in one region.



There are a number of risks associated with the project that will be assumed by various parties. However, as far as lenders are concerned, there are two key risks, which remain uncovered and need to be mitigated:

- Risk of non-payment by the utility (electricity) and/or the contracting authority (heat), resulting in non-payment of the loan by the SPV;
- Various regulatory risks (tariff setting for example) and/or actions that the municipality might take which would also result in non-payment of the loan by the SPV.

The proposed guarantee would be issued to the lenders to cover the above-mentioned risks. Additionally, lenders would want to see:

- The guarantee in place as soon as construction starts, keeping in mind that the construction period for small CHP projects should be a year or less; and
- A maturity going beyond the seven years which local banks are prepared to lend in the local market (which in turn would remove some of the pressure on the project).

The developer faces other risks that it should be able to assume. However, a problem that arises in small CHP projects, which fall under the radar screen of large companies, is the availability of development or seed capital in the early stages of project development. This point will be addressed later in the Study.

### 2.3.2. Risks and pricing

The table below summarises the various FG parameters:

Guarantee characteristics	
Maturity	12 years (or later maturities, e.g. years 7-12)
% of debt to be covered	TBD
Guaranteed percentage	usually less than 100% to incentivise fund manager
Payment of premium	Six month instalments in arrears
Maximum aggregate liability	TBD depending on amount of debt covered
Risk sharing	80:20 for the first loss piece
Premium rate	TBD

**Description of FG parameters**

**Maturity:** represents the tenor of the guarantee. Whilst we have assumed that the projects would require (ideally) maturities of 12 years, this can obviously be adjusted based on the project characteristics. Whilst one would normally see the guarantee maturity matching the tenor of the loan, there can be alternative approaches, e.g. a financial institution might be comfortable with taking the risk for up to 5-7 years in Poland but would require a guarantee to cover the later maturities.

**Percentage of debt to be covered:** whilst banks might want the full loan covered, it may be that some projects do not require the full coverage but only a portion. If, for example, the guarantee covers later maturities, then the percentage of debt to be covered by the guarantor would be reduced.

**Guaranteed percentage:** this would be the amount paid out by the guarantor in the event of a loss. It could be 100% if the full loan is covered, but it could also be a lower amount depending on what the first loss structure looks like.

**Payment of premium:** It is assumed that for these projects, the premium will be paid on a “as you go” basis every six months, in line with the loan payment schedule.

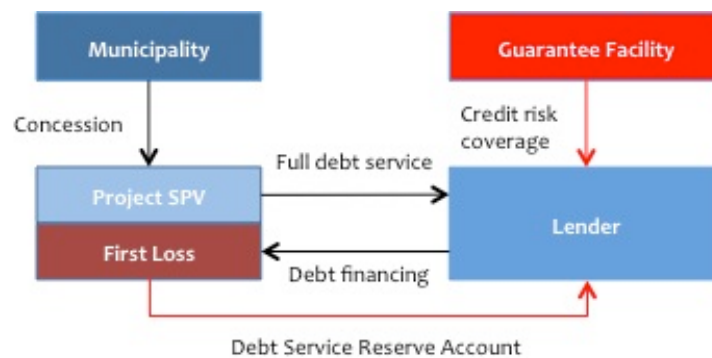
**Maximum aggregate liability:** simply refers to the quantum for which the guarantor is liable. This will be determined by a number of parameters described above.

**Risk sharing:** the risk-sharing element will depend on what the guarantor negotiates with the insured. One possibility is an 80:20 structure whereby the guarantor takes the first loss, with the lender taking subsequent losses. This will in the end be determined by what level of the debt is guaranteed.

**Premium rate:** TBD.

**2.3.3. Rights and Obligations**

This section looks at various scenarios that would affect the CHP project and what impact those scenarios have on the payment flows.



**Outcome 1:** Depressed revenues/increased costs, FG not triggered, only DSRA

The first scenario presents a case where project revenues are lower than the base case scenario, but the magnitude of the decrease is not sufficient to trigger the FG facility (i.e. revenue loss amount is up to 20% of base case revenue projections). Under the FG structure and setup, the first loss would be fully covered by the available Debt Service Reserve Account (DSRA), which has been set up as per the lender’s requirements. The senior lender would be made whole by drawdowns on the DSRA and would continue to pay the FG premium.

Rights and Obligations of parties – Outcome 1

Party	Rights	Obligations
Project SPV		Pay full debt service to Senior Lender (from DSRA only)
Senior Lender	Receive full debt service payment from SPV	Pay premium payment to FG Fund
FG Fund	Receive premium payment from Senior Lender	
Equity	Receive dividend and capital gain	

**Outcome 2:** Depressed revenues/increased costs, DSRA triggered, FG triggered – amount of debt service shortfall lower or equal to FG plus DSRA facility size

This scenario presents a case where project revenues are also lower than the base case scenario, but in contrast to the first scenario, the magnitude of the decrease is sufficient enough to trigger a partial use of the FG facility (*i.e.* First Loss amount is greater than 20% of base case revenue projections but no greater than the available DSRA and FG facilities). The DSRA would cover up to 20% of the first loss with the FG used for covering the remaining amount. The senior lender would be made whole by the use of both the DSRA and FG, and would continue to pay the FG premium.

Rights and Obligations of parties – Outcome 2

Party	Rights	Obligations
Project SPV		<ul style="list-style-type: none"> <li>Pay partial debt service to Senior Lender based on cash available</li> <li>Default status or debt restructuring</li> </ul>
Senior Lender	<ul style="list-style-type: none"> <li>Receive portion of debt service from SPV</li> <li>Receive 80% of First Loss from FG payment</li> <li>Receive 20% of First Loss from DSRA payment</li> <li>Senior Lender fully serviced until DSRA facility exhausted, 80% afterwards, until FG fully exhausted</li> </ul>	Pay premium payment to FG Fund
FG Fund	Receive premium payment from Senior Lender	<ul style="list-style-type: none"> <li>Pay Senior Lender up to 80% of outstanding debt service</li> <li>Receive FG repayments from cash available post Senior Lender debt service and DSRA deposits to replenish the FG</li> </ul>
Equity	Receive dividend and capital gain (on availability)	

**Outcome 3:** Depressed revenues/increased costs, DSRA triggered, FG triggered – amount of debt service shortfall higher than FG plus DSRA facility sizes

This scenario presents a case where project revenues are again lower than the base case scenario. In addition to the second scenario, where the magnitude of the decrease is sufficient enough to trigger the use of the FG facility, in this case the First Loss amount is large enough to deplete both the DSRA and FG facilities available to the project. The DSRA and FG facilities would cover fully the senior debt service shortfalls until they are depleted, at which time, senior lender would take the hit on the debt service shortfalls. Senior lender would continue to pay the FG premium until the FG facility is fully utilised.

Party	Rights	Obligations
Project SPV		<ul style="list-style-type: none"> <li>• Pay partial debt service to Senior Lender</li> <li>• Default status or debt restructuring</li> </ul>
Senior Lender	<ul style="list-style-type: none"> <li>• Receive portion of debt service from SPV</li> <li>• Receive 80% of First Loss from FG payment</li> <li>• Receive 20% of First Loss from DSRA payment</li> <li>• Senior Lender fully serviced until DSRA facility exhausted, 80% afterwards, until FG fully exhausted. Partial/No debt service afterwards</li> </ul>	<ul style="list-style-type: none"> <li>• Pay premium payment to FG Fund until facility fully utilised</li> </ul>
FG Fund	<ul style="list-style-type: none"> <li>• Receive premium payment from Senior Lender</li> </ul>	<ul style="list-style-type: none"> <li>• Pay Senior Lender up to 80% of outstanding debt service</li> <li>• Receive FG repayments from cash available post Senior Lender debt service and DSRA deposits to replenish the FG</li> </ul>

### 2.3.4. Financial analysis

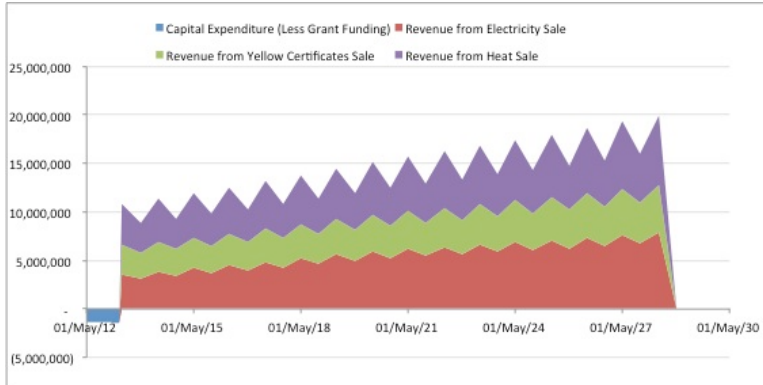
A financial model has been prepared to show the key payment flows and financial streams amongst, and the KPIs of, the different project parties. The financial model template constitutes the methodological basis and has been developed, customised and tested on the proposed case study. The purpose of the financial model is to:

- Provide a high level overview of the total project cash flows (revenues, construction, operating costs assumptions, indexation, etc.).
- Provide a high level reflection of the project’s financial and commercial structure (funding and cash cascades, debt/equity service, etc.).
- Provide a detailed and practical illustration on the role and workings of the guarantee facility:
  - ✓ The percentage guaranteed (from the underlying loan/equity amount)
  - ✓ Timing of payments (front vs. back loaded, pay as you go, smaller payment amounts upfront, etc.)
  - ✓ Positioning (front/back loaded)
  - ✓ Maturity (duration period) of proposed guarantee – based instrument
  - ✓ Risk sharing mechanism between the FG and DSRA facilities
- Deliver an initial high level illustration of the impact on project cash flows, funding seniority, and cash cascade provided by the triggering of the guarantee – based instrument in the event of project non-performance.

The model provides breakeven analysis showing the effects / benefits of the use of the guarantee instrument. Some of the assumptions used in the model are highlighted below.

**Assumptions**

- **Revenues:** based on the sale of electricity, heat and yellow certificates.



**Sales (PLN mm):**

Sale of electricity:	169.8
Sale of Yellow Certificates:	113.1
Sale of heat:	147.7

- **Project capital expenditures:** PLN 16 mm for design and build costs.
- **Operating costs**

Description	Operating Costs	
	Annual Costs (PLN)	Cost in nominal terms (PLN million)
Base Gas Cost		212.0
Connection Charge		176.7
Fixed Transmission Charge		13.0
Variable Transmission Charge		11.3
Carbon Cost		19.6
Fixed O&M Fees	550,000.00	12.3
Additional Fixed Costs	530,000.00	11.8
Head Office Costs	250,000.00	5.6
Staff Salaries	350,000.00	10.3

- **Indexation assumption (annual inflation)**
  - ✓ Price (3.5%): Electricity, yellow certificate and heat sales; base gas costs; connection charge; fixed transmission and variable transmission charge; carbon costs; fixed O&M fees; additional fixed costs; and head office costs.
  - ✓ Wages (4%): Staff salaries.
  - ✓ Prices (3%): Used for the calculation of the Purchasing Power Parity for the conversion of CO<sub>2</sub> Prices in PLN/tonne.
  - ✓ Oil prices (0%): Base gas costs.
  - ✓ Real transmission cost increases (1%): Fixed and variable transmission charges.

**Funding Structure:**

- **Debt and Equity**

Senior Debt	PLN 12.93 mm
Total project cost	PLN 17.73 mm (debt : equity ratio is 73 : 27)
Maturity	15.5 years from completion
Availability period	All construction period
Repayment Profile	Annuity
Seniority	Senior Finance
Cost of funds	5.50%
Construction Margin	4.00%
Operations Margin	4.00%
Fees	Arrangement Fees: 1% of Facility Size Commitment Fees: 80% of Interest Rate Margin (i.e. 3.2%) applied on undrawn balance.
Debt Service Reserve Acct.	Forward 6-month target debt service
Distributions	Historic Annual Debt Service Cover Ratio > 1.15
Equity	PLN 4.8 mm
	Applied during the construction period to offset part of the capital expenditures

**2.3.5. Key indicators**

The following project indicators or KPIs have been selected to illustrate (1) the mechanics of the FG mechanism, (2) the FG benefits for the project, (3) the FG benefits for the senior debt lender, and (4) the FG benefits for the guarantor:

- Project and Equity returns (IRR)
- Minimum Annual Debt Service Cover Ratio (ADSCR) of Senior Lender
- Percentage of senior debt repaid
- Guarantor return (IRR)
- DSRA amount used
- FG amount used
- FG used in how many repayment periods
- FG repaid in how many semi-annual periods

A number of scenarios have been run, and are examples of the three different project outcomes discussed in the “Rights and Obligations” section of the Study. The study analyses these project scenarios, using the above mentioned KPIs and determines the applicability, versatility, and value of the FG instrument for the different parties. The following scenarios were chosen for the District Heating case study:

- Scenario 1: Reduction in forecast electric energy price by 25%.
- Scenario 2: Reduction in forecast yellow certificates prices by 40%.
- Scenario 3: Increase in forecast gas prices by 20%.
- Scenario 4: Reduction in forecast electricity power prices by 20% in years 7-15, reduction in forecast yellow certificate prices by 50% in years 7-15, increased base gas prices by 20% in years 7-15, FG and DSRA available.



- Scenario 5: Reduction in forecast electricity power prices by 20% in years 7-15, reduction in forecast yellow certificate prices by 50% in years 7-15, increased base gas prices by 20% in years 7-15, FG not available.
- Scenario 6: Technical fault in years 7-9, Plant running at 25% capacity, FG and DSRA available.
- Scenario 7: Technical fault in years 7-9, Plant running at 25% capacity. FG not available.

The KPIs of the sensitivity analysis are summarised below (currency amounts are expressed in PLN):

KPIs	1	2	3	4	5	6	7
Nominal project IRR	26.98%	25.39%	26.18%	17.75%	17.75%	35.28%	35.28%
Nominal blended equity IRR	38.96%	36.18%	37.54%	28.10%	28.10%	52.96%	53.00%
Min ADSCR	1.3921	1.1850	1.3003	1.000	0.338	1.000	0.085
Senior debt repaid?	Yes	Yes	Yes	Yes	No	Yes	No
DSRA amount used	-	-	-	816,739	816,739	609,126	816,739
FG amount used	-	-	-	3,667,686	-	2,436,503	-
No. of semi annual periods FG used	-	-	-	10	-	4	-
FG repaid?	N/A	N/A	N/A	No	N/A	Yes	N/A
FG amount repaid	N/A	N/A	N/A	1,457,419	N/A	2,436,503	-
No. of semi annual periods FG repaid	N/A	N/A	N/A	7	N/A	1	N/A
% of senior debt serviced	100%	100%	100%	100%	84.5%	100%	90.5%

Scenarios 4 and 5 are shown in Outcome 2 in the “Rights and Obligations” section in which the FG facility is triggered and the amount of debt service shortfall is lower or equal to FG plus DSRA facility sizes. Assuming reduced electricity Yellow Certificate revenues of 20% and 50%, respectively, along with increased gas costs of 20% in years 7-15, the project triggers the available FG facility. As a result of its availability, the senior debt is fully serviced despite the severe revenue shortfalls and cost increases. In contrast, assuming the same project anomalies and no FG availability results in senior debt missed payments and potential project restructuring and potentially a project default due to the low coverage ratio levels. FG accessibility in this case acts as a strong political and regulatory risk-mitigating instrument, allowing continuation of the particular project.

Scenarios 6 and 7 are shown in Outcome 3 of the “Rights and Obligations” section in which the FG facility is triggered and the amount of debt service shortfall is higher than the FG plus DSRA facility sizes available. In this example, the FG facility can act as a strong technical risk mitigation tool as well. It can address technology’s innovation risk by providing cash flow liquidity in a particular project stage of revenue non-generation. In the above scenarios 6 and 7, assuming technology outage in years 7 to 9 result in severely reduced project revenues, the triggered FG facility steps in to “top up” the senior debt service shortfalls and allow for full servicing. The existence of the same project anomalies and no FG availability again results in senior debt missed payments and potential project restructuring and potentially a project default due to the low coverage ratio levels.

From the guarantor’s point of view, FG provides an attractive investment with a steady, long-term return. It has a relatively low risk profile with zero-return only in the most severe scenario of project non-performance.

## 2.4. FI suggestion

### 2.4.1. Structure

As of today, all UDFs in Poland have been established at regional level, which reflects the EU fund distribution model adopted in the country. In the Programming Period 2007-2013, as will probably be the case for the next programming period, EU funds are disseminated through eight nationally implemented programmes and 16 regional programmes. Taking into account the strong position of regional governments in Poland, the region and urban related funding have been mostly covered by the ROPs as an example of the decentralization of the management of funding processes. Measures included in each ROP could be crafted to meet development plans of each region separately.

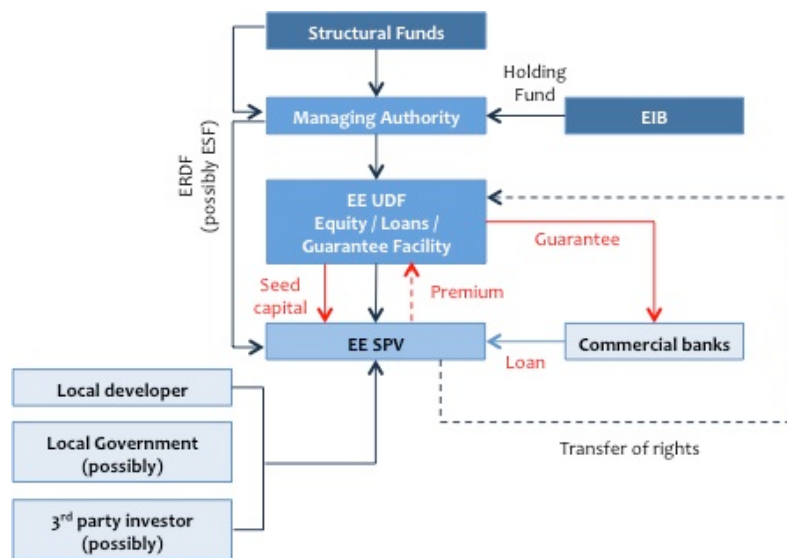
Taking into account the fact that draft full versions of ROPs are expected to be in place in the fourth quarter of 2013, the regions could adopt specific mechanisms and solutions that facilitate the use of certain FI and promote certain sectors such as EE. The Mazars-InfraLinx consortium is currently working on another study that evaluates the potential use of JESSICA type instruments in 2014-2020 for nine Polish regions (“JESSICA Evaluation Study for Nine Polish Regions”). Although this study is at an earlier stage, initial consultations with participating regions indicate a high degree of interest in the EE sector in most regions, with several of them prioritising this sector objective.

In the Programming Period 2014-2020, EU funds will likely be implemented through eight nationally implemented programmes, including one supra-regional programme covering the voivodeships of Eastern Poland, and 16 regional programmes. The regional programmes could be ‘dual-funded’ programmes, *i.e.* funds are available for implementation of both ‘soft projects’ (e.g. training) and ‘hard investments’ (infrastructure and other major urban projects). The plan also provides for the implementation of territorial co-operation programmes.

The planned programmes include the “Programme for environmental protection, counteracting and adaptation to climate change, transport and energy security”. As such, it is theoretically possible to establish a nationwide guarantee fund that supports certain areas / sectors covering the objectives of this program, e.g. environmental protection or energy security that could be developed through environment friendly generation units. Such a fund could be product (guarantees) and sector oriented (EE); it could offer a much greater focus and highly specialised team as well as allow for developing standard documentation and procedures that could expedite the absorption.

However, taking into account (1) the role of regional governments as MAs for the region-related EU funding to date, and (2) the need to understand local needs to successfully implement small-scale local investments as described in this Study, the sector focused multi-product UDFs at the local government level seems to be a more realistic option.

The projects could potentially benefit from both ERDF and ESF funding, and the guarantee facility could be financed through ERDF. The initial funds could be provided to the project companies either as seed capital through ERDF and/or in the form of grants at the early stage of project development. The latter would cover “soft” costs such as energy studies, feasibility studies, designs and other project preparatory costs. The market sounding performed in the context of the Study clearly identified a strong interest by potential beneficiaries in Poland in such an approach; this would form a relatively attractive alternative to the current grant system and address the transition period from grants dominated 2007-2013.



A possible hybrid model could be a UDF established by several local governments that, acting as regional MAs of Structural and Cohesion funds, cooperate in the EE sector. The UDF would act as a “cooperative” where each region gets a share of the guarantees based on the amount contributed. Once guarantees have been issued in proportion to the contribution, future revenues and liabilities could be shared on a joint and several basis (i.e. each region would share in the revenue stream and would share any liabilities that arise in any of the regions). This approach would benefit from economies of scale (highly specialised management team), justify upfront investments in the preparation of high quality standard documentation and procedures, and might be better positioned (given the size) to attract co-insurance and/or co-investments at the UDF level as opposed to the project level. However, this model could face some practical challenges at the fund management level due to different sources of financing from different MAs, e.g. project eligibility in different regions, regional concentration caps and exit strategies.

### 2.4.2. Investment focus

#### Geographic focus

As described earlier in the Study, and taking into account the strong position of regional governments in Poland, the UDFs should cover separate regions and be funded from the EU funding to the respective regions (supplemented by the regions’ financial means). This approach has certain advantages, including a better understanding of regional markets and players, and greater access to local SMEs.

An alternative approach, such as a product dedicated UDF at the national level, would result in economies of scale for costs, strong management expertise in risk assessment or pricing methodologies, and potentially better visibility in the market. However, this approach may not necessarily be compatible with the existing EU funding distribution model in Poland.

#### Sector / product focus

Thus far, all of the UDFs in Poland are of a general nature, with several regions (Pomorskie and Zachodniopomorskie) explicitly differentiating their UDFs between larger cities (agglomerations) and smaller cities, and other regions (Mazowieckie and Wielkopolskie) using their UDFs for certain allocation of funds (cities below and above 50 thousand inhabitants or special areas of intervention like EE, regeneration or clusters).

Taking the above into account, the sector focused UDF (e.g. EE) would be new to the market but this approach could be welcome by the MAs, especially those who intend to focus on EE as one of their priority objectives going forward. There would be enough critical mas across the country to quickly build a diversified portfolio (in terms of geography).

### 3. FG for Energy saving retrofit, a medium-size project in Northern Europe

#### 3.1. Selected case study

##### 3.1.1. Project description

The project analysed in this case study is a theoretical project in the health sector in London. The health sector organisation (the “Health Unit”) would finance the implementation of a package of EE measures through a corporate loan (or prudential borrowing). These measures would be implemented and operated by an ESCO that in return would receive an upfront payment from the Health Unit. The ESCO would guarantee the results of the EE measures through an Energy Performance Guarantee (“EPG”), and the Health Unit would recover the upfront investment through the energy savings.

##### The Energy Performance Guarantee

The ESCO would provide a 10-year EPG to the Health Unit that would guarantee an agreed amount of yearly energy savings in monetary terms (the Guaranteed Energy Savings, “GES”). The amount would be a monetary value based on the historic utility bills and the assumed energy savings. In our case study, the yearly GES would be £110,000.

At the end of each year of operations, the ESCO would calculate the actual energy savings and compare them with the GES. If the actual energy savings were higher than the GES, these would be divided evenly between the ESCO and the Health Unit. If the actual energy savings were lower than the GES, then the ESCO would pay the Health Unit the difference.

##### The ESCO

The ESCO would, in our case study, be an SME with significant technical experience as a subcontractor to ESCOs or Utilities but with a comparatively small balance sheet with regard to the EPG amount. The Health Unit would be keen to appoint the ESCO, as it would provide expertise, good value for money, and support local employment. However, the Health Unit is concerned with the robustness of the ESCO’s balance sheet and its credit status over the long term (10 year time-frame in this case).

##### The Energy Efficiency measures

The EE measures would have a project life of at least 15 years, and the ESCO would implement these measures as detailed in the table (associated costs also included).

Energy Efficiency Measure	Construction Cost (£)
Lighting	10,000
Mechanical & Electrical	140,000
Building Automation Controls	50,000
Building Fabric Upgrade	200,000
CHP	500,000
Set up and monitoring costs	100,000
<b>Total</b>	<b>1,000,000</b>

##### 3.1.2. Local context

There are a number of funding options for EE projects in the UK public sector. These include (1) general funding options for EE initiatives, and (2) EU funded options for EE projects such as the European Energy Efficiency Fund (“EEEF”) and the JESSICA London Energy Efficiency Fund (“LEEF”).

##### Funding options for energy efficiency initiatives in the public sector in the UK

A recent report published by DECC<sup>32</sup>, summarises the main funding options for EE initiatives in the public sector in the UK. These are listed below:

- a) The **London Energy Efficiency Fund** (“LEEF”) invests in EE retrofit for public / voluntary sector buildings. LEEF is one of two UDFs procured by the EIB on behalf of the London Green Fund. The Amber Green Consortium,

<sup>32</sup> DECC (Department of Energy and Climate Change), Energy Efficiency Deployment Office, “A guide to financing energy efficiency in the public sector” – November 2012. This publication can also be found on DECC’s website: <http://www.decc.gov.uk/eedo>.

led by Amber Infrastructure, with funding from RBS and support from Arup as technical advisors, is responsible for operating LEEF. The fund is now live and able to make investments. LEEF has over £100m capital available to be fully invested by December 2015.

- b) The [European Energy Efficiency Fund](#) (“EEEEF”) is a PPP dedicated to mitigating climate change through EE measures and the use of RE in the MS of the EU. It focuses on financing EE; small-scale RE, and clean urban transport projects targeting municipal, local and regional authorities as well as public and private entities acting on behalf of those authorities.
- c) [Green Investment Bank](#) (“GIB”) has committed up to £100 million to two fund managers (Sustainable Development Capital and Equitix) to make and manage investments in non-domestic EE projects in the UK. These investments can range from energy performance contracts to measures to reduce energy consumption in public and private sector buildings.
- d) [Salix Finance](#): the Salix scheme is grant funded by DECC and provides interest-free loans for EE projects in the public sector. Loans are provided for EE measures, subject to meeting certain lending criteria, which include maximum payback periods for projects and maximum costs per tonne of carbon saved.
- e) [Prudential borrowing](#): some public sector organisations, such as councils, foundation trusts and universities, are able to borrow; whereas others, such as central government departments, are given annual capital expenditure limits which are linked to the accounting definition of capital. The Local Government Act 2003 introduced new freedoms and flexibilities for local authorities. The Prudential Borrowing Framework (“PBF”) allows local authorities to borrow to invest in capital works and assets as long as the costs of that borrowing are affordable and in line with principles set out in a professional Prudential Code, endorsed by the Chartered Institute of Public Finance and Accountancy. The PBF’s intent is to facilitate local decision-making and support local strategic planning.
- f) [Other sources](#):
  - Some public sector organisations, such as councils, have statutory powers to borrow and can access low cost funding through the Public Works Loan Board (PWLB). Interest rates are typically lower than commercially available loans, so public sector organisations that have access to PWLB will probably find this a cost effective route. Most long-term council borrowing currently comes from the PWLB as it offers competitive interest rates and flexible terms. Shorter-term loans may be provided by banks or, increasingly, via loans between Councils.
  - There are other funds available from the EU or EIB, which may be relevant as a source of finance. Centrally managed EU funding may be available through calls, while EIB funding usually requires coherent investment programmes or projects of sufficient size to reach the large investment cost needed for direct EIB funding (minimum investment cost of EUR 50m).
  - [Public/Private Funding Combination](#): although Prudential borrowing offers attractive rates, it is not available to all public sector organisations. As a result, it is desirable to have a structure that is flexible enough to fund through other means available, including private finance. Provided sufficient scale is achieved in aggregating project portfolios, combining public and private funding sources can reduce the overall cost of finance. This scheme usually involves property transactions.
  - [Private Investment/Third Party Finance](#): Private investment can be structured using the ESCO or Energy Performance Contracting model but can also be used in a public sector context, such as PPP projects. There are a small number of funds, which have been established to lend to public sector EE projects, including the Scottish Partnership for Regeneration in Urban Areas (“SPRUCE”) under the JESSICA initiative and the Carbon and Energy Fund (“CEF”). Some of these use a blend of European funding together with private finance.

- Green Deal and ECO: The Green Deal is a new financing mechanism and a framework for advice, assurance and accreditation aimed at the EE supply chain (public sector, businesses and homes). It allows the cost of installing EE measures to be financed through a charge attached to a property's electricity meter, which is repaid over time and stays with the property when the occupier moves. As part of the Green Deal, an Energy Company Obligation ("ECO") has been created to focus on those householders who cannot achieve significant energy savings without an additional or different measure of support; for example, vulnerable and low-income households and those living in harder to treat properties, such as solid walled properties. Where appropriate, the ECO will integrate with the Green Deal, allowing supplier subsidy and Green Deal Finance to come together into one seamless offer to the consumer. Public sector organisations can work in partnership with energy companies to help deliver their ECO obligations.
- The Co-operative Bank finances around £100 million of the UK's National Health Service energy infrastructure projects. The Siemens Financial Services and Carbon Trust partnership provides up to £550 million in EE loans over three years.

### The European Energy Efficiency Fund<sup>33</sup>

The EEEF aims to support the goals of the EU by promoting a sustainable energy market and climate protection. EEEF contributes with a layered risk/return structure to enhance EE and foster RE in the form of targeted PPPs, primarily through the provision of funding via direct finance and partnerships with financial institutions. Investments are to contribute towards energy savings and the reduction of greenhouse gas emissions to promote the environmentally friendly use of energy and demonstrate the financial viability of such investments. Maximizing its impact, EEEF facilitates investments in the public sector where projects are often hindered due to budget restrictions and a lack of experience with these kinds of investments.

The Fund observes the principles of sustainability and viability, combining environmental considerations and market orientation. It does so by financing economically sound projects, allowing for a sustainable and revolving use of its means. In this manner, EEEF aims to attract additional capital into climate financing. The environmental and socio-economic orientation of the fund, the innovative PPP structure, and the field experience of its stakeholders are used as stimuli to bring more capital into an area in which financial means are currently insufficient to reach the ambitious goals on climate change.

#### *Eligible Investments*

The EEEF targets investments in the MS of the EU. The final beneficiaries of EEEF can be municipal, local and regional authorities as well as public and private entities acting on behalf of those authorities such as utilities, public transportation providers, social housing associations, and energy service companies. Investments can be made in Euros, or local currencies, although the latter is restricted to a certain percentage. To reach its final beneficiaries, EEEF can pursue two types of investments: direct investments and investments into financial Institutions.

#### *Direct Investments*

These include projects from project developers, ESCOs, and small-scale RE and EE service and supply companies that serve EE and RE markets in the target countries.

- Investments in EE and RE projects are in the range of EUR5m - EUR25m.
- Investment instruments include senior debt, mezzanine instruments, leasing structures and forfaiting loans (in cooperation with industry partners).
- Also possible are equity (co-) investments for RE over the lifetime of projects or equity participation in SPVs, both in cooperation directly with municipalities, or with public and private entities acting on behalf of those authorities.

<sup>33</sup> <http://www.eeef.eu/objective-of-the-fund.html>

- Debt investments can have a maturity of up to 15 years; equity investments can be adapted to the needs of various project phases.
- The Fund can (co-) invest as part of a consortium and participate through risk sharing with a local bank.

#### *Investments into Financial Institutions*

These include investments in local commercial banks, leasing companies and other selected financial institutions that either finance or are committed to financing projects of the final beneficiaries meeting the eligibility criteria of EEEF.

- Selected partner financial institutions will receive debt instruments with a maturity of up to 15 years. These instruments include senior debt, subordinated debt, and guarantees (although no guarantees have been used to date and would require additional internal approvals in order to proceed).
- Equity investments into financial institutions are not eligible.
- Financial institutions on-lend to the beneficiaries of the Fund that meet the eligibility criteria to finance EE and/or RE projects that contribute to the mitigation of climate change.

#### **JESSICA - The London Energy Efficiency Fund**

The LEEF invests in EE retrofit to public / voluntary sector buildings, e.g. universities, museums, hospitals, schools, local authorities, and social housing in order to make them more energy efficient, sustainable and environmentally friendly. LEEF is one of two UDFs procured by the EIB on behalf of the London Green Fund.

The London Green Fund was established by the London Development Agency (“LDA”) with the assistance of the EIB and the London Waste and Recycling Board (“LWARB”) under the JESSICA initiative. The Amber Green Consortium, led by Amber Infrastructure, with funding from RBS and Arup as technical advisors, is responsible for operating LEEF. The fund is now up and running and able to make investments. LEEF has over £100m capital available to be fully invested by December 2015.

The LDA RE:FIT programme provides a commercial model for public bodies wishing to achieve substantial financial cost savings, improve the energy performance of their buildings and reduce their CO<sub>2</sub> footprint. The scheme promotes the use of ESCOs to implement EE measures, which enable organisations to cut running costs, energy consumption and carbon emissions. Projects using the RE: FIT programme are one potential source of investments for the fund, but use of RE:FIT is not mandatory for LEEF.

### **3.1.3. Market failure**

This section explores the main market failures in the EE sector and in particular in:

1. Cohesion Policy investments in EE;
2. UK public and private investments in EE; and
3. EU funded and private investments in EE in public buildings in the UK.

#### **Cohesion Policy investments in energy efficiency**

The EU has several funding programmes<sup>34</sup> for promoting the achievement of EE directives and policies. The most significant funding sources are the Cohesion Policy funds (ERDF and CF). In the 2000–06 programming period, the ERDF and CF supported projects in the field of EE with EUR 306 million<sup>35</sup>. In the 2007–13 programming period, the overall planned allocations to EE have so far increased from EUR 4,192 million in 2008 to EUR 5,078 million in October

<sup>34</sup> The 7th Framework Programme for Research (FP7), Intelligent Energy Europe (IEE) and Energy Efficiency Financing Facility (EEFF).

<sup>35</sup> European Commission (2009) Ex-post Evaluation of Cohesion Policy Programmes 2000–06 Co-financed by the ERDF (Objectives 1 and 2) — Work Package 5B: Environment and Climate Change, p. 43.

2012. In the 2014–20 programming period, the Commission has proposed a regulation that would lead to investments in EE and RE in excess of EUR 17 billion<sup>36</sup>.

Within the Cohesion Policy, the Commission issues guidelines to ensure that national and regional cohesion strategies are in line with common strategic objectives of the union. The Common Strategic Framework is the basis for subsequent Partnership Agreements and OPs. While the EC is engaged in the setting up and operation of management and control systems of the OPs in the MS, it is duty of respective MAs to ensure swift implementation. The MAs, intermediate bodies and certifying authorities at the national, regional and local levels manage and monitor the implementation of the OPs<sup>37</sup>. The MAs or intermediate bodies select the projects and monitor their implementation.

The Commission receives annual implementation reports from the MS and participates in monitoring committees<sup>38</sup>. The Commission is ultimately responsible for the budget implementation<sup>39</sup>.

Project funding is subject to eligibility according to rules and conditions laid down partly at EU and partly at MS level. The criteria for selecting projects, the assessment of costs, benefits and potential revenue generation of projects as well as economic, social and environmental impact assessments are usually made at MS level with the exception of major projects in the 2007–13 period, where the Commission adopts a decision to co-finance the projects.

The European Court of Auditors assessed in a recent report<sup>40</sup> whether or not Cohesion Policy investments in EE were cost-effective. To answer this question, the Court asked if (a) the right conditions in programming and financing had been set to enable cost-effective EE investments, and (b) if EE projects in public buildings were cost-effective.

The audit was carried out in the Czech Republic, Italy and Lithuania — the countries that had received the largest contributions from the CF and ERDF for EE measures during the 2007–13 programming period, and had also allocated the highest amounts to projects by 2009. The audit included an examination of four OPs and a sample of 24 EE investment projects in public buildings.

The Court concluded that:

(a) The right conditions in programming and financing had not been set to enable cost-effective EE investments:

- The OPs audited had not benefited from proper needs assessments to identify the specific sectors where energy savings could be achieved and the options for achieving those savings in a cost-effective manner, thereby justifying the chosen measures and their cost. The national authorities did not ensure that they were integrated into the National Energy Efficiency Action Plans;
- Cost-effectiveness concept, or the best relationship between resources employed and results achieved, was not a determining factor when MS allocated funding to EE measures and concrete projects. Neither was this concept part of the Commission's assessment prior to approval of the OPs;
- Performance indicators for EE measures were not appropriate for the monitoring of the programmes. The Commission's monitoring guidelines did not lay down indicators concerning EE. Therefore, the results of the EE measures reported by the individual MAs are not comparable across the EU and cannot be aggregated.

(b) The audited EE projects in public buildings were not cost-effective:

- Although all the audited projects produced the planned physical output, such as replaced windows and doors or insulated walls and roofs, the cost in relation to the potential energy savings was high. A more important consideration than EE was the need to refurbish public buildings. While the projects audited aimed at saving

<sup>36</sup> According to the Commission's proposal, in more developed and transition regions, at least 80 % of ERDF resources must be focused on energy efficiency and renewables, research and innovation, and SME competitiveness, of which at least 20 % must be spent on energy efficiency and renewables; in less developed regions at least 50 % of ERDF resources must be focused on these three areas, of which at least 6 % must be spent on energy efficiency and renewables. (Source: CO M(2011) 614 final of 6 October 2011, p. 4).

<sup>37</sup> EU legislative summary on management and control systems for assistance granted under the Cohesion Policy funds can be found on: [http://europa.eu/legislation\\_summaries/regional\\_policy/management/g24241\\_en.htm](http://europa.eu/legislation_summaries/regional_policy/management/g24241_en.htm).

<sup>38</sup> Council Regulation (EC) No 1083/2006 of 11 July 2006 laying down general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund and repealing Regulation (EC) No 1260/1999 (OJ L 210, 31.7.2010, p. 25).

<sup>39</sup> Article 17(1) of the Treaty on European Union (OJ C 326, 26.10.2012, p. 13) and Article 317 of the Treaty on the Functioning of the European Union (OJ C 326, 26.10.2012, p. 47).

<sup>40</sup> European Court of Auditors, Cost-effectiveness of Cohesion Policy Investments in Energy Efficiency, Special Report n. 21 2012.



energy and improving comfort, they did not generate a good ratio between energy savings and the corresponding investment cost. The average planned payback period for the investments was around 50 years, which is far too long considering the lifetime of the refurbished components and even of the buildings themselves;

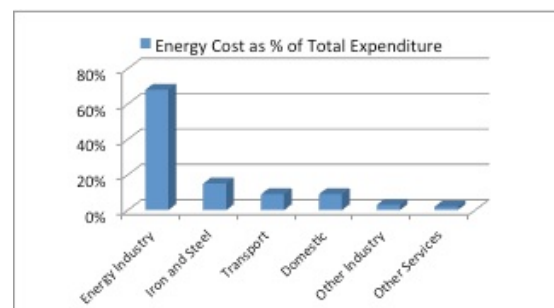
- Energy audits were either not mandatory (Italy, Lithuania) or, where they were required (Czech Republic), the investment options recommended in the energy audits were far too costly. In 18 out of 24 audited projects actual energy savings could not be verified since they had not been reliably measured.

The European Court of Auditors recommended that the Commission requires that Cohesion Policy funding for EE measures is subject to a proper needs assessment, regular monitoring and the use of comparable performance indicators as well as the use of transparent project selection criteria and standard investment costs per unit of energy to be saved, with a maximum acceptable simple payback period. Compulsory ex-ante assessments when setting up FIs are a result of these lessons learnt.

### UK public and private investment in energy efficiency

A recent report from DECC<sup>41</sup> highlights that while the evidence suggests that there is significant potential for cost-effective investment in EE, the potential is not being realised in full. The existence of market failures as described below results in lower potential EE investments than is required in the UK. The DECC report categorises market failures as follows: embryonic market, information (its provision and lack of trust), misaligned financial incentives, and behavioural barriers that result in EE measures being undervalued.

- **Embryonic markets:** the EE market needs to grow and become a 'mainstream' activity, and demonstrate its suitability for different forms of financing. While there are examples of companies focused on helping domestic and non-domestic consumers improve EE, the UK market remains underdeveloped, especially in comparison with the United States. Subject to a tried and tested implementation model, EE product and services companies could have much greater penetration in the wider commercial, industrial and public sectors given the benefits they offer. In the absence of a developed market, there is relatively little expertise on either the demand or supply side for EE investments. This constrains the development of financial products and leads to high transaction costs. Without a catalyst to drive development of the market, the costs for investing in EE will remain high, reducing cost-effectiveness.
- **Information:** One of the key characteristics of the embryonic market is that there is a lack of access to trusted and appropriate information. EE improvements are often made by purchasing upgraded equipment but the projects may have other characteristics. Where information is available, it may be generic, and not tailored to specific circumstances, meaning that potential investors are not in a position to assess the benefits of an EE investment. Financing of EE projects can be undermined by the absence of standardised monitoring and verification processes, meaning that the benefits of EE investments are not trusted. While information is available about overall energy consumption both in residential and in business settings, this information is difficult to interpret for individual measures to identify opportunities to make EE improvements. In the absence of clear, trusted information, many individuals do not prioritise EE investments.
- **Misaligned financial incentives:** It is not always the case that the persons responsible for making EE improvements benefit from their actions. This happens at a broader level when wider benefits such as security of supply, or emission reductions, are not directly felt by those making EE investments. As a result, the decision to invest is based only on the benefits directly received. Therefore, EE investments are not prioritised as they might otherwise be. The Figure above



<sup>41</sup> DECC, "The Energy Efficiency Strategy: The Energy Efficiency Opportunity in the UK", November 2012.

shows that, across the entire economy, energy costs can be a relatively small proportion of costs for many individual sectors; but in the aggregate, that energy use and savings potential is considerable.<sup>42</sup>

- **Undervaluing energy efficiency:** The lack of salience with respect to the benefits of EE measures increases the impact of hassle costs and behavioural barriers. EE projects may involve significant hassle costs for the promoters, which increases the costs of the investment, e.g. disruption caused by building works or disruption to production lines. EE improvements may not be seen as strategic for a company and are therefore not prioritised. For example, outside of the energy intensive industry sectors, energy bills are only a small proportion of business costs. If the relative gain is small, then the hassle costs can act as a significant barrier, especially if there is uncertainty around the benefits of the investment. While hassle costs are not a market failure, they compound the impact of other behavioural barriers, reducing investment in EE. This is often why companies are reluctant to invest in EE, seeking short payback times, even if a project is cost-effective at usual interest rates. Wider economic uncertainty is also reducing a willingness to invest.

### EU funded and private investment in EE in public buildings in the UK

In order to assess the main opportunities and barriers to financing EE projects in public buildings, the major market players have been interviewed. The following list summarises the findings from discussions with private and public fund managers, private and public lenders, ESCOs and technical advisors working in the EE sector for PSE in Europe and in the UK:

1. Project origination and Technical Assistance:
  - a. The up-front costs for bidding (audit phase) are high and discourage ESCOs from bidding.
  - b. The project structuring timing is particularly long in PSEs.
  - c. The procurement process is rather complicated (i.e. OJEU issues).
  - d. The PFI interaction: a number of potential sites are under PFI contracts and this adds further complexity.
2. Eligible costs: most EE measures form part of a broader capital expenditure programmes (refurbishments, etc.). This means that PSE need to negotiate two different loans: (1) identify the EE element of the capital expenditure and obtain finance for it (i.e. a loan from a UDF) at a competitive rate; and (2) finance the remaining part of the capital expenditure through a commercial bank loan.
3. Corporate Lending: most EE projects are financed through corporate lending while there is limited use of project finance (limited recourse finance).
4. Pricing of the UDF or commercial loans is currently in excess of prudential borrowing costs for the NHS and Local Authority sectors.
5. Credit rating of SME ESCOs: the performance guarantees provided by SME ESCOs are not backed by a strong credit rating.

The underlying case study has been identified during interviews with market players where the need for new ways of supporting SME ESCOs was mentioned numerous times. In fact, local authorities would be more incentivised to undertake EE investments if they were confident that this would benefit local employment and businesses. Consequently, this initiative would not only address the needs of SMEs but would also support the projects brought to market.

In the U.S., similar examples of support to SMEs working in the EE domain have recently started to appear in the market. While also at early stages of development, these schemes show the market interest if not the demand for these types of products. Enabling SME access to the market could spur competition and increase innovation in business models and products.

<sup>42</sup> Estimated energy cost as proportion of total expenditure, by UK sector, 2009 (Experimental analysis) – Source: DECC.

### 3.1.4. Representativeness

EE is one of the cornerstones of the European energy policy and one of the main targets of the Europe 2020 Strategy for smart, sustainable and inclusive growth. This includes the objective of a 20% reduction in primary energy consumption by 2020. Buildings account for approximately 40% of final energy consumption. Investing in EE measures in buildings can yield substantial energy savings, while supporting economic growth, sustainable development and creating jobs. In addition, greater use of energy-efficient appliances and technologies, combined with RE, are cost effective ways of enhancing the security of energy supply.

Despite substantial progress towards meeting the 20% reduction target, a recent EC study shows that, if no additional measures are taken, the EU will meet only half of its target. In 2011, the EC adopted a new EE Plan, and a proposal for a new EE Directive is currently under negotiation. The latter will require public authorities to refurbish at least 3% of their building stock by floor area each year.<sup>43</sup> This may turn out to be a massive investment stimulus for which funding alternatives are required.

Currently, the EE sector in the UK already accounts for about 136,000 jobs and had sales of £17.6 billion in 2010/11. Sales in this sector have grown by over 4% per year in the UK since 2007/08, and are projected to grow by around 5% per year between 2010/11 and 2014/15.<sup>44</sup>

#### Energy efficiency and renewable energy in the new Cohesion Policy (extracts from the EPEC document)<sup>45</sup>

As part of the effort to speed up the shift towards a low-carbon economy, an important focus of the EU Cohesion Policy for the next programming period will be EE and RE. The proposed ERDF Regulation for 2014-2020 envisages ring-fencing ERDF funding for the thematic objectives of research and innovation, SME competitiveness and the low-carbon economy, including EE, RE sources and smart grids. In more developed regions, at least 20% of total ERDF resources at the national level should be allocated to the low-carbon economy, and in less developed regions, the figure should be at least 6%. The difference in the percentages gives less developed regions greater flexibility in the way they spend their funds, according to their development needs.

Based on the overall MFF amounts put forward by the Commission, this would represent approximately EUR 17 billion for sustainable energy. In addition, allocations from the Cohesion Fund could also be made to sustainable energy.

The March 2012 Commission Staff Working Document on "Elements for a Common Strategic Framework 2014 to 2020" stresses that the bulk of climate-related investment should be made by the private sector. MS and regions should ensure that public funding complements private investment, leveraging it and not crowding it out. In the EE sector, the option of creating value for energy savings through market mechanisms (energy saving obligations, energy service companies, etc.) should be considered before public funding.

FI should be supported in instances where there is considerable potential for private revenue or cost savings, including revolving funds and guarantee schemes. In the case of physical investment, grants should be used primarily to address market failures or to support innovative technologies and investments going beyond cost-efficient EE performance, thus making sure that energy savings and greenhouse-gas emission reductions are above those attainable with business as usual.

In assessing their position and assets in the context of the development and subsequent implementation of their strategies, MS and regions are invited to make full use of the knowledge acquired under the Strategic Energy Technology (SET) Plan. A number of regions are likely to conclude as part of this process that they should focus a large share of RTDI Cohesion Policy resources on EE or RES.

Similar to the case study for Poland, this case study represents a project proposal that may be replicated in numerous sectors involving public buildings including: healthcare; primary and secondary education; higher education; and local administration.

<sup>43</sup> EPEC - Guidance on Energy Efficiency in Public Buildings.

<sup>44</sup> K-Matrix, Low Carbon and Environmental Goods and Services data (2010-11). The energy efficiency sector has been defined as the energy management and building technologies subsectors. <http://www.bis.gov.uk/policies/business-sectors/green-economy/market-intelligence/market-data>.

<sup>45</sup> EPEC - European Commission Cohesion Policy Proposals for 2014-2020

## 3.2. ESI Funds regional strategy

### 3.2.1. Regional and national Operational Programmes

On 6 December 2007, the EC approved a regional development programme for London for the period 2007-2013, within the framework of the Competitiveness and Employment objective. The programme's total funding is EUR 382 million and the Community investment through the ERDF is approximately EUR 182 million (approximately 2.6% of the total EU money invested in the United Kingdom under Cohesion policy 2007-2013).<sup>46</sup>

The London OP aims to promote greater innovation, collaboration and environmental efficiency for London's SMEs. Incentives are provided to help SMEs access new markets and finance for investment. The programme will also invest in environmental improvements, which will help transform those areas of London with the largest scope for increasing job provision, and where the additional employment will particularly benefit Londoners from deprived communities.

### 3.2.2. Project costs eligibility

In the 2007-2013 programming period, Article 44 first paragraph (c) of the General Regulation (EC) No 1083/2006 created the possibility for financing investments in EE, and the use of RE in buildings, including existing housing as may be set up by national or regional public or private bodies. This was done by opening up the possibility of supporting such investments through funds or other incentive schemes providing loans, guarantees for repayable investments or equivalent instruments.<sup>47</sup> The support can take the form of direct contributions to such funds or other incentive schemes, or through HFs.

Article 43(6) of the Implementing Regulation (EC) No 1828/2006 allows operations for EE and RE in buildings, including existing housing to be supported through loans, guarantees or equivalent instruments and to also receive grants. The possibility of receiving both non-repayable assistance or grants and repayable investments opens up new opportunities to address a wide range of market gaps, namely through incentives for investments with long-term financial payback periods or for beneficiaries with low self-financing capacity.

For example, energy audit schemes in the housing sector that are supported through grants in the framework of a cohesion policy OP may identify the concrete investments needed. Additionally, these schemes could be complemented with adapted financing instruments, such as loans, guarantees or other forms of repayable investments, implemented through existing financial intermediaries.

For the avoidance of doubt, where funds or other incentive schemes invest exclusively in projects for EE and use of RE in buildings, including existing housing, it is not obligatory to include them in integrated plans for sustainable urban development.

<sup>46</sup>[http://ec.europa.eu/regional\\_policy/country/prordn/details\\_new.cfm?gv\\_PAY=UK&gv\\_reg=ALL&gv\\_PGM=1017&LAN=7&gv\\_PER=2&gv\\_defL=7](http://ec.europa.eu/regional_policy/country/prordn/details_new.cfm?gv_PAY=UK&gv_reg=ALL&gv_PGM=1017&LAN=7&gv_PER=2&gv_defL=7)

<sup>47</sup>Guidance Note on Financial Engineering Instruments under Article 44 of Council Regulation (EC) No 1083/2006

### EU Cohesion Policy eligibility

The following table summarises the expected eligibility of the project in respect of the 11 thematic axes of the EU Cohesion Policy.

Thematic Objectives 2014-2020	Eligibility
Research & innovation	
Information and communication technologies (ICT)	
Competitiveness of Small and Medium-sized Enterprises (SMEs)	√
Shift towards a low-carbon economy	√
Climate change adaptation & risk prevention and management	√
Environmental protection & resource efficiency	√
Sustainable transport & removing bottlenecks in key network infrastructures	
Employment & supporting labour mobility	
Social inclusion & combating poverty	
Education, skills & lifelong learning	
Institutional capacity building & efficient public administrations	

### Regional OP eligibility

The London 2007-2013 ERDF programme is structured according to the following priorities<sup>48</sup>:

Priority 1: Business innovation and research and promoting eco-efficiency. This priority will help develop a culture of, and a capacity for, creating and using innovation throughout London's businesses to create sustainable economic growth. It will also help leverage value from London's world-class knowledge base to benefit London's economy.

Priority 2: Access to new markets and access to finance. The priority will address market failure in the access to finance (mainly risk capital), and improve SMEs' access to new market opportunities.

Priority 3: Sustainable places for business. Promoting innovation and growth in London's deprived areas is not only about assisting individual enterprises with their specific business needs; it is also about transforming the physical environment in these areas as this is currently a barrier to economic performance. London's regeneration areas, many of which are in East London, are home to some of the poorest communities in Europe as measured by the index of multiple deprivations. A key issue for this area is the decay of the urban environmental infrastructure. This priority, geographically targeted in the most deprived areas, is about providing high quality business premises for SMEs, which incorporate environmental specifications. High quality environments are created for businesses that are serviced by renewable and co-generated decentralised energy systems and innovative waste management and water resource support systems. At the same time they promote innovative and emerging environmental technologies through pilot and demonstration projects.

Priority 4: Technical assistance is anticipated to help implement the programme.

The project reviewed in this case study meets the four priority axes of the OP 'London'. However, it should be noted that the project is not required to meet all four priorities. Also, going forward, there will be increased flexibility with respect to FIs and the project eligibility under an OP in the 2014-20 programming period.

<sup>48</sup>[http://ec.europa.eu/regional\\_policy/country/prordn/details\\_new.cfm?gv\\_PAY=UK&gv\\_reg=ALL&gv\\_PGM=1017&LAN=7&gv\\_PER=2&gv\\_defL=7](http://ec.europa.eu/regional_policy/country/prordn/details_new.cfm?gv_PAY=UK&gv_reg=ALL&gv_PGM=1017&LAN=7&gv_PER=2&gv_defL=7)

### Project costs eligibility

The following table summarises the eligibility of project investment components in relation to the EU thematic objectives and OP axis since they fall under the objectives of shifting to a low carbon economy and provide for greater environmental protection and resource efficiency.

Project costs eligibility	Eligibility	Eligible amount
Lighting	√	£10,000
Mechanical & Electrical	√	£140,000
Building Automation Controls	√	£50,000
Building Fabric Upgrade	√	£200,000
CHP	√	£500,000
Set up and monitoring costs	√	£100,000
<b>Total</b>		<b>£1,000,000</b>

### 3.2.3. State aid<sup>49</sup>

There are three categories of State aid exemptions that are relevant to FG for this case study:

- (a) No aid – *De minimis*
- (b) General Block Exemption Regulation (GBER)
  - i. Aid for climate change and other environmental protection
  - ii. Regional Aid

These categories are explained below and are based on the document “Vademecum of Community law on State aid” issued by EC Directorate-General for Competition on 30 September 2008.

#### No aid - *De minimis*

The exemption covers small amounts of State aid (*de minimis* aid), which are not subject to the notification requirement. The *de minimis* rule sets a threshold figure for aid below which Article 87(1) of the Treaty can be said not to apply, so that the measure need not be notified in advance to the Commission. The rule is based on the assumption that, in the vast majority of cases, small amounts of aid do not have an effect on trade and competition between MS.

The regulation only applies to “transparent” forms of aid, i.e. aid for which it is possible to determine in advance the gross grant equivalent without needing to undertake a risk assessment. This implies a certain number of restrictions on certain forms of aid such as guarantees. Only guarantees lower than EUR 1.5 mm can be covered by the Regulation; without prejudice to the possibility of MS notifying methodologies, as provided by Article 2.4(d) of the Regulation.

#### General Block Exemption Regulation (GBER)

This section and the following section summarise the “Commission Regulation (EC) No 800/2008 of 6 August 2008 declaring certain categories of aid compatible with the common market in application of Articles 87 and 88 of the Treaty (General block exemption Regulation)” (Official Journal L 214, 9.8.2008, p. 3-47) (hereinafter the “GBER”). The GBER sets forth individual aid ceilings (per each category of measure) below which it is applicable.

<sup>49</sup> European Commission Directorate-General for Competition - Vademecum - Community law on State aid - 30 September 2008 – Factsheet 13

**Concepts**

Measures that are listed in the GBER and comply with the conditions and criteria set forth therein will benefit from an exemption to the notification requirement. If applicable, MS are therefore free to implement FIs under GBER without additional assessment from the Commission. Aid not covered by the GBER continues to be subject to the notification requirement and the regular Commission's State aid assessment.

The GBER consolidates (and harmonises) into one text the rules that previously existed in different regulations. It also enlarges the area covered by notification exemptions by five types of aid, which have not been exempted so far: environmental aid, innovation aid, research and development aid for large companies, aid in the form of risk capital and aid for enterprises newly created by female entrepreneurs.

The GBER applies only to transparent aid, *i.e.* grants and interest rate subsidies, loans where gross grant equivalent takes account of the reference rate, guarantee schemes, fiscal measures (with a cap) and repayable advances under certain conditions.

Aid is only allowed if it has an incentive effect. The GBER provides different criteria for the verification of the incentive effect with ranging complexity: (i) for certain types of measures, incentive effect is presumed; (ii) for SMEs, the incentive effect is present if the application for aid was submitted prior to the start of the project; and (iii) for large enterprises, in addition to the above, the MS would have had to verify the basic conditions of the documentation.

**Categories of aid covered and aid intensities**

The GBER authorises the following aid types: aid in favour of SMEs; aid for research and innovation; regional development aid; training aid; employment aid; aid in the form of risk capital; environmental aid; and aid promoting entrepreneurship. The table below summarises the relevant aid amounts and aid intensities applicable under the GBER to EE investments.

Type of aid measure	Maximum allowable aid amount under the GBER	Aid intensity ceiling under the GBER expressed as a percentage of eligible costs		
		Large enterprise	Medium Enterprise	Small Enterprise
Aid for energy savings	EUR 7.5 m per undertaking, per project	Extra investment costs (net)		
		60%	70%	80%
		Extra investment costs (gross)		
		20%	30%	40%
Aid for renewable sources of energy	EUR 7.5 m per undertaking, per project	45%	55%	65%
Aid for cogeneration	EUR 7.5 m per undertaking, per project	45%	55%	65%

**GBER - Aid for climate change and other environmental protection**

This section of the report is based on the “Community Guidelines on State aid for Environmental Protection” (Official Journal No C 82, 1.4.2008, p.1) (the “Guidelines”). It also includes information on the application of the GBER to environmental aid. The Guidelines reflect the approach set forth in the State aid Action Plan with respect to a more refined economic approach to State aid analysis, and the introduction of a balancing test. As a result, the Guidelines provide rules under which the Commission will perform either a standard assessment or a detailed assessment. The latter requires a more thorough analysis of the measures, and the performance of a balancing test on a case-by-case basis. As a matter of principle, the Guidelines provide for the Commission to look at the incentive effect, necessity and proportionality of the State aid measures in the environmental area.

**Aid for energy saving**

Investment aid: the eligible costs are strictly limited to the extra costs directly related to energy savings and a level of energy saving higher than Community standards. Furthermore, the operating benefits and operating costs arising during the first three years of the life of the investment (for SMEs), first four years (for large undertakings outside of the EU CO<sub>2</sub> Emissions Trading Scheme, “ETS”) or first five years (for large undertakings which are part of the EU CO<sub>2</sub> ETS) are deducted and added respectively. Eligible investments can be made in land, buildings, plant equipment and technology transfer.

Operating aid: the aid is limited to compensation for net extra production costs taking into account the benefits that result from the energy saving. Investment aid granted is deducted from the production costs and limited to five years.

**Aid for renewable energy sources**

Investment aid: the eligible costs are strictly limited to the extra investment costs borne by the beneficiary compared with a conventional power plant or heating system with the same capacity. Eligible costs must be calculated net of any operating benefits and operating costs arising during the first five years of this investment. Eligible investments can be made in land, buildings, plant equipment and technology transfer. Aid for biofuels is only allowed with regard to sustainable biofuels.

Operating aid: can cover the difference between the cost of producing energy from RE sources and the market price of the form of energy concerned.

**Aid for cogeneration**

Investment aid: eligible costs are limited to the extra investment costs necessary to realise a high-efficiency cogeneration plant as compared to the reference investment. It must be calculated net of any operating benefits and costs arising during the first five years of the life of the investment. Eligible investments can be made in land, buildings, plant equipment and technology transfer.

Operating aid: same rules as for RE apply. Eligible installations include undertakings that distribute electric power and heat to the public where costs of production exceed its market price. For industrial use only where it can be shown that the production cost of one unit of energy using that technique exceeds the market price of one unit of conventional energy.

**Aid for investment in energy-efficient district heating**

Eligible costs are strictly limited to the extra investment costs borne by the beneficiary compared with a conventional heating system with the same capacity. Eligible costs must be calculated net of any operating benefits and operating costs arising during the first five years of this investment. Eligible investments can be made in land, buildings, plant equipment and technology transfer.

**Principle for calculation of extra investment cost**

Extra investment costs are calculated in two steps:

1. Cost of investment established by reference to the counterfactual situation in the absence of State aid. The counterfactual scenario must be credible and at least meet applicable Community standards.
2. Any operating benefits arising during a fixed time period (normally five years) of the life of the investment are deducted and corresponding operating costs are added.

**Notification**

The GBER introduced new categories of environmental aid that are exempted from the notification requirement. Subject to the conditions laid down in the GBER (including special aid intensities), these include: investment aid that enable undertakings to go beyond Community standards for environmental protection or increase the level of environmental protection in the absence of Community standards; aid for acquisition of new transport vehicles which go beyond Community standards or which increase the level of environmental protection in the absence of Community



standards; aid for early adaptation to future Community standards for SMEs; investment aid for energy saving measures; investment aid for high-efficiency cogeneration; investment aid for the promotion of energy from RE sources; aid for environmental studies; and aid in the form of reductions in environmental taxes do not need to be notified.

However, any such aid needs to be notified if it exceeds the individual notification thresholds of EUR 7.5 million per undertaking per investment project. Similarly, if the conditions of the GBER are not fulfilled, aid also needs to be notified and will be assessed on the basis of the Guidelines.

### GBER - Regional Aid

Articles 87(3)(a) and 87(3)(c) of the Treaty both provide a basis for the acceptance of State aid measures aimed at tackling regional problems. Two categories of eligible regions can be distinguished:

- Article 87(3)(a) regions: These are regions where the standard of living is abnormally low or where there is serious under-employment (NUTS II regions with a GDP/cap lower than 75% of the EU average).
- Article 87(3)(c) regions: These are problem areas defined on the basis of (national) indicators proposed by the MS, subject to a maximum population coverage and some minimal conditions to prevent abuse.

In order to be eligible for aid, the project has to comply with the following key conditions:

- New assets (except for SMEs);
- Maintenance of the investment in the region for a minimum period of at least 5 years (3 years for SMEs) after its completion;
- Financial contribution of the beneficiary of at least 25% of the eligible costs.

The Regional Aid exemptions set a ceiling of State aid that can be delivered to a project. Aid for initial investment can be calculated as a percentage of the investment's value or as a percentage of the wage cost of the jobs linked to the initial investment:

- Investment: material investment (land, buildings, plant/machinery) and a limited amount of immaterial investment (expenditure incurred by technology transfer). Expenditure on transport equipment in the transport sector is not eligible.
- Wage-costs: expected gross wage-costs and the compulsory social security contributions, calculated over a period of two years multiplied by the number of jobs created (net job creation in the establishment concerned).

### State aid element in the case study

As indicated earlier, there are three categories of State aid exemption that are relevant to FGs for this case study. These include (a) no aid – De minimis, and (b) two forms of GBER (regional aid and aid for energy saving projects). The de minimis exemption would apply in this case as the guarantee value is just below EUR1.5m. We have also considered the GBER Aid for climate change and for other environmental protection State aid exemptions. In order to assess if the FG State aid element is within the exemption boundaries it is necessary to calculate:

- The Maximum allowable aid amount under the GBER for EE investments: EUR7.5m.
- The Aid intensity ceiling under the GBER expressed as a percentage of eligible costs: 80% of extra investments eligible costs.

Extra investment costs are calculated as described earlier in this section.

### 3.3. FG structure

#### 3.3.1. FG characteristics

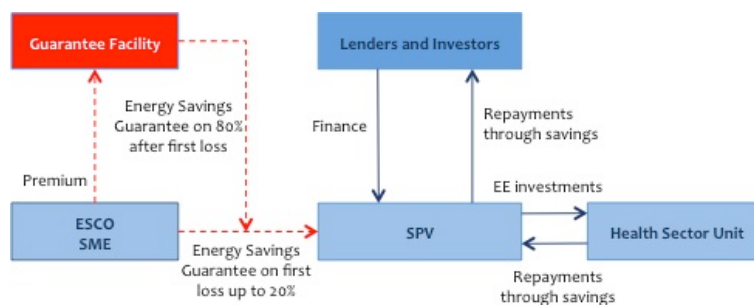
In the case study, the proposed FG would reinsure the ESG provided by an ESCO SME. A risk-sharing structure is proposed where the FG would reinsure only a portion of the ESG in order to align the interests of guarantor and ESCO SME. In our example, we have assumed that the FG would reinsure the ESG for 80% of the value, leaving the remaining 20% with the ESCO.

This structure would relieve some of the burden on the ESCO balance sheet but at the same time keep the ESCO focused on the project results, and ensure that interests are properly aligned. It should be noted though that the 80-20 structure proposed here could be modified depending on the project and the ESCO’s ability to assume greater risk.

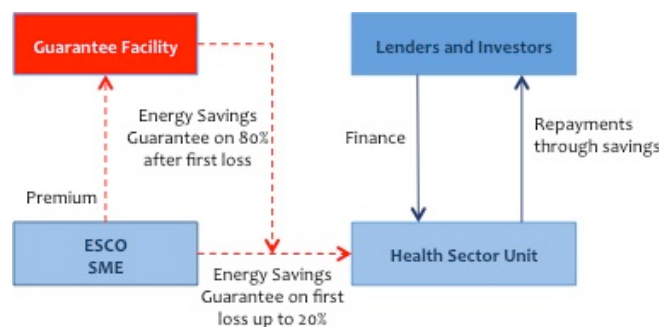
While general terms of use and the investment strategy of the FI and the FG product are to be negotiated between the MA and the managers of the FG, individual transactions are subject to the due diligence by the FG managers, who would negotiate final terms with the ESCO and the investors. If triggered, payment flows of the FG would be channelled either to the lenders and investors, the SPV (if there is one) or the Health Unit. The FG managers would undertake this process as well.

The proposed structure is illustrated in the two schematics below. One is based on the assumption that a limited recourse structure has been set up with an SPV. In the second case, there is no SPV and the transaction is directly between the ESCO and the Health Unit.

SPV option (limited recourse financing)



Corporate Finance option



Description of FG parameters:

Guarantee characteristics	
Maturity	10 years
% of debt to be covered	80%
Guaranteed Percentage	80% (or a lower amount as may be agreed)
Payment of premium	Yearly
Maximum aggregate liability	TBD but equivalent to the EPG outstanding.
Risk sharing	Second Loss (80:20)
Premium rate	2 – 5%

**Percentage of EPG Covered:** Fixed percentage of the outstanding EPG covered by the guarantee facility at each project period. In the case study, we assume this to be 80% of the EPG (based on the current credit rating of the ESCO).

**Hierarchy of drawdown:** Second loss. The First Loss on the EPG is covered by the ESCO up to 20% of the EPG amount. The FG is triggered after the ESCO has covered energy savings shortfall worth the first 20% of the EPG.

**Maturity:** The EPG tenor will be 10 years and the maturity of the FG will be consistent with the tenor of the Senior Bank loan it covers.

**Facility Size:** The size of the facility will be equal to a fixed percentage of the EPG at any given point of time.

**Premium Fee:** A premium fee would be paid by the ESCO to the FG Fund. This would be a combination of charges paid on the FG value and on the actual cash held by the FG Fund (the FG capital requirement). The total premium fee expected, and in line with market practice, would be approximately 2 - 5%. However, the MA has some flexibility in this area depending on what the objective is. If the MS stated objective is to attract SMEs (whose credit rating is too low to obtain financing) in a key sector of the economy for example, a case may be made for reduced premium rates in the early years of the guarantee fund. The point here is that the MA has considerable flexibility (different options are discussed in Section 1.3 of the Appendix) in this area.

**Arrangement Fee:** A one-time upfront fee of 50 bps on the value of the guarantee is charged. The arrangement fee would be directed to the FG Fund manager and cover the costs supported by the FG Fund manager to finalise the deal. Like the premium fee, the arrangement fee may also be waived.

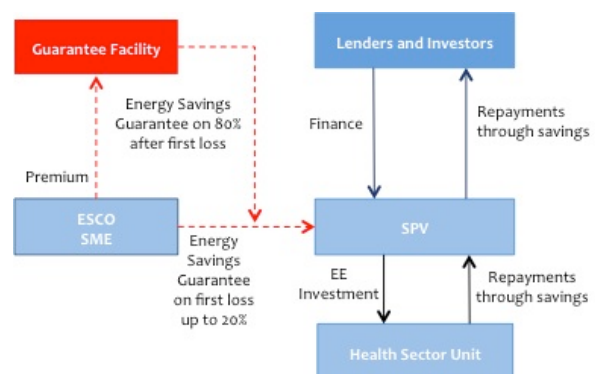
### 3.3.2. Rights and Obligations

This section looks at various scenarios that would affect the project and what impact those scenarios have on the payment flows.

**Outcome 1:** This is the base case scenario in which obligations under the EPG are met and thus the FG is not triggered.

#### Rights and Obligations of parties – Outcome 1

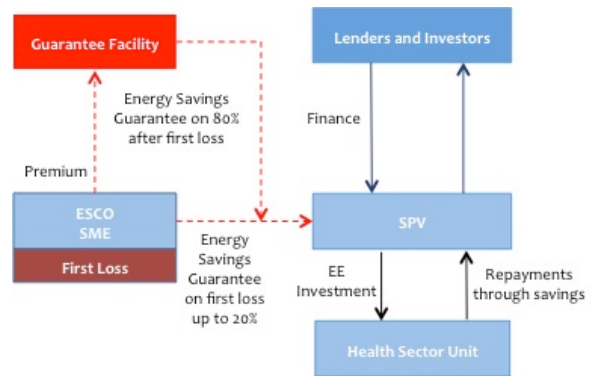
Party	Rights	Obligations
SPV/Health Unit	Receive Energy Savings	
ESCO	N/A	Pay premium payment to FG Fund
Lenders	Receive full debt service from SPV	
FG Fund	Receive premium payment from ESCO	



**Outcome 2:** Revenue Losses of up to 20%, ESCO ESG triggered, FG not triggered

Rights and Obligations – Outcome 2

Party	Rights	Obligations
SPV/ Health Unit	<ul style="list-style-type: none"> <li>Receive Energy Savings</li> <li>Receive ESG payment from ESCO</li> </ul>	
ESCO	N/A	<ul style="list-style-type: none"> <li>Pay premium to FG Fund</li> <li>Pay ESG to SPV/Health Unit</li> </ul>
Lender	<ul style="list-style-type: none"> <li>Receive full debt service from SPV</li> </ul>	
FG Fund	<ul style="list-style-type: none"> <li>Receive premium payment from ESCO</li> </ul>	

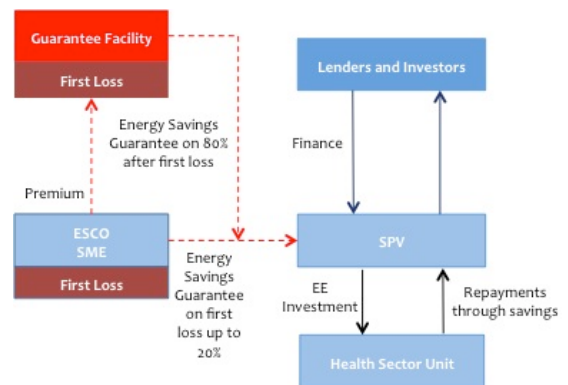


In the second scenario (as described in the diagram above), the project revenues are lower than the amount guaranteed by the EPG, i.e. the GES. The amount of revenues below the GES threshold is within 20% of the GES, and consequently is covered entirely by the ESCO.

**Outcome 3:** Revenue Losses of more than to 20%, ESCO ESG and FG triggered

Table 3: Parties' Rights and Obligations – Outcome 3

Party	Rights	Obligations
SPV/ Health Unit	<ul style="list-style-type: none"> <li>Receive Energy Savings</li> <li>Receive ESG payment from ESCO</li> <li>Receive ESG payment from FG Facility</li> </ul>	
ESCO	N/A	<ul style="list-style-type: none"> <li>Pay premium payment to FG Fund</li> <li>Pay ESG to SPV/Health unit</li> </ul>
Lenders	<ul style="list-style-type: none"> <li>Receive full debt service from SPV</li> </ul>	
FG Fund	<ul style="list-style-type: none"> <li>Receive premium payment from ESCO</li> </ul>	<ul style="list-style-type: none"> <li>Pay ESG to SPV/Health Unit</li> </ul>



This scenario presents the case where project revenues are lower than the amount guaranteed by the EPG, i.e. the GES. The amount of revenues below the GES threshold exceeds 20% of the GES and consequently is partly covered by the ESCO (up to 20% of the GES value) and the FG covers the remaining part.

### 3.3.3. Financial Analysis

As with the District Heating case study, the financial analysis for this case study has been prepared with the use of a financial model that makes explicit the key payment flows and financial streams amongst, and the KPIs of, the different project parties. The model assumptions and FG structure and setup are customised taking into account the specificities of this EE project.

The model simulates the functionalities of the FG facility under different project scenarios and illustrates, for the case study, expected changes in project KPIs, impact on project cash flows, funding seniority, and cash cascade resulting from the triggering of the FG in the event of project non-performance.

### 3.3.4. Key indicators

The following project indicators have been selected to illustrate (1) the workings of the FG mechanism, (2) the FG benefits for the project, (3) the FG benefits for the senior debt lender, and (4) the FG benefits for the guarantor:

- Project and Equity returns (IRR);
- Minimum Annual Debt Service Cover Ratio (ADSCR) of Senior Lender;
- Percentage of senior debt repaid;
- Guarantor return (IRR);
- FG amount used;
- FG used in how many repayment periods;
- FG repaid in how many semi-annual periods.

The financial model has run the following scenarios, which serve as examples of the three different project outcomes discussed in the “Rights and Obligations” section of the report. The study analyses these project scenarios, using the above mentioned KPIs and determines the applicability, versatility, and value added of the FG instrument for the different parties.

The following scenarios were chosen for the Energy Efficiency case study:

1. Base Case, no revenue losses, ESCO ESG and FG is not triggered.
2. Revenue losses of up to 20%, ESCO ESG triggered, FG is not triggered.
3. Revenue losses of up to 35%, maintenance costs increase of 35%, ESCO ESG triggered, and FG is triggered.
4. Revenue losses of up to 35%, maintenance costs increase of 35%, ESCO ESG triggered, and FG is not available.
5. Revenue losses of up to 50%, maintenance costs increase of 50%, ESCO ESG triggered, and FG is triggered.
6. Revenue Losses of up to 50%, maintenance costs increase of 50%, ESCO ESG triggered, and FG is not available.

The following table summarises the interim results of the analysis. The results show that the FG instrument is highly effective in addressing the important project risks associated with EE projects – energy infrastructure performance and maintenance. Even with severe energy cost savings underperformance and increased levels of maintenance (35% in this case), the FG availability allows for full senior debt service (scenario 3). Increasing the variance to 50% of forecasted cost savings and maintenance produces a notable senior debt service level of 93% (scenario 3). In contrast, the non-availability of a FG facility in the latter two scenarios results in severe senior debt shortfalls, which would result in project non-performance, restructuring, and potential default (scenarios 4 and 6).

From the guarantor’s point of view, FG provides a modest return in the base case due to its competitive premium charge. This return is however wiped out in the scenarios where FG drawdowns are made to service senior debt shortfalls. A mitigation factor for this increased level of investment risk from the guarantor’s perspective is the fact that such severe levels of project underperformance such as 35% and 50% are highly theoretical and not very realistic. Here, it is recalled that the primary objective of FIs is to provide a stimulus and to enable policy-driven projects. While the guarantee is set up as a product of a revolving fund, it does not follow a profit-maximizing agenda.

Key Performance Indicators	1	2	3	4	5	6
Nominal project IRR	13.3%	10.91%	1.41%	1.41%	-	-
Nominal blended equity IRR	13.1%	13.1%	6.40%	3.96%	1.32%	-
Min. ADSCR	1.2	1.2	1.00	0.22	0.49	0.04
Senior debt repaid?	Yes	Yes	Yes	No	No	No
% of senior debt serviced	100%	100%	100%	86%	93%	51%
Guarantor return	1.05%	1.05%	-	-	-	-
ESCO EPG amount used	-	278,446	278,446	278,446	278,446	278,446
FG amount used	-	-	326,340	N/A	585,534	N/A
No. of semi annual periods FG used	-	-	11	N/A	13	N/A
FG repaid?	N/A	N/A	No	N/A	No	N/A
FG amount repaid	N/A	N/A	-	N/A	-	N/A
No. of semi annual periods FG repaid	N/A	N/A	-	N/A	-	N/A

### 3.3.5. Benefits and costs

The benefits of the FG to the various parties involved are as follows:

- Project SPV / Health Unit:
  - ✓ The FG enhances the EPG, reducing the risks associated with the investment;
  - ✓ The TA know-how supports the project origination process and optimises the financial structuring.
- The Lender reduces the risk linked to the credit status of the ESCO; and
- ESCO: the FG enhances the strength of the EPG and enables the SMEs to enter the ESCO market.

## 3.4. FI suggestion

### 3.4.1. Structure

The FG Fund would be a new FI with funds allocated to:

1. TA resources to support PSE in structuring EE projects. This structure mirrors the one used by the EEEF;
2. FG for SME ESCOs for EE projects in public building using EPG.

### 3.4.2. Investment focus

#### Geographical coverage and focus

The FG Fund could focus on projects either at the national or regional level. Limiting the FG product to a single city is not deemed to be cost effective. We have highlighted below the advantages and disadvantages for each alternative:

	National		Regional	
Dedicated only to energy efficiency FGs	+	<ul style="list-style-type: none"> <li>• Larger fund size and economies of scale for costs</li> <li>• Specialisation: risk assessment, pricing methodologies, State aid exemptions</li> <li>• More attractive for co-investment and co-financing</li> </ul>	+	<ul style="list-style-type: none"> <li>• Familiar with regional markets and players</li> <li>• Familiar with local SMEs</li> <li>• More attractive for co-investment and co-financing</li> </ul>
	-	<ul style="list-style-type: none"> <li>• Less familiar with regional markets and players</li> </ul>	-	<ul style="list-style-type: none"> <li>• Smallest fund size</li> <li>• Smaller deal flow compared to national reduces specialisation</li> </ul>
Energy efficiency multi product	+	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	+	<ul style="list-style-type: none"> <li>• If part of a broad scoped UDF the fund size would be larger than the FG dedicated equivalent</li> </ul>
	-		-	<ul style="list-style-type: none"> <li>• Lesser degree of specialisation</li> <li>• Less attractive for co investment and co finance</li> </ul>

#### Summary of FG Fund characteristics

This study suggests that the FG Fund should: (1) be dedicated to SME ESCOs providing EPG; (2) with a project size below EUR7.5m; and (3) have an allocation dedicated to TA in supporting PSE in structuring these projects. In summary we propose the FG Fund should have the following characteristics:

Element	Proposed solution
Procurement	New FG Fund / FI offering FGs
Geographical coverage	National
Focus	Dedicated exclusively to FG products for EE projects, in particular for SMEs
Capital requirements	To be defined
Pricing (subject to comments in 3.3.1)	<ul style="list-style-type: none"> <li>• Arrangement Fee to the FG fund manager</li> <li>• Remuneration of capital requirements</li> <li>• Risk premium</li> </ul>
Funding	ESI Funds, including the applicable national co-financing.
Contribution mechanism	<p>Funds allocated before project identification and based on an indicative pipeline. Fund allocation follows pre-determined schedule, in line with applicable regulation.</p> <p>Funds for TA (also from ESI Funds) to support financiers and promoters in project origination and structuring (non-revolving).</p>

## 4. FG for Urban regeneration, a large-scale project in Southern Europe

### 4.1. Selected case study

#### 4.1.1. Project description

##### The Bagnoli urban regeneration project

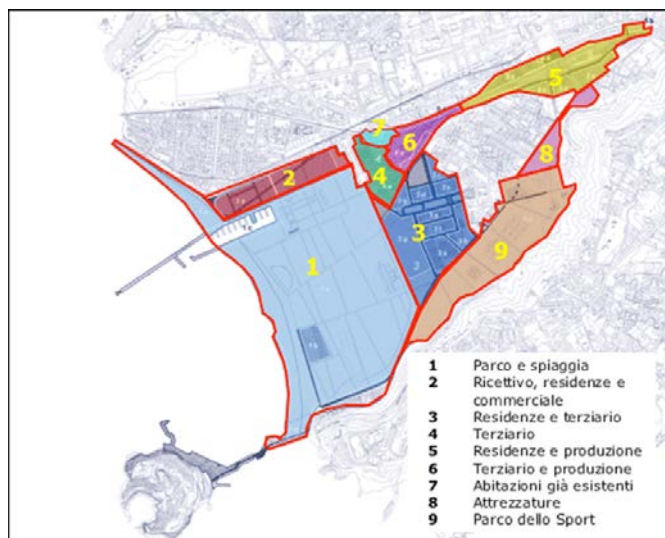
The Bagnoli Città Futura project consists of the integrated urban renewal of the Bagnoli-Coroglio site in the city of Naples, Italy. The Urban Plan for the Bagnoli-Coroglio site (Piano Urbanistico Attuativo), which was approved by the City Council (Consiglio Comunale di Napoli) in May 2005, includes the construction of new buildings for a total volume of 1.1 m<sup>3</sup>, the rehabilitation of 16 archaeological industry buildings for a total volume of 200,000 m<sup>3</sup>, the rehabilitation of 0.6 m<sup>3</sup> of residential buildings, the rehabilitation of 0.21 m<sup>3</sup> of other buildings, an urban and a sports park of 153 ha and a beach of 33 ha. The estimated cost of the entire urban development plan for the site is EUR 1.6 bn.

The development plan of the Bagnoli-Coroglio site defines nine thematic areas in which a series of interventions are to be implemented in different phases. The Promoter, the public company Bagnoli Futura (“BF”), is carrying out some of these sub-projects, while national authorities and the private sector are expected to realise the remaining sub-projects

1. Urban Park of 120 ha, rehabilitation and transformation of 16 buildings (of the so-called industrial archaeology) and renewal of the 33 ha beach (the Ministry of the Environment is in charge of the decontamination).
2. New marine neighbourhood characterised by hotels, high-standard residential living spaces as well as sports and entertainment facilities.
3. Commercial, residential and service buildings. Schools, sport, and leisure facilities will be also constructed.
4. Service production activities, including research and education facilities (technological pole), especially oriented towards the production of multimedia goods and services.
5. Residential, commercial, production and university buildings, as well as sports facilities. A large commercial mall near the square where a new metro station is to be built.
6. Rehabilitation of existing non-residential buildings, mainly service-related.
7. Rehabilitation of existing residential buildings.
8. Education facilities, mainly related to the adjacent educational centres.
9. A 30 ha municipal sports park, including a camping area.

At the end of the planned works, a 160 ha green space will have been created, and additional benefits will be generated with the environmental recovery of the beach. On the edges of the green space, a 70 ha plot will be allocated for hotels as well as productive, residential and tourist-related facilities. Three new access streets will serve the area and one of the Naples metro lines will be enlarged through the creation of four new metro stations. The map shows the area affected by the urban regeneration plan.

The site is located next to the Bay of Pozzuoli behind the hills of Posillipo and Nisida in the north western outskirts of the City of Naples, and extends for around 300 ha up to the borders of the volcanic area of Campi Flegrei. Naples is the capital of the Province of Naples and the Region of Campania, and is located on the Southern coast of the Tyrrhenian Sea in Southern Italy.





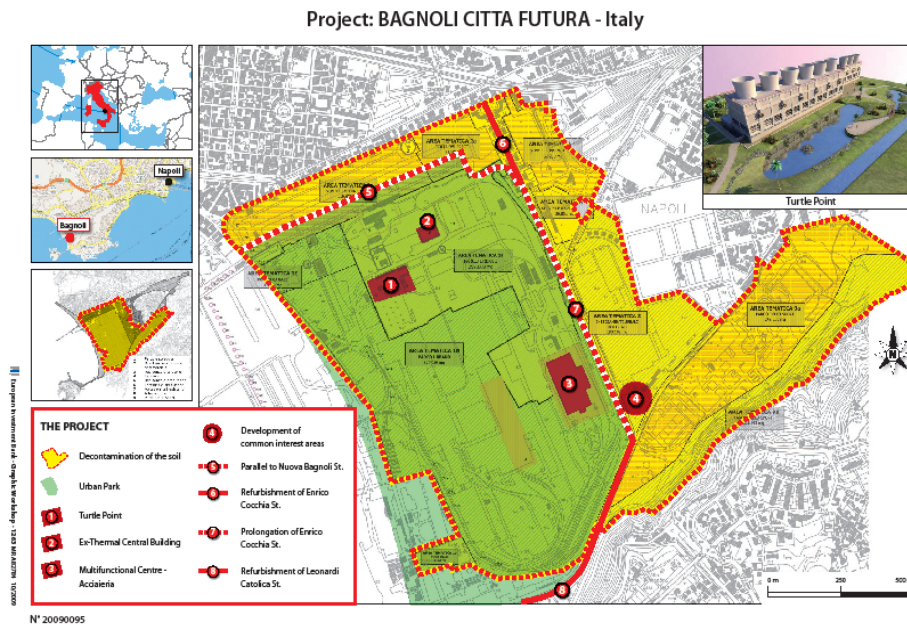
Works will be carried out and contracted by the 100 % public company Bagnoli Futura, an urban transformation SPV founded in April 2002 by the City of Naples (90 %), the Province of Naples (2.5 %) and the Region of Campania (7.5 %), to implement the planned transformation of the area.

**The project**

The project (to be considered in this case study) consists of the financing of a part of the capital investment defined in the overall development plan of the Bagnoli-Coroglio site. The project components include:

1. Urban park (including the acquisition of some lots of land);
2. Soil decontamination;
3. Urban development of the area (mainly upgrading of the street network);
4. Development of common interest areas (sports and leisure facilities linked to the adjacent school); and
5. Refurbishment of three buildings (Turtle Point, ex-thermal central Building and the multifunctional centre – Acciaiera).

The map below shows the project location and the main buildings.



**Project Update 2012 and assumptions for case study**

The BF Business Plan has been updated in 2012 and serves as a basis for the case study and project characteristics as described below. This project has been selected as a case study for illustration and demonstration purposes only. The accuracy of the figures and assumptions are not guaranteed, project documents or financial models have not been audited, and some changes have been made to adapt the project to the case study in order to better reflect similar projects in the region, country and/or in Europe.

The case study applies the Business Plan scenario “Sviluppo” in which BF is also responsible for the development of the residential areas. This scenario involves taking higher risks but may be more appealing to BF due to higher expected rewards. In fact, BF would take some development risk (through joint ventures with private developers) and build residential properties that would then be sold at the final stage of the project when the area has a higher market value.

The proposed capital investment is described in the table below and will be financed by a mixture of debt, equity and grant funding. The financing plan is described further down.

Components to be financed	Cost (EUR mm)
Urban Park	104.0
Soil Decontamination	95.1
Urban Development	43.1
Turtle Point	11.4
Ex-Thermal Central Building	8.5
Common Interest Areas Development	5.1
Multifunctional Centre – Acciaieria	5.0
Acquisition of Land Area 1	15.0
Contingencies (On Eligible Costs)	14.3
Price Contingencies (On Eligible Costs)	8.6
Guarantee Facility Premium	1.3
Interest during Construction	14.5
<b>Total Project Capex</b>	<b>325.9</b>

Extra capital expenditures of EUR50 million are required for building assets in part of the decontaminated land during the last year of the construction period. The construction of these commercial properties would be financed by a short-term loan provided by commercial banks. This would bring total capital expenditures to EUR375.9 million.

Costs	EUR mm	Financing	EUR mm	%
Works	274.40	EU and national funds	134.2	35.7
Land acquisition	14.98	Promoters' Funds	89.7	23.9
Contingencies and interest during construction	36.50	Senior Bank loan	102.0	27.1
<b>Sub - Total</b>	<b>325.9</b>	<b>Sub - Total</b>	<b>325.9</b>	<b>86.7</b>
Residential properties	50.00	Commercial loan	50.0	13.3
<b>Total</b>	<b>375.9</b>	<b>Total</b>	<b>375.9</b>	<b>100.0</b>

#### 4.1.2. Local context

As for all EU MS, EU Funds in Italy are channelled according to a National Strategy Reference Framework (“NSRF”). The NSRF is implemented through a number of OPs that translate strategic priorities for sectors and regions. In the 2007-2013 programming period, 66 OPs were negotiated, of which 42 OPs are financed through the ERDF, and 24 OPs are financed through the ESF. OPs can be classified as follows:

- National (PON): in certain sectors where coordination is at the national level (5 ERDF, 3 ESF);
- Regional (POR): multi sector, coordinated at a regional level; for each region there is an ERDF POR and an ESF POR (21 ERDF, 21 ESF); and
- Inter-regional (POIN): coordinated by more than one region and at national level (2 ERDF).

### The Piano di Azione per la Coesione (“PAC”)

At the end of 2011, only 7.4% of EU funds had been utilised in Italy for the programming period 2007-2013. In order to address these issues, the Ministry published the PAC (Cohesion Action Plan). The PAC also established the DPS (*Dipartimento per lo Sviluppo e la Coesione Economica*) unit (inside the Ministry) that will coordinate these efforts. According to the Minister for Territorial Cohesion (2012), the main causes for the limited use of funds are the following: lack of coordination and control at the national and regional level; public finance cuts; opacity and lack of information at regional level; and less than optimal project follow-up, performance management and monitoring.

In December 2012, the Minister released his vision on how to best to use EU Funds for the programming period 2014-2020. In terms of methodology, he envisages seven innovations:

1. Results: OP will be based on KPIs;
2. Actions: OP will set specific actions with a good level of detail;
3. Time: each action will be associated with a timescale, and a national agency will monitor this with on-site assessments;
4. Partnerships: involvement of all stakeholders and competence centres (*i.e.* contractors, consultants, etc.) from the origination phase;
5. Transparency and openness to the private sector;
6. Valuation and monitoring of results: to check whether progress on KPIs is satisfactory; and
7. National coordination: regional coordination has been identified as one of the key reasons for inaction.

### JESSICA implementation in Italy

There are currently three regions that have set up a JESSICA UDF in Italy:

Region	UDF type	Allocation (EUR mm)
Sicily	Multi sector UDF: Equiter (Nov 2011)	90
	EE UDF: ICCREA Bancaimpresa Spa, in consortium with SINLOC and BIT	53
Campania	ICCREA – Bancaimpresa, in consortium with SINLOC (Dec. 2012)	32
	Banco di Napoli – Equiter (Dec. 2012)	64
Sardinia	Urban Development UDF: Banco di Sardegna Spa (controlled by Banco Popolare dell’Emilia Romagna Spa) in consortium with SINLOC	33
	Energy UDF: Equiter	33

#### 4.1.3. Market failure

Currently, the majority of infrastructure projects (especially non-energy projects) in the South of Italy are unable to proceed because of the lack of debt finance. Lenders view project risks as too high to provide the required maturities or loan approvals. An urban regeneration project typically includes different types of assets (land, infrastructure, properties, industries, etc.) with different kinds of risks and return profiles. These projects attract different kinds of lenders and therefore require either a consortium of senior and intermediary banks or a club deal of banks (pool). In addition, lenders are not able to provide limited recourse (or project finance) loans but have to provide a corporate finance type of debt with a mix of underlying assets. This makes it even more difficult in times of banking crisis.

The intention of this case study is to assess whether it is feasible to reduce the credit risk of these projects through the use of FGs and whether a number of urban regeneration projects could be unlocked this way. The section below describes in more detail the reasons behind the lack of debt finance in the Italian market.

### Debt finance supply in Italy

The supply of debt finance has been affected by the current financial crisis. The ECB has responded to the crisis mainly through: 1) Longer-term Refinance Operation (LTRO) with a 3-year term; 2) relaxation of the ECB requirements for collateral; and 3) outright monetary transactions (OMT). The 3-year term LTRO initiative and the relaxation of the ECB requirements for collateral prevented a liquidity crisis that would have had a significant impact on the availability of debt finance. Italian banks used the liquidity received by the ECB to invest mostly in Italian sovereign debt paper.<sup>50</sup>

During the summer of 2011, the sovereign debt crisis became particularly acute in Spain and Italy. The deterioration of the sovereign credit rating for these two countries had also implications for national banks, and Italian banks saw their credit rating downgraded to that of the Italian sovereign debt. This had a negative impact on Italian banks' ability to fund their operations. In December 2011, lending to corporates was reduced by EUR20 billion. Interest rates on short-term loans to companies were 100 basis points higher than in Germany and 70 basis points higher than the EU average.<sup>51</sup>

### Soft Market Testing

In order to assess market failures in the Italian urban regeneration sector, discussions have been undertaken with a number of market players: private and public fund managers, lenders, consultants and advisors. These discussions have identified the following bottlenecks in the sector:

- **Regulations:** Project components have different risk reward profiles, so projects need to be structured with care in order to put in place the appropriate finance for each of the components. Eligibility regulations with regards to project costs imply that some capital cost items need to be carved out of the financing under a JESSICA instrument;
- **Project structuring:** market players identified a lack of support to MAs in structuring bankable projects; whilst funds for TA are available, more coordination is required especially at the national level to leverage these funds to improve project readiness and bankability;
- **Project IRRs** are incompatible with the Cost of Capital for Commercial Banks (especially in the Convergence regions). Furthermore, there is a lack of finance available for infrastructure and urban regeneration projects in the current market. Energy projects appear the only ones that can raise financing as they are supported by more predictable cash flows;
- **Lack of understanding** by MAs and Local implementing agencies of the funding options available. There is a need for targeted TA to train key stakeholders on funding opportunities to unblock infrastructure funding.

#### 4.1.4. Representativeness

The project has been selected because (1) it is an urban regeneration project that would be eligible for JESSICA funding almost in its entirety; (2) it is based in the Convergence Regions; (3) the banks involved have gone through the due diligence processes and project data is readily available; and (4) it is representative of many other (albeit smaller) projects in the South of Italy, which are currently blocked.

The objective of the case study is to assess under which conditions a FG product would allow the project to go forward. In our case, a senior bank has approved a loan to the project that must be channelled to the SPV through intermediary banks, as the final beneficiary is not acceptable as a direct recipient of the proposed loan (as a non-recourse structure). The intermediary bank can either be a lead bank, which underwrites and then syndicates the entire loan, or a consortium of several (3-5) banks.

The loan is currently blocked because local financial institutions (intermediary banks) are not willing to assume the project's credit risk. In addition, because the local banks' credit rating is below the Baa1/BBB+ threshold, they would be required to provide financial collateral for a percentage of the loan value, which reduces the banks' interest in supporting the project. If such collateral is unavailable, the senior bank may not proceed with the deal.

<sup>50</sup> Ignazio Visco, Governor of the Bank of Italy "Ruolo, responsabilità, azioni della Banca Centrale nella 'lunga' crisi", January 2013.

<sup>51</sup> U. Albertazzi et al., "The impact of the sovereign debt crisis on the activity of Italian banks", Banca d'Italia, Questioni di economia e finanza, n. 133, September 2012.

The study has looked at whether or not such a project would be of interest to banks if a FG were in place to reduce the credit risk of the project. Additionally, the study assessed if a FG product may provide credit enhancement to banks with a rating of Baa2/BBB to allow them to participate in the transaction.

## 4.2. ESI Funds regional strategy

### 4.2.1. Regional and national Operational Programs

On 11 September 2007, the EC approved an OP for the Campania region in Italy for 2007-2013. This OP comes under the Convergence objective, and has a total budget of EUR 6.9 billion. The financing provided by the EU under the ERDF amounts to EUR 3.4 billion and the main aim of the OP is to promote the balanced and sustainable development of Campania by means of a long-term strategy intended to improve the quality of life, ensure the balanced development of the region's urban and rural areas, increase employment, and increase regional competitiveness in the national, European and Mediterranean context.

The programme is intended to make a significant contribution to the objectives of the Lisbon Strategy and its successor the Europe 2020 Strategy (54% of expenditures will target these objectives), with major support for R&D and technological innovation and its dissemination in the region. The detailed description of the priorities indicates that the proportion of Community financing devoted to such priorities will amount to more than 52.5 % of ERDF funds. The Community funding should make it possible to:

- Create more than 105 000 jobs (69 000 for men and 36 000 for women);
- Cut greenhouse gas emissions by 2.8 tonnes of CO<sub>2</sub>, equivalent to 2.3 tonnes per inhabitant;
- Increase the proportion of urban waste which is sorted for collection from 10% to 18% of the total amount;
- Increase broadband coverage in the region from 89% to 99%;
- Increase the share of RE sources in the generation of electric power from 3.3% to 20%;
- Construct 22 km of regional light railway.

The OP contains seven priority axis under which individual grant interventions as well as FIs are carried out:

1. Environmental sustainability and cultural and tourism appeal (about 29.5% of total investment). The main aims of this priority are to respond to pressing environmental demands and to contribute to the creation of an environmental context conducive to supporting tourism in the region.
2. Competitiveness of the region's productive economy (about 17.7% of total investment). The aim of this priority is to enhance the competitiveness of Campania and to improve the productivity of production systems in the region's strategic sectors. The main priorities here are the promotion and dissemination of research and innovation, internationalisation and attracting foreign investment to the region.
3. Energy (about 4.4% of total investment). This priority focuses on energy saving and the sustainable use of energy resources. The aim is to reduce the region's energy deficit by increasing regional energy production, especially from renewable sources.
4. Accessibility and transport (about 17.5% of total investment). The aim of this priority is to contribute to the development of the region's communication routes by focusing on the European Network of Trunk Communications. The main aim is to make Campania a major communication point for the Mediterranean and also to improve access to the most peripheral areas.
5. Information society (about 5.8% of total investment). The aim of this priority is to have a direct effect on the competitiveness of the regional economy, at the level both of undertakings (competitiveness) and of individuals (access to services, spread of on-line services).
6. Urban development and quality of life (about 2.2% of total investment). The aim of this priority is to improve inhabitants' living conditions by incorporating actions for urban development in actions to promote social inclusion and wellbeing.
7. Technical assistance and cooperation (about 3.3% of total investment). TA is planned for the implementation of the programme. The funding may be used to manage and monitor the OP. This priority covers programme-related activities such as coordination, management, assessment, information and communication.

#### 4.2.2. Project costs eligibility

This section analyses the eligibility of project objectives with the EU Thematic objectives and the Regional OP (POR Regione Campania). Furthermore it assesses which project costs would be eligible for financing under the Cohesion Policy framework for FIs.

##### EU Cohesion Policy eligibility

The project meets the following thematic themes of EU Cohesion Policy.

11 Thematic Objectives 2014-2020	Eligibility
Research & innovation	
Information and communication technologies (ICT)	
Competitiveness of Small and Medium-sized Enterprises (SMEs)	
Shift towards a low-carbon economy	√
Climate change adaptation & risk prevention and management	√
Environmental protection & resource efficiency	√
Sustainable transport & removing bottlenecks in key network infrastructures	
Employment & supporting labour mobility	√
Social inclusion & combating poverty	
Education, skills & lifelong learning	√
Institutional capacity building & efficient public administrations	

##### Regional OP eligibility – POR Regione Campania

In addition, and as part of the “Piano Urbanistico attuativo di Coroglio-Bagnoli”, an integrated plan for sustainable urban development, the project meets the following thematic axes of the Regione Campania OP (POR Campania): (i) environmental sustainability and cultural and touristic attractiveness, (ii) energy, and (iii) urban development and life quality.

##### Project costs eligibility

The following table summarises the eligibility of project investment components to the EU thematic objectives and OP axis.

Scheme	EUR m	%	Eligible
Urban Park	104.00	36.2	√
Soil decontamination	95.05	33.1	
Urban development	43.06	15.0	√
Turtle Point	11.44	4.0	√
Ex-Thermal Central Building	8.50	3.0	√
Development of common interest areas	5.12	1.8	√
Multifunctional Centre -Acciaieria	5.00	1.7	√
Acquisition of Land Area 1	14.98	5.2	
<b>Total Base Cost</b>	<b>287.15</b>	<b>100.0</b>	
Contingencies (on eligible cost)	14.33	8.0	
Price contingencies (on eligible cost)	8.62	2.5	
Interest over disbursement	15.60	2.4	
<b>Total Project Cost</b>	<b>325.70</b>		

### 4.2.3. State aid

**State aid exemptions for FG covering this case study** (More details on both categories of exemptions can be found in Section 3.2.3 (State Aid) of this Study)

In summary there are three categories of State aid exemption that are relevant to FGs for this case study:

- (a) No aid – *De minimis*
- (b) General Block Exemption Regulation (GBER)
  - a. Aid for climate change and for other environmental protection;
  - b. Regional Aid

The Italian National Regional State aid Map<sup>52</sup> sets out that the Campania region is considered to be eligible under the derogation of Article 87(3)(a) of the EC Treaty for the whole period 2007-2013 at a basic aid ceiling of 30%. For large investments the regional aid intensity ceiling is reduced as follows:

- For the part of the eligible cost up to EUR 50 m, 100% of the applicable regional aid ceiling;
- For the part of the eligible cost between EUR 50 m – EUR 100 m, the intensity is reduced to 50% of the applicable regional aid ceiling; and
- For the part of the eligible cost exceeding EUR 100 m, the intensity is reduced to 34% of the regional aid ceiling.

#### State aid element in the case study (Regional aid ceiling for large investment projects)

A large investment project with eligible costs of EUR300m and an applicable regional aid ceiling of 30% Gross grant equivalent can receive a maximum State aid of EUR42.9m. The calculations are shown below:

- Up to EUR50m: 100% of the applicable regional aid ceiling:  $\text{EUR}50\text{m} \times 30\% = \text{EUR}15\text{m}$
- For the part between EUR50m – EUR100m: 50% of the applicable regional aid ceiling:  $\text{EUR}50\text{m} \times (30\% \times 50\%) = \text{EUR}7.5\text{m}$
- For the part exceeding EUR100m: 34% of the applicable regional aid ceiling:  $\text{EUR}100\text{m} \times (30\% \times 34\%) = \text{EUR}20.4\text{m}$

Total aid ceiling = (i)+(ii)+(iii) =  $\text{EUR}15\text{m} + \text{EUR}7.5\text{m} + \text{EUR}20.4\text{m} = \text{EUR}42.9\text{m}$

#### State aid calculation

For guarantees with a State aid element, the State aid is deemed to be the difference between the appropriate market price of the guarantee and the actual price paid for that measure. The resulting yearly cash grant equivalents should be discounted to their present value using the published EC reference rate, then added up to obtain the total grant equivalent.

For simplicity, in this example we have not discounted to their present value the resulting cash grant equivalents. If the guarantee value is lower than EUR1.5m than the *de minimis* exemption regulation can be used. If the guarantee value is higher, the State aid element must be compared to the State aid ceiling for the project.

<sup>52</sup> Guidelines on National regional aid for 2007-2013 (1) — National regional State aid map: Italy - (2008/C 90/04) - N 324/07 — ITALY - National regional State aid map 1.1.2007-31.12.2013 (Approved by the Commission on 28.11.2007)

### 4.3. FG structure

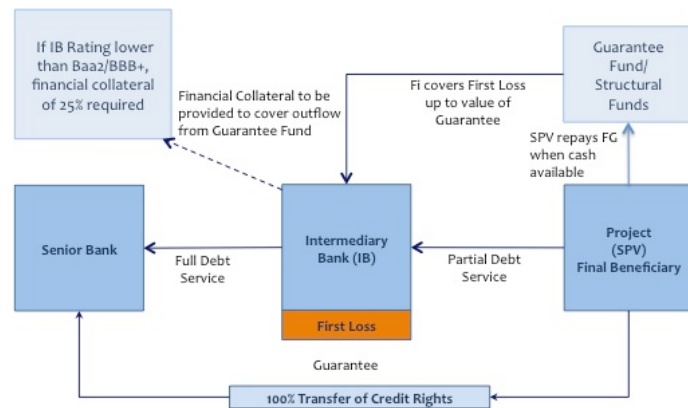
#### 4.3.1. FG characteristics

The FG could provide two forms of cover:

1. The FG provides cover in the event of non-payment.

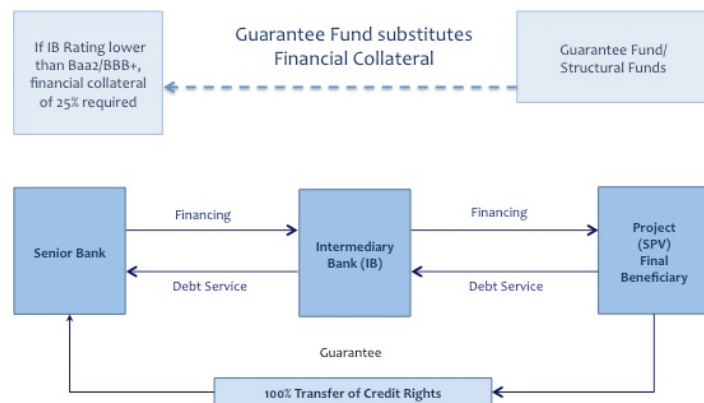
If the project is unable to repay the loan, the FG allows the intermediary bank to:

- Repay the loan to the senior lender; or
- Replace the guarantee given by the SF with other financial collateral, and use the 25% guarantee as a "first loss" for its loan.



2. The FG replaces the financial collateral required by the senior lender.

- The Senior Bank will require the financial collateral from the intermediary banks when the latter have a rating of BBB-/Baa2 or below.
- The amount used to replace the financial collateral would be equal to 25% of the nominal value of the Senior Bank loan.



#### Financial collateral and Bank credit ratings

A Senior Bank typically requires financial collateral from intermediary banks whose credit rating falls below a certain threshold, such as BBB+. We have assumed, in this case, the following values: rating of BBB-/Baa2, which requires collateral of 25% of the loan value. In general, the intermediary bank could satisfy the financial collateral with the following:

- Cash, transferred to the Senior Bank.
- Bank account held in escrow with a depository bank with a minimum short-term rating of A-, pledged to the Senior Bank.
- Bonds and notes of certain minimum ratings, maximum residual maturity and liquidity requirements, held with a custodian with a minimum short-term rating of A2-/P-2, pledged to the Senior Bank.

The acceptability of financial securities as collateral as defined below is based on the assumption that such security fully covers the Bank's exposure on the borrower should contractual obligations in the loan agreement no longer be met. Therefore, the financial collateral needs to meet specific criteria during the entire loan life, and the relevant pledge documentation needs to allow for active collateral management, in particular giving the Bank the right to ask for an increase in the amounts, or for a substitution of the pledged securities, if their market value or credit quality falls below



contractually defined minimum levels. If this condition is not met, the intermediary bank will need to use riskless liquid bonds.

The legal framework for the use of financial securities as collateral must be adapted to a dynamic management of the collateral as is done for derivatives, tripartite and pledge agreements. As such, it must foresee the appropriate operational procedure for the monitoring of collateral:

- Revaluation of the portfolio of collateral at least once every two weeks,
- Identification of a valuation agent (Senior Bank or custodian),
- Minimum transfer amount,
- Definition of eligible collaterals, sources of market prices and applicable haircuts,
- Substitution of collaterals if they become ineligible (for instance, if downgraded).

For simplicity, this study assumes that the financial collateral for each semi-annual period is equal to 25% of the outstanding debt balance.

**Description of FG parameters:**

**Percentage of Debt Covered:** Fixed percentage of the outstanding senior debt covered by the guarantee facility at each project period. As the senior debt is amortised over the life of the project, the FG amount is reduced accordingly. In the case study, we assume this to be 25% of the Senior Debt loan (based on the current credit rating of the proposed intermediary banks).

**Hierarchy of drawdowns (First loss).** The first loss on the debt service is covered by the FG up to the FG facility size for the period. The remaining debt service shortfall is not covered.

**Maturity:** The Senior Bank loan has a 16-year tenor, which will be matched by the FG tenor. In the event of default, assuming a worst-case scenario, banks might accelerate the loan. That would leave the guarantor with two options: accelerate the guarantee in line with the accelerated loan, or continue to pay out based on the loan schedule (until the guarantee is depleted).

**Facility Size:** The size of the facility will be equal to a fixed percentage of the principal amount of Senior Bank loan outstanding at any given point of time. This concept follows the argument that the balance of financial collateral required by Senior Bank from the intermediary bank/s would get reduced over time with the principal repayment of the Senior Bank loan.

**Premium Fee:** the IB would pay a premium fee to the FG Fund. This would be a combination of charges paid on the FG value and on the actual cash held by the FG Fund (the FG capital requirement). The study has assumed a premium that is based on the pricing structure described in the EC Notice on FG: remuneration on capital requirements; risk premium: (more details on the basis of this calculation are available in section “Pricing of Financial Guarantees” of the report); and a total premium of 4 - 6.5%. As is the case with the previous two case studies, the MA retains some flexibility with respect to pricing on guarantees, *i.e.* the ability to price to risk (in line with market practice), or provide reduced pricing, including zero cost options. The pricing decision will depend on the MA’s objectives, which in this case is to respond to clear market failure in order to attract financing in a major urban regeneration project which the MA has indicated is a priority for the region. Various other options are also possible including, during the drawdown phase of the covered loan, a lower premium.

Guarantee characteristics	
Maturity	16 years
% of debt to be covered	25%
Guaranteed percentage	100% or a lesser amount
Payment of premium	Six month instalments in arrears
Maximum aggregate liability	TBD depending on amount of debt covered
Risk sharing	First loss
Premium rate	TBD (4-6.5%)

**Arrangement Fee:** A one-time upfront payment for securing the FG facility, 50bps of the FG size. The arrangement fee would be directed to the FG Fund manager and cover the costs supported by the FG Fund manager to finalize the deal.

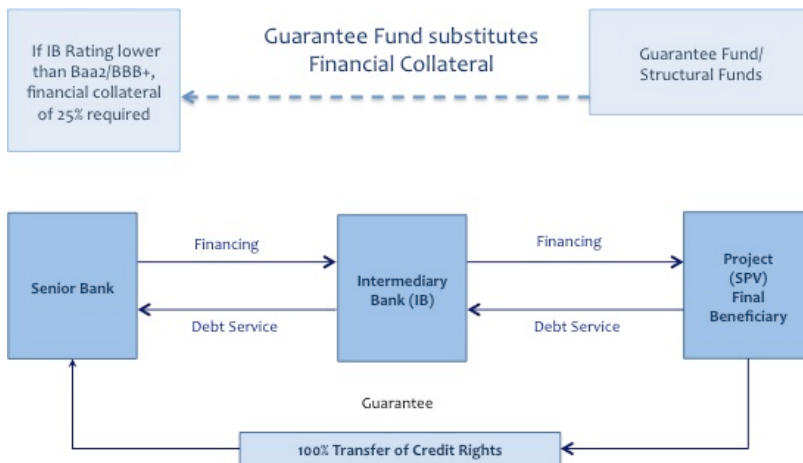
### 4.3.2. Rights and Obligations

This section covers the rights and obligations of parties under different scenarios, the default scenario and options for refinancing the guarantee instrument.

**Outcome 1:** Base Case – Normal revenues, FG available but not used

This scenario presents the project’s base case where project revenues follow base case projections. In such a scenario, there is no requirement for the guarantee instrument. The senior lender is made whole by getting its loan serviced by the SPV through the Intermediary Bank. The Intermediary Bank would continue to pay the FG premium. The FG would serve its first role as a substitute for the financial collateral required by the senior lender from the Intermediary Bank.

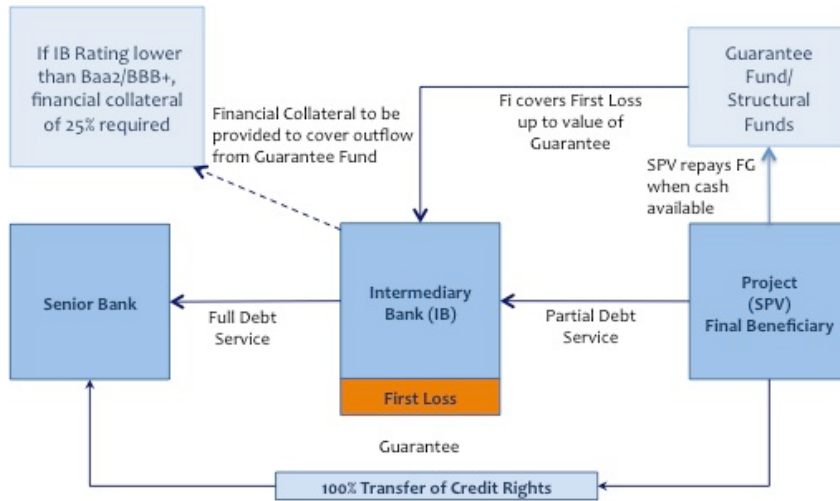
Based on the evolving structure of the project, we assume that the Inter-Creditor agreement will be 'several' in nature, i.e. each party's funding support and repayment structure will be different. This is likely to cause different levels of seniority and security among the lenders (senior bank loan vs. commercial bank 'subordinated' loan).



Party	Rights	Obligations
Project SPV		Pay full debt service to IB
Intermediary Bank	Receive full debt service from SPV	Pay full debt service to Senior Bank Pay FG payment to the FG Fund
Senior Bank	Receive full debt service payment from IB	
FG Fund	Receive premium payment from IB	

**Outcome 2:** FG triggered – Amount lower than FG Facility size

The second scenario presents a case where project revenues are lower than the base case scenario. In this case, the FG facility would be used to cover the senior debt service shortfalls. The magnitude of the revenue shortfalls is less than the total amount of the FG facility and hence the Intermediary Bank would be made whole partially by the SPV, with the remaining debt service recouped by the FG facility. The Intermediary Bank would then fully service the senior debt lender. Senior debt lender is made whole and benefits directly from the FG. Intermediary Bank would continue to pay the FG premium.

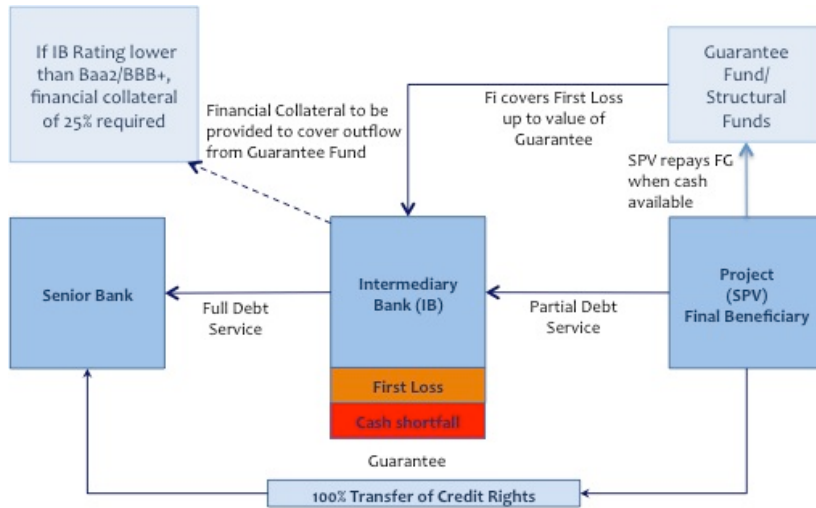


Party	Rights	Obligations
Project SPV		<ul style="list-style-type: none"> <li>- Pay partial debt service to IB based on cash available</li> <li>- Default status or debt restructuring</li> </ul>
Intermediary Bank	<ul style="list-style-type: none"> <li>Receive portion of debt service from SPV</li> <li>Receive FG payment from FGF</li> </ul>	<ul style="list-style-type: none"> <li>- Pay full debt service to Senior Bank for the duration of FG</li> <li>- Provide financial collateral to the Senior Bank for amount received from the FG</li> </ul>
Senior Bank	<ul style="list-style-type: none"> <li>Receive full debt service payment from IB</li> </ul>	
FG Fund	<ul style="list-style-type: none"> <li>Receive premium payment from IB</li> </ul>	<ul style="list-style-type: none"> <li>- Pay IB outstanding debt service up to facility size</li> <li>- Receive FG repayments from cash available post Senior Bank debt service to replenish the FG</li> </ul>

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**Outcome 3:** FG triggered – Amount exceeds FG Facility size

The third scenario presents a case where project revenues are lower than the base case scenario, but in contrast to the previous scenario, the magnitude of the revenue shortfalls is sufficient enough to fully deplete the FG facility. Following the FG structure and setup, the FG facility would again cover senior debt service shortfalls. However, the Intermediary Bank would not be made whole after the depletion of the FG facility but would receive only partial debt service payments from the SPV. The Intermediary Bank would again fully service the senior debt lender, where remaining shortfall (after proceeds from project and FG have been used up) needs to be covered through own capital, third party finance or reinsurance.



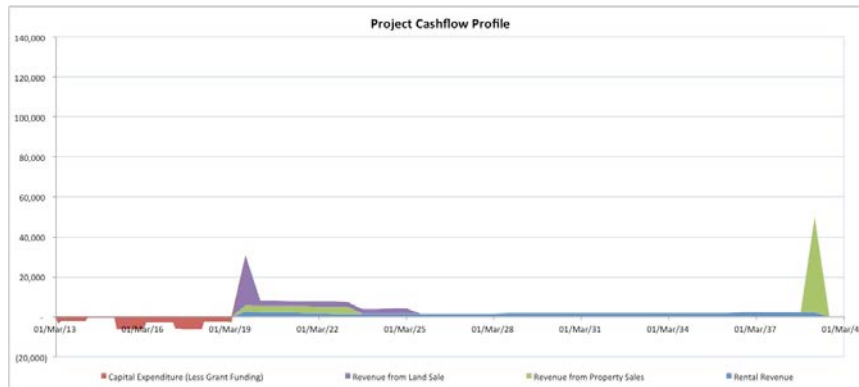
Party	Rights	Obligations
Project SPV		<ul style="list-style-type: none"> <li>Pay partial debt service to IB</li> <li>Default status or debt restructuring</li> </ul>
Intermediary Bank	<ul style="list-style-type: none"> <li>Receive portion of debt service from SPV</li> <li>Receive portion of FG payment from FG</li> </ul>	<ul style="list-style-type: none"> <li>Pay partial debt service to Senior Bank for the duration of FG, partial debt service afterwards</li> <li>Provide financial collateral to the Senior Bank for the amount received from the FG</li> </ul>
Senior Bank	<ul style="list-style-type: none"> <li>Receive full debt service payment from IB</li> </ul>	
FG Fund	<ul style="list-style-type: none"> <li>Receive premium payment from IB</li> </ul>	<ul style="list-style-type: none"> <li>Pay IB outstanding debt service up to facility size</li> <li>Receive FG repayments from SPV from cash available post Senior Bank debt service to replenish the FG</li> </ul>

### 4.3.3. Financial analysis

As with the District Heating (Poland) and EE (United Kingdom) case studies, the financial analysis for this case study has been prepared with a financial model that makes explicit the key payment flows and financial streams amongst, and the KPIs of, the different project parties. The model assumptions and FG structure and setup are customised based on the project specifics.

#### Assumptions

##### Revenues



Revenues	Description
Sale of decontaminated land	Total Revenues in nominal terms of EUR105m: <ul style="list-style-type: none"> <li><b>Tranche One:</b> on first period of operations of EUR50m</li> <li><b>Tranche Two:</b> EUR 5m per semi-annual period up to the end of the 6th year of operation</li> </ul>
Rents of the commercial properties	Nominal revenues of EUR 127.5m Annually indexed at inflation rate for 20 years
Sale of commercial properties	Nominal revenues of EUR 225m: <ul style="list-style-type: none"> <li><b>Tranche One:</b> half of the Properties are sold in semi-annual period up to the end of the 4th year of operation</li> <li><b>Tranche Two:</b> the other half of the Properties are sold at the end of operations when the market value has increased</li> </ul> <p>We have assumed that the values of the Properties sold increase with inflation +1%. This simulates the increase in value of the area after the regeneration.</p>

##### Fixed and Variable Operating costs and Indexation

- Fixed costs: Annual cost of EUR 200,000, indexed annually at inflation rate for 20 years.
- Variable costs: Monthly cost of EUR 500 per commercial property unit (we have assumed 6 property units)
- Annually indexed at inflation rate for 20 years: Inflation is assumed to run at 2.5% per annum. Property sale price inflation of 3.5% per annum is assumed, based on the assumption that the value of the property increases above inflation due to increased development of the urban regeneration plan.

### Grant Funding facility distribution details:

An amount of EUR 134.2m is applied during first 5 years of construction period to offset part of the capital expenditures.

Scheme	Grant	Description
Urban Park and Urban development	37.90	POR 2007-2013 measure 6.2
Decontamination of the soil	15.00	POR 2000-2006 measure 1.8 <sup>53</sup>
Turtle Point	6.33	POR 2000-2006 measure 4.6
<b>TOTAL ERDF Funds</b>	<b>59.23</b>	
Decontamination of the soil	75.00	National Funds L.388
<b>TOTAL</b>	<b>134.23</b>	

### Equity

EUR 89.7m applied during construction period to offset part of the capital expenditures

### Funding Structure

The Senior Bank loan is to be intermediated through one or more banking counterparts acting as a single signature borrower as the final beneficiary was not accepted as a valid second signature. The Senior Bank would only take the credit risk of the Intermediary Bank (IB), while commercial risk stays with the IB.

Senior Bank Loan	Description
Borrower	IB
Amount	EUR 102.0m
Maturity	16 years from completion
Availability period	All construction period
Repayment Profile	35% of principal repaid on first period of operation to benefit from the revenues arising from the first tranche of the sale of land, the remaining balance paid on an annuity profile
Seniority	N/A
Cost of funds	2.90%
Construction Margin	2.50%
Operations Margin	1.00%
Fees	Arrangement fees and commitment fees have been assumed to be zero for modelling simplicity
DSRA	For simplicity, the model assumes no DSRA
Distributions	The historic Annual Debt Service Cover Ratio > 1.15
Events of default	Non-payment
Collateral assumed	Single signature loan Financial Collateral provided by the IB equal to 25% of the loan outstanding balance to be provided in the form of the FG from the FG Fund. In case of downgrading of the credit rating of the IB financial must increase to 50% or 75% depending on the credit rating. Transfer of rights from IB loan in case of missed-payment

<sup>53</sup> Priority Action 1 (natural resources): measure 1.8. Programmi di risanamento delle aree contaminate

The IB and Commercial bank terms are summarised below:

IB Loan	Description
Borrower	Bagnoli Futura
Amount	EUR 102.0m
Maturity	16 years from completion
Availability period	All Construction period
Repayment Profile	35% of principal repaid on first period of operation to benefit from the revenues arising from the first tranche of the sale of land, the remaining balance paid on an annuity profile
Seniority	Senior to Commercial Loan
Cost of funds	2.90%
Construction Margin	2.50%
Operations Margin	1.00%
Fees	Arrangement fees and commitment fees have been assumed to be zero for modelling simplicity
Debt Service Reserve Acct.	For simplicity the model assumes no DSRA
Distributions	The historic Annual Debt Service Cover Ratio > 1.15
Events of default	Non-payment
Assignments	Transfer of rights to Senior Bank in case of mis-payment
Collateral assumed	Land and Properties of <i>Tranche Two</i> Property Sale Land of <i>Tranche One</i> of Land Sale Other Land and Properties

Commercial Loan	Description
Borrower	Bagnoli Futura
Amount	EUR50.0m
Tenor	4 years from completion
Availability period	After decontamination of land (for simplicity, the model assumes the whole construction period)
Repayment Profile	Annuity until the end of the 6 <sup>th</sup> year of operation;
Seniority	Junior to IB Loan and FG Facility
Cost of funds	2.90%
Operations Margin	4.50%
Fees	Arrangement fees and commitment fees have been assumed to be zero for modelling simplicity
Debt Service Reserve Acct.	(To be confirmed) for simplicity the model assumes no DSRA assumed this to be zero
Distributions	The historic Annual Debt Service Cover Ratio > 1.15
Events of default	Non-payment
Collateral assumed	Land and Property of <i>Tranche One</i> of Property Sale Land of <i>Tranche Two</i> of Land Sale Other Land and Properties

#### 4.3.4. Key indicators

The following project indicators have been selected to illustrate (1) the FG mechanism, (2) the FG benefits for the project promoter, (3) the FG benefits for the senior debt lender, and (4) the FG benefits for the guarantor:

- Project and Equity returns (Internal Rate of Return);
- Minimum Annual Debt Service Cover Ratio (ADSCR) of Senior Lender;
- Minimum Annual Debt Service Cover Ratio (ADSCR) of Commercial Lender;
- % of senior debt repaid;
- Commercial Bank loan repaid;
- Guarantor return (Internal Rate of Return);
- FG amount used;
- FG used in how many repayment periods;
- FG repaid in how many semi-annual periods.

#### Sensitivities

The study has simulated the following project scenarios, which serve as examples of the three different project outcomes discussed in the “Rights and Obligations” section of the report. The study analyses these project scenarios, using the above mentioned KPIs and distils the applicability, versatility, and value of the FG instrument for the different project parties. The following scenarios were chosen for the urban regeneration project case study:

- Scenario 1: Base case: Premium to 4%
- Scenario 2: Revenues minus 20%
- Scenario 3: Revenues minus 50%
- Scenario 4: Premium to 6.5%
- Scenario 5: Premium to 6.5% and Revenues minus 20%
- Scenario 6: Premium to 6.5% and Revenues minus 50%

The following table summarises the interim results of the analysis:

Key Performance Indicators	1	2	3	4	5	6
Nominal Project IRR	6.8%	3.4%	0.0%	6.8%	3.4%	0.00%
Equity IRR	8.2%	2.5%	0.0%	8.0%	2.3%	0.0%
Min ADSCR IB	1.33	0.66	0.22	1.28	0.61	0.17
Min ADSCR Com Bank	1.89	1.20	1.00	1.86	1.18	1.00
IB Loan repaid?	Yes	Yes	No	Yes	Yes	No
Com Bank Loan repaid?	Yes	Yes	No	Yes	Yes	No
% of IB loan serviced	100%	100%	71%	100%	100%	71%
Guarantor Return	4.51%	2.91%	2.08%	7.48%	4.94%	3.56%
FG amount used	-	10,781	16,293	-	10,781	16,605
No. of semi-annual periods FG used	-	20	6	-	17	9
FG repaid?	-	Yes	No	-	Yes	No
No. of semi-annual periods FG repaid	-	5	-	-	5	-



Assuming a 4% premium the FG is triggered after a 10% reduction in revenues. Thanks to the FG the IB loan is fully serviced up to a 20% reduction in revenues. The cost of the FG in the case study does not have a significant impact on the Equity IRR: assuming a premium of 4%, the Equity IRR reduces from 8.5% to 8.2%. The nominal price of the premium over 16 years is equal to 30% of the interest payment; on top of this should be factored the cost to the IB of providing financial collateral for the FG amount used.

From guarantor's point of view FG provides an attractive investment with a steady, long-term return received even in the most negative project assumptions and comparable to project's total return.

#### 4.3.5. Benefits and Costs

In this section we summarise the benefits of the FG to the various parties involved:

- The Sponsor would be able to access finance at a lower cost and with longer maturities. This would enable a longer term business plan and to benefit fully from the regeneration process (*i.e.* increased market value in the long term);
- The Intermediary Bank (IB) would be able to substitute the financial collateral with an operating fee to be charged to the Sponsor. Furthermore, it would be able to access finance from the Senior Bank at a lower cost and with longer maturities;
- The Senior Bank would be able to reduce significantly the risks associated with the loan and have access to a wider pool of Intermediary Banks interested in sub-lending to the Sponsor;
- The Ministry of Economic Development (MiSE) would be able to see the development of all the project components and not just the land decontamination. This would enable a longer-term business plan and to benefit fully from the regeneration process (*i.e.* increased market value in the long term).

### 4.4. FI suggestion

#### 4.4.1. Structure

This section of the report describes the proposed structure of the guarantee fund, the proposed performance indicators, and analyses the impact of State aid regulations on pricing of the FG product.

##### Procurement

The FG Fund could be either a newly procured fund or an extension of the existing JESSICA HF, Campania. The current allocation of EU funds to the Campania HF is EUR100m. Subsequently, two UDFs have been selected to carry out investments (Iccrea with EUR 32 m and Banco di Napoli with EUR 64 m). The existing HF can be allocated extra funds by up to 20%, equal to EUR20m. Above this threshold, the amount allocated needs to be re-procured to assign it to a fund manager. The FG Fund would need an allocation of at least EUR25m to guarantee the project loan.

##### Capital requirements of the FG Fund <sup>54</sup>

The EC Notice states that Guarantors are subject to capital requirement rules and, in accordance with these rules, are forced to constitute equity in order not to go bankrupt when there are variations in the yearly losses related to the guarantees. State guarantee schemes are normally not subject to these rules and thus do not need to constitute such reserves.

In other words, each time the losses stemming from the guarantees exceed the revenues from the guarantee premiums, the deficit is simply covered by the State budget. This State guarantee to the scheme puts the latter in a more favourable situation than a usual guarantor. In order to avoid this disparity and to remunerate the State for the risk it is taking, the Commission considers that the guarantee premiums have to cover the remuneration of an adequate capital.

<sup>54</sup> "Commission Notice on the application of Articles 87 and 88 of the EC Treaty to State aid in the form of guarantees" (Official Journal No C 155, 20.6.2008, p. 10-22 and corrigendum to p. 15 in Official Journal No C 244, 25.9.2008, p. 32)

The EC Notice considers that this capital has to correspond to 8 % of the outstanding guarantees. For guarantees granted to undertakings whose rating is equivalent to AAA/AA- (Aaa/Aa3), the amount of capital to be remunerated can be reduced to 2 % of the outstanding guarantees. Meanwhile, with regard to guarantees granted to undertakings whose rating is equivalent to A+/A- (A1/A3), the amount of capital to be remunerated can be reduced to 4 % of the outstanding guarantees.

In our case study the IB has a rating Baa2/BBB so capital must be at least 8% of the outstanding guarantees. This report suggests keeping a higher amount of capital in the first years of operations of the FG Fund in order to give comfort to lenders on the credit worthiness of the Fund. The percentage of outstanding guarantees would gradually decrease once the structure has proved its sustainability. And the money would be invested in further projects. For simplicity we have assumed the FG Fund to set aside 100% of the outstanding guarantees.

This study suggests starting with a single project with funding from ESI Funds, and after a couple of years to seek further projects for which to provide FG and co-investment and co-financing from public and private sectors.

#### 4.4.2. Investment focus

##### Geographical coverage and focus

The FG Fund could have either a National or Regional coverage. Furthermore the FG Fund could be either dedicated only to FGs or could provide also other products such as Equity and debt. We have highlighted below advantages and disadvantages of each formula:

	National		Regional	
<b>Dedicated only to FGs</b>	+	<ul style="list-style-type: none"> <li>• Larger fund size and economies of scale for costs</li> <li>• Specialisation: risk assessment, pricing methodologies, State aid exemptions</li> <li>• More attractive for co-investment and co-financing</li> </ul>	+	<ul style="list-style-type: none"> <li>• Familiar with regional markets and players</li> <li>• Familiar with State aid regional ceilings</li> <li>• More attractive for co-investment and co-financing</li> </ul>
	-	<ul style="list-style-type: none"> <li>• Less familiar with regional markets and players</li> </ul>	-	<ul style="list-style-type: none"> <li>• Smallest fund size</li> <li>• Smaller deal flow compared to national reduces specialisation</li> </ul>
<b>Multi product</b>	+	<ul style="list-style-type: none"> <li>• Not applicable</li> </ul>	+	<ul style="list-style-type: none"> <li>• If part of a broad scoped UDF the fund size would be larger than the FG dedicated equivalent</li> </ul>
	-		-	<ul style="list-style-type: none"> <li>• Lesser degree of specialisation</li> <li>• Less attractive for co investment and co finance</li> </ul>

This study suggests the FG Fund to be a National fund dedicated only to FG products.

### Summary of FG Fund characteristics

In summary we propose the FG Fund should have the following characteristics:

Element	Proposed solution
Procurement	New FI or extension of Campania HF
Geographical coverage	National coverage or dedicated to the Convergence region as per Regional Aid Map
Focus	Dedicated exclusively to FG products
Capital requirements	To be defined: 75% of guarantee value in first years of operation, then decreasing
Pricing	<ul style="list-style-type: none"> <li>• Arrangement Fee to the FG fund manager</li> <li>• Remuneration of capital requirements</li> <li>• Risk premium</li> </ul>
Funding	From EU funds but with the aim of attracting co-investment and co-financing
Contribution mechanism	Funds allocated before project identification and based on an indicative pipeline Funds allocated for TA

#### 4.4.3. Performance

The following sections describe the performance indicators that could be used to monitor the FG Fund. These can be divided in financial and non-financial indicators.

##### Financial Performance Indicators

This study suggests using the following financial indicators:

- Leverage (how much does EUR1 of guarantee raise in equity and debt),
- Number of projects,
- Claims record,
- Equity return,
- Recycling of guarantees,

##### Non-Financial Performance indicators

The study will not assess the non-financial performance of the FG product but suggests also using non-financial indicators such as for example:

- Numbers of job created / kept within the geographic area
- Extent of regional reach (number of times project mentioned in the press)
- Number of users of other areas developed to services
- Number of partnership with private developers
- Amount of rent obtained on the projects developed
- Amount from sale obtained on the projects developed
- Local economy
- Area of decontaminated land
- Carbon footprint decrease thanks to building energy savings