

## Energy 4 Cohesion

# Internal Strategy Paper for Innovative Financial Schemes in the Framework of EC Cohesion Policies

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## **Introduction**

The Energy 4 Cohesion project seeks to promote small and medium sized projects or companies in the renewable energy sector, in a decentralized environment, in the rather disadvantaged regions of the New member states, Italy and Greece. One of the projects goals is to develop strategies and guidelines for innovative funding schemes for Renewable Energy Systems (RES) with Structural Funds (SF). In order to cope with this task, it is important to analyse and understand the characteristics of RES and the framework conditions which may determine the success to acquire EU financing. Additionally the situation within the New Member States needs to be taken into consideration.

### **1.) Financing Renewable Energy**

In order to stimulate and promote renewable energy market development, the provision of the right policy framework and financial tools is essential , but remains a key challenge. Renewable energies, although subject to the same market forces as conventional energy sources, involve markedly different technologies and thus their financing requires new thinking, new risk management approaches and new forms of capital.

A number of barriers exist that are impeding scaled-up investment in the sustainable energy sector, an area that includes both renewable energy and energy efficiency technologies and systems.

Financial structure and scale pose a further challenge to investment in RE. Renewable energy projects usually carry higher up-front capital costs and lower operational costs than their conventional counterparts. The external financing requirement is therefore high and must be amortized over the entire project lifecycle. Moreover, The typically small size of sustainable energy projects makes transaction costs disproportionately high ( feasibility analysis, due diligence, legal and engineering fees, consultants, etc) as these do not vary significantly with project size.

Financiers regard the cost and long-term performance risks of clean energy technologies as being higher than with conventional systems - a perception which often results from a lack of timely and accurate information. Finally, RE project developers are often under-financed with relatively limited track records which causes financiers to perceive them as high risk and to refuse non-recourse project finance.

The market distortion caused by the pricing of high-carbon fuels, which does not reflect the environmental and social costs they impose, puts most sustainable energy technologies at a competitive disadvantage and makes them dependent on supportive policy and regulatory frameworks to be financially viable.

#### **1.1.) The role of the public sector**

Both international agreements and self-imposed targets are leading government policy-makers to consider and act on the wider impacts of energy production and consumption. Given today's rapidly changing markets, however, governments increasingly have to find smarter and more effective ways to intervene. Effective government intervention catalyzes sustainable energy technology innovation and provides the operating frameworks that financiers need to take long-term investment decisions. Policies are needed that help create markets, reduce risk, provide acceptable rates of return for investments and create conditions for a sustainable and profitable sustainable energy industry. This entails long-term regulatory frameworks supported by finance mechanisms that address barriers and gaps to financing sustainable energy solutions.

Experience in Western Europe, North America, and elsewhere has shown, renewable energy requires favorable institutional and regulatory conditions in order to thrive. Moreover, investors frequently note that the policy framework conditions are an important determinant of future decisions to invest in RE. The 2007 - 2013 EU structural funds period provides a unique opportunity to create the necessary framework.

##### **1.1.1.) Public sector support in CEE**

To this day, the conditions in the New Member States are still far from being advantageous. Although most countries in Central and Eastern Europe officially support renewable energy sources,

progress towards implementing that commitment has been slow and uneven. As stated above renewable energy requires favorable institutional and regulatory conditions in order to thrive. These take time and resources to develop. Moreover, the general levels of political stability and wealth in a country are key determinants in the development of renewable energy (Black & Veatch Cooperation 2003). The EBRD has identified a number of specific barriers to the development of renewable energy throughout Central and Eastern Europe, although not all of these barriers apply to all countries in the region.

The key barriers cited by the EBRD include:

- Lack of high quality resource data for developers;
- Lack of local equipment and operations & management suppliers;
- Lack of mandatory buy-back policies with feed-in tariffs at a sufficiently high level;
- A general absence of awareness of and information about renewables;
- The general perception among government and local investors that renewable energy is “risky”;
- A relatively low level of economic development, leading to:
  - Pressures to keep energy prices low through governmental subsidies;
  - Lack of creditworthiness of local investors;
  - Lack of sponsor equity;
  - Lack of long-term financing;
  - Underdevelopment of the private sector;
  - Inability of consumers to pay market rates for electricity and heating;
- The socialist era legacy of inefficient and unresponsive bureaucracies;
- Strong fossil fuel and, in some cases, nuclear lobbies, and the associated overcapacity;
- Lack of public support and demand.

Although the CEE countries have set targets for renewable energy development, the establishment of adequate regulatory and legal frameworks to meet these targets is not very well developed yet. There is a lack of sectoral targets and an overall strategy and commitment to aggressively develop renewables is missing. New energy laws and policies in the CEE countries are rather general and lack implementation strategies. Moreover, the ministries that have the primary responsibility for renewable energy policy at the national level have no traditional commitment to these energy sources or to environmental and sustainability considerations.

The lack of an overall strategy is reflected in incentive structures that are scattered and not well linked with each other. None of the countries has done an integrated assessment of the technological and economic potentials of renewables in specific sectors, adopted sectoral targets, and tied those targets to financial schemes and appropriate regulatory frameworks that include streamlined permitting processes. Instead, permitting tends to be complicated and confusing, involving multiple agencies that are not well co-operating. This tends also to be the case at the policy-making level, where several ministries are typically involved in the debate over renewable energy but do not co-ordinate well with each other. For instance in Hungary the Ministry of Economy and Transport and the three other ministries that share a degree of responsibility for renewable energy policy and regulation do not have a formal interministerial structure to co-ordinate and integrate their actions.

Another serious problem in the region is regulatory uncertainty. In the Czech Republic, for instance, there is uncertainty regarding the legality of feed-in tariffs set by the Energy Regulatory Office, established in 2001 under the Energy Act. In Slovakia feed-in tariffs are quite low and vary from region to region and utility to utility, producing uncertainty in pricing as well as creating a climate of unpredictability in rule-making. In Poland a change from a feed-in tariff system to a quota system undermined the confidence of renewable energy producers and put an additional burden on an already struggling industry. Another damaging regulatory failure common in the region is the lack of penalties associated with violations of the laws and regulations intended to promote renewables. For instance, Poland has no penalty for utilities that fail to buy the legal minimum amount of electricity produced by renewable sources, leading to chronic violations of the law and a disincentive to potential developers to go ahead with projects. A similar situation exists in the Czech Republic, where, in addition, funds have not yet been allocated to implement the Energy Management Act, allowing violators of the Act to go not only unpunished, but undetected.

### 1.1.2.) Public Financing Mechanisms

Supportive regulatory and tax environments are key drivers of the development and financing of new technologies, however, these macro approaches are not always enough to create the true enabling environment needed for large-scale investment in sustainable energy systems.

This report focuses on finance mechanisms combined with EU Structural Funds that support the sustainable energy industry by filling the financing gaps in project development and technology development. Understanding the financing gaps that exist in the various stages of sustainable energy market development is a complex task. The gaps may vary, depending on the applicable regulatory environment, regional contexts, as well as on current financing and clean energy market trends. To avoid a “quick fix” approach, public finance mechanisms need to be designed in an integrated manner that allows barriers and gaps to be addressed at various stages of market development. Public finance mechanisms can fill these gaps and thereby lower the barriers to project implementation.

## **1.2.) Financing mechanisms for small and medium sized enterprises in the SE sector**

Small and Medium-Sized Enterprises (SMEs) are key players in the deployment of sustainable energy technology and in providing services that support both industry and consumers. SE SMEs are generally able to offer efficiently packaged small-scale energy services to a variety of energy users. They are often locally based, which can be an added value when trying to convince consumers and other companies to choose sustainable energy.

Government-supported enterprise development and business support programs currently exist in most countries, however, few address the critical financing gaps experienced by SE business. Investors tend to consider SE SMEs high risk and high cost, and they tend to be the least served by the financial services industry. Supportive regulatory/fiscal frameworks and financial support mechanisms are needed for those SE enterprises experiencing capital constraints and difficulties in achieving sufficient profit margins from the concept and early business planning stages through to operation.

Finance mechanisms that provide grant support or debt or equity at the seed, start-up and growth stages are crucial to the development of the small-scale niche of the SE market.

### **1.2.1.) Grants**

Contingent grants are useful mechanisms that can help the SME address specific aspects of business development, especially in the early stages before any revenue streams have been established. This option permits the public sector actor to provide incremental funds without directly subsidizing commercially viable activities, since the support is repaid once the business activity has started providing returns. In the event that the contingent grant is repaid, then the repayment history is useful for demonstration to future investors.

It is important to ensure that the SMEs deploying the new technologies and services to the end consumer can access the capital needed to launch and operate their businesses. SMEs generally carry further risk due to their weak balance sheets and/or track records and limited market presence. Lack of investor familiarity with the sector makes the seed/equity gap even more pronounced and calls for appropriate government responses through education, demonstration and financing mechanisms. Public sector-capitalized funds can take different legal and public/private partnership-based forms.

In summary, although some equity investment is now available in the SE sector, public intervention is often needed as it is not enough to cover the required equity share that banks usually expect in a project, particularly in uncertain markets with high equity requirements.

### **1.2.2.) Debt**

Even if a SE SME can raise the equity needed to start a business, accessing debt capital can be challenging, even after the company is operational. SMEs face typical obstacles such as weak balance sheets and small transaction size when they are seeking working capital for operations and growth capital loans to expand.

Mezzanine financing models can sometimes address SME financing gaps. The FIDEME fund mentioned above targets this niche need and was created specifically to fill the “weak balance-sheet gap” faced by French SMEs involved in large-scale project developments.

### 1.2.3.) Guarantees

Despite the fact that many sustainable energy technologies are commercially proven, lenders still often perceive SE businesses as non-conventional and therefore risky. Financial risk management and transfer mechanisms are also part of the debt/equity gap mitigation package. Government-sponsored guarantees can cover some commercial risks associated with borrowers who have inadequate balance sheets or credit histories. They can also cover other non-commercial risks associated with the economic and financial stability of the country of project implementation. Guarantee schemes, when successful, increase bank involvement in financing SE SMEs and can reduce the real and perceived SME and SE technology risks, as well as credit risks linked to long amortization periods. When targeting perceived risks, pricing the guarantee correctly is particularly important. The correct price needs to be both low enough to make the guaranteed loan affordable to borrowers, and high enough to incentivize banks to eventually drop the guarantee if and when their perceptions of the technology or business activity have improved and they realize that the guarantee costs more than it is really worth. Without an appropriate pricing strategy, a guarantee mechanism can create dependence and become difficult

### 1.2.4.) EU financing mechanisms for SMEs

The Commission supports the development of European venture capital markets, especially for early-stage finance, and notes that governments could encourage informal investment by offering tax breaks. National banks and venture capital funds administer the financial instruments of the Multiannual Programme for Enterprises and Entrepreneurship (2001-2005), one of which is the SME guarantee facility. The **SME Guarantee Facility** provides co-, counter- and direct guarantees to financial institutions providing loan guarantees, loans and equity to SMEs. It is implemented for the Commission on a trust basis by the European Investment Fund (EIF). Having started with straightforward portfolio guarantees, it now offers more elaborate products such as credit default swaps and guarantees on assetbacked securities, and the Commission and EIF exploring ways to extend its reach. The **European Investment Bank** also offers global loans to support lending to SMEs in less developed regions and in specified policy areas like environment, energy saving and innovation. The Commission concludes that attention should now focus on three clear areas of SME finance. Financial markets need to be streamlined and updated, especially in the accession countries, to raise the level of equity investment and bank lending. The public and private sectors need to work together to overcome the gap in early-stage lending. Thirdly, member states should examine their tax laws: retained earnings are needed to finance growth, but are often taxed more than distributed profits. What is more, taxation varies between the member states so companies in some states are at a disadvantage.

**JEREMIE**, Joint European Resources for Micro to medium Enterprises, is an initiative of the Commission together with the European Investment Bank (EIB) and the European Investment Fund (EIF) in order to promote increased access to finance for the development of micro, small and medium-sized enterprises in the regions of the EU. JEREMIE was launched by the Commission and the EIB/EIF at a ministerial meeting in Brussels on 11 October 2005 and received large support. It was subsequently presented at the high-level conference involving the Presidency, the regions and financial institutions in Brussels on 24 November 2005 on the theme of “Financing growth and cohesion in the enlarged EU” where again it received wide support.

Improving access to finance is a priority area of the renewed Lisbon agenda for growth and jobs in an effort to increase the availability of capital in Europe for new business formation and development. Past experience has shown that this is an area where the programme authorities would like to do more, but they lack both expertise and access to risk capital. JEREMIE, by creating a framework for cooperation with the specialised financial institutions, the EIF and EIB, as well as other international financial institutions, is designed to help to overcome these difficulties.

The first phase of JEREMIE consists of an evaluation of the supply of financial engineering products in the Member States and regions of the Union and an assessment of potential needs. This

evaluation will be conducted in 2006 and 2007 in a cooperation arrangement between the Commission and the EIF, working closely with the national authorities and financial institutions at national level.

The second phase intervenes in the programming of actions for the period 2007-2013. Where management authorities wish to profit from the JEREMIE framework, they would decide to allocate resources from the programme to a holding fund. The holding fund could be a suitably qualified financial institution at national level. It is also envisaged that under the JEREMIE framework, the managing authorities can ask the EIF to ensure the holding fund tasks when the programme allocates a grant to it, which would also facilitate the levering-in of additional loan capital from the EIB.

The role of the holding fund will be to organise calls for expressions of interest addressed to all interested financial intermediaries, such as venture or seed capital funds, start-ups, technology or technology transfer funds, guarantee or mutual guarantee funds, loan funds, micro credit providers, etc. On the basis of its specific expertise, the holding fund, working closely with the managing authority, will evaluate, select and accredit financial intermediaries. It will be able to provide them with equity, loans or guarantees, as well as technical assistance as appropriate.

The selected financial intermediaries will in turn be responsible for making funds available on competitive terms (the principles of which would be agreed between the programme authority and the holding fund), to micro, small or medium sized enterprises. Special emphasis will be given to supporting the Lisbon growth and jobs agenda, by emphasising technology transfer, start-ups, technology and innovation Funds and micro credit.

The final result is that the management authority will have access to a turn-key system that will greatly facilitate the realisation of the otherwise complex task of organising more action in this important field for European economic competitiveness. As for other financial engineering instruments, contributions from the programmes to the holding fund shall be considered as eligible interim payments under the ERDF.

### **1.3.) Financing mechanisms for (small) projects**

Facilities that can share some of the costs of project development, on a grant, contingent grant, or soft loan basis, can play an important role in helping many developers take a project from pre-feasibility stage through to financial closure. These facilities need to be carefully structured to target the right projects and align interests on project development. Public sector contingent grants may be offered for various preparatory activities and then repaid in part or in full when the project has reached the operation and revenue-generating stages. Soft loans that offer deferred debt service and interest-free grace periods may be also available. Grant programs are increasingly being combined with loan instruments to shift the focus from early stage 'prospecting' to later stage project engineering and development.

Generally, sustainable energy projects are financially structured in the following way:

- Equity provided by the companies involved in the project, and possibly by institutional and strategic investors or the capital markets;
- Debt provided through corporate or project-financed loans from commercial banks;
- Insurance of specific operational risks provided by an insurer or insurance broker;
- Guarantees provided by programs from governments or multilateral agencies.

For SE projects it can be difficult to pull this financial package together, and the gaps can often only be filled with niche financial products, some of which already exist and some of which need to be created.

#### **1.3.1.) Equity Financing**

Equity is normally sourced from corporate treasuries, strategic investors, private equity funds, or the capital markets (i.e., public equities). Public agencies can also provide equity needed at this stage. Each type of investor will have their own reasons to invest, usually based on their estimation of the risk-adjusted return of the project and the options they see for eventually exiting the investment. Exits are generally made through IPOs, management buyouts or industrial sales. Although there definitely is a gap between risk capital at the technology innovation stage and the

project financing stage, some VC investors may have interest in providing later-stage equity for the first commercial applications of technologies they've financed. Follow-on equity investments at this stage allow for lower risk (as the technology is more proven) although more modest returns.

It is important to remember that the cost of debt financing is lower than the cost of equity, therefore increasing the share of debt in a project leverages the returns to equity shareholders. Most project developers therefore seek as much debt as possible to finance their projects. Increased debt, however, means increased risk of loan default. Debt-to-equity ratios in stable energy markets with long-term off-take agreements can range up to 4:1 (80% debt: 20% equity). In general, the higher the risk (real or perceived), the higher the amount of equity required. In the nascent SE sector lenders tend to require the project sponsor to provide more equity (up to 50%) to demonstrate creditworthiness and cover risk to debt servicing. The creditworthiness of both the off-take agreements and the buyer utility can heavily influence how much debt a project is allowed to take on.

### **1.3.2.) Mezzanine Finance Mechanisms**

Mezzanine finance groups together a variety of structures positioned in the financial structure somewhere between the high risk / high upside pure equity position and the lower risk / fixed returns senior debt position. Typically it comes in the form of quasi (or convertible) equity which can combine some form of preferred shares with subordinated debt and the option to later be bought out, either progressively or in one bullet payment (called 'put options'). Quasi-equity is most useful in illiquid markets where a lack of exit options makes pure-equity investments less attractive.

For sustainable energy project developers, this form of finance is cheaper than would be available on the equity market, does not usually involve sacrificing any control of the company and can allow them to raise sufficient capital to meet the debt-equity requirements of senior lenders. Mezzanine finance instruments can be extended out 8-12 years, providing a more 'patient' capital investment option. It has proved to be most successful when operating in mid-to well-developed capital markets where equity and debt instruments are well established.

### **1.3.3.) Alternatives to Bank Financing**

Third-Party Financing (TPF) is another form of off-balance sheet financing that can be used in place of debt financing. It is best known for energy efficiency and energy performance contracting via energy service companies (ESCOs), but can also be a source of finance for renewable energy projects. TPF leasing arrangements can also provide the purchaser/lessor with tax advantages (i.e. accelerated depreciation) while transferring all operating costs and responsibilities to the lessee.

### **1.3.4.) Risk Management Mechanisms**

An integral element of deal structuring, particularly for off-balance sheet projects, is financial risk management. This process entails using financial instruments to transfer specific risks away from the project sponsors and lenders to insurers and other parties better able to underwrite or manage the risk exposure. Among other important factors, financial risk management is one of the keys to deployment of sustainable energy technologies. Applied correctly, certain financial risk management instruments can help mitigate the perceived risks associated with RE and affect the degree and terms of investment into such projects. However, there are currently constraints on the availability of such risk management instruments, which relate to factors such as the willingness and capacity of insurance and capital markets to respond. There has been some development of dedicated insurance products that provide financial protection to SE projects. However, there are still considerable gaps in providing insurance products for the broad array of sustainable technologies on the market.

Support may be provided by financial innovators who wish to take the leading role in developing new risk management products, most likely small to medium-sized specialist risk/finance companies, and assist them in bridging risk management activities with the major financial institutions. Governments can reinforce and assist a 'learning by doing approach' where new SE financial risk management projects are tested and can be adopted by financial organizations and institutions. The flow of private capital to the SE sector is dependent upon investor confidence. This

means that minimizing any potential negative financial impacts on a project caused by unanticipated events is key to ensuring capital inflows to the sector.

#### **1.3.5.) Guarantess**

One form of risk mitigation instrument is the public sector loan guarantee, implemented where possible in conjunction with private financial institutions. Partial risk guarantees ensure debt-servicing payments to selected lenders or other investors in a project, usually for specific time periods or exposure levels. Partial credit guarantees act to extend loan repayment periods, thus improving the project's cash flows. Both forms of guarantee can motivate banks to lend for projects they perceive as risky. Buying down the risk can mean lower costs of financing for the borrower or decreased security requirements. Guarantees are most effective at addressing elevated banker perceptions of risk; once a bank has gained experience managing a portfolio of SE loans, they are in a better position to evaluate true project risks.

#### **1.3.6.) EU Financing Mechaisms**

**JASPERS**, 'Joint Assistance in Supporting Projects in European Regions', seeks to develop this cooperation in order to pool expertise and resources and to organise them in a more systematic way to assist Member States in the implementation of cohesion policy. The aim of JASPERS is to offer a service to the Member States, targeting regions covered by the new Convergence Objective for the period 2007-2013. The service will help the authorities in the preparation of major projects for submission to the Commission. In this way, the service will help to improve the quantity, quality and rapidity of projects coming forward for approval, for the benefit not only of the Member States and regions directly concerned but also for growth and convergence in the Union as a whole.

JASPERS involves a partnership between the Commission (Regional Policy DG), the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD). JASPERS will offer technical assistance to the beneficiary Member States at no cost to them. The main objective of JASPERS is to assist the Member States in the complex task of preparing quality projects so that they can be approved more quickly for EU support by the services of the Commission. The technical assistance will be offered from the early stages of project development. JASPERS will provide comprehensive assistance for all stages of the project cycle from the initial identification of a project through to the Commission decision to grant assistance.

JASPERS focuses its action on large projects supported by the EU funds (costing more than €25 million for environment projects and more than €50 million in transport and other fields). In the smaller countries where there will not be many projects of this size, JASPERS will concentrate on the largest projects. While JASPERS can be expected to make a major contribution to the quantity, quality and rapidity of projects coming forward, the respective legal responsibilities of the national authorities and the Commission remain unchanged.

There is no obligation on the Member States to make use of assistance from JASPERS nor is there an obligation for a Member State which makes use of assistance from JASPERS to borrow from the EIB or the EBRD, although they may do so if they so wish. The work of JASPERS will be closely coordinated with the Member States, and in order to ensure proper planning and co-ordination, this work will be organised each year according to an annual action plan specific to each country.

## **2.) Structural Funds**

Analysing the characteristics of RES projects has shown the challenges of raising capital. But access to EU Structural funds is a complex issue itself, firstly the programmatic level, secondly the operational level.

### **2.1.) Regulatory framework**

Throughout the subsequent programme periods, the fund distribution, the provisions and guidelines have been subject to change on an operational level and a programmatic level. Strengthening the environmental level has been a continuous aim.

Opposite to previous periods, Structural Funds in the programme from 2000 - 2006 were not directly allocated to projects chosen by the Commission. While the main priorities of a development programme are defined in co-operation with the Commission, the choice of projects and their management are solely the responsibility of the national and regional authorities. This greater decentralisation was one of the main innovations in the current new programming period.

Once projects have been selected, they are financed from both National and Community funds, as programme budgets are always comprised of Union and national funds (public or private). Union funding is always added to national funding to help Member States overcome the limits imposed by their own financial capacity. However, Community funding is not provided to allow countries to make savings in their own national budgets. Member States bear the main responsibility for the development of areas in difficulty. The Union helps them achieve more and obtain better results than they could by acting on their own. This is the real added value of the Structural Funds.

Cohesion policy finances investment in a wide range of projects that are supposed to contribute to a number of different economic, social and environmental goals. The array of goals and demands that can be addressed pose challenges and questions for policy-makers.

For instance, in the new Member States, given the breadth of development challenges, how should Cohesion Policy tackle different economic, social and environmental goals? There is a risk that the range of goals and types of intervention associated with Cohesion policy can undermine the quality of a strategy by a fragmentation of effort, inconsistent interventions, or a lack of clear target-setting. Policy-makers have to find ways of managing tensions between the high expectations of a range of societal groups, the availability of public funding and the speed with which economic, social and environmental change can be.

Several factors play a part in managing these challenges, for example: the sequence of goals and expenditure; the definition of targets for individual projects and measures; and the synergies and trade-offs between specific interventions. These decisions could apply either between or within areas of activity. For instance, decisions on investment in infrastructure may focus on the development of transport infrastructure as a whole or on specific types of transport infrastructure. Trade-offs in relation to business support may involve deciding on whether to focus on providing direct aid to SMEs, rather than on advisory services or on business premises. The need to take difficult decisions on funding priorities has been particularly pronounced in the new Member States in 2004-06, due to the limited amount of funds provided, the short programming period, and the challenges of implementing Cohesion policy. So far, Cohesion policy in the new Member States generally shows a strong focus on investment in public infrastructure for the 2004-2006 period, not least due to the decision to channel a significant share of EU funding through the Cohesion Fund and thus to trans-European transport networks and major environmental infrastructure.

## **2.2.) Energy in the 2000-2006 programme period**

According to WWF (Structural Funds in an enlarged EU, May 2003) the 1999 commission guidelines for the 2000-2006 programme period have been instrumental in promoting sustainable development as a cross-cutting theme of the Structural Funds. But reviews of implemented projects show deficiencies. The effects on the Renewable Energy Sector are not easy to grasp.

In their Mid-Term review, the WWF asserts that:

- Structural funds could prove very helpful to channel resources into clean technologies locally where either appropriate infrastructure or simple upfront cash is missing to pay the environmental price. Structural Funds for energy efficiency improvements and for renewable energies could be used to cover slightly more than the marginal costs of carbon abatement technologies compared to the conventional costs.
- There should also be guidance on EU policy as regards transparency and information on funding availability, as well as partnerships, with best practice used to demonstrate how these elements of the Structural Fund rules should ideally be implemented. This should take full account of the EU's commitments under the Aarhus Convention.

However, the size and the impact of integration and implementation of EU energy policies and related programmes into local development programmes seemed to be too vague.

An analysis carried out within the BACCHUS programme showed not only the low and fragmented financial support to energy related measures and projects, but also that energy related objectives

are considered accessory or of secondary importance in the regional and national Structural Funds programmes.

The 2000-2006 planning phase of the Structural Funds has attempted to insert sustainable energy objectives into other development objectives, at all planning levels, from national to local.

The BACCHUS study shows that regional planning documents, involving Structural Funds (in three different Member States), actually mention “sustainable energy” in some way, but the level of real implementation is well below expectations. Energy is often one of the measures in the Operational Programmes, but the corresponding financial resources are low (2-3% of the total budget), the objectives are too technologically focused (e.g. windmills or PV plants), there is no connection with the other measures, and a strategy for the role of energy in local development is not evident.

In some cases the integration of energy into other local development measures has been attempted, at least in the official documents, e.g. in the support to SMEs (priority to clean energy projects), in forestry (energy from wood) or agriculture (energy crops).

This result shows that there are severe doubts in the real “deployment” of the sustainable energy policies and objectives in the Structural Funds programmes. This may imply that the model for the delivery of the different energy policies at the regional and local level needs to be restructured, in order to ensure a better “deployment”, taking into consideration the need to concentrate the effort in the promotion of cohesion and competitiveness.

### **2.3.) Access to Structural Funds**

The accessibility to SF ultimately depends on the regulatory framework in the countries, formulated in their National Development Plans and Operational Programmes. Due to the differing local conditions in the individual countries involved in the Energy 4 Cohesion project, it is necessary to create a financing mechanism which is adaptable, or indeed tailored specifically, to the conditions unique to each participating nation.

Most “e4c countries” have only a limited experience with the use of EU Funds, although some know-how could be gained in pre-accession programs like PHARE or SAVE. With the enlargement of the EU, the New Member States were to use Structural Funds (SF) in the time period from 2004-2006.

Given the short time period since SF are accessible in the New Member States, there are only limited records about the deployment of RES. A WWF Study, released in March 2004, just before the accession, analysed the potential of SF for Renewables, but accounts of operating experience was widely missing. For this reason, the Energy 4 Cohesion consortium conducted a survey of recently implemented projects within SF. The main results of the survey give insight to the existing barriers for access to SF and demonstrate successful financing schemes

### **3.) Survey of the barriers for project implementation and obtaining of EU-funds**

Project developers in the e4c countries faced various barriers. Although technology and projects vary and the national frameworks are different, some general conclusions can be drawn.

#### **3.1.) First time EU funding and lack of knowledge and awareness**

The amount of Renewable Energy projects co-financed by Structural Funds in the e4c regions in the New Member States seems to be quite low, which made identifying projects a difficult task. In contrast, the amount of applications in Italy was much higher, and projects had to be stopped or turned down because of a lack of funds.

The lack of experience with the application process and lack of experience with big projects probably limited the number of applications. Also the relative briefness of the 2004-2006 funding period restrained the implementation of projects. This is in particularly true, where negotiation problems between EU and the respective national governments lead to delays. In Poland, negotiation problems even resulted in a long-term exclusion of RES-related projects from the scope of SF financing. When the topic was finally put on the priority list, most of the funds had been already distributed.

The relatively short time period (e.g. 3 months in Czech Republic) between the call for proposal publication and the submission deadline put serious time restraints on the project developers. Various necessary tasks (e.g. checking the eligibility criteria, negotiations with technical assistance provider, drafting and signing co-operation contract and discussions of the conditions of the scheme) limit the actual time for project preparation severely.

The publicity of the call for proposal was perceived as low (Poland and the Slovak Republic) and in some cases access to important information was poor (Poland).

Communication with the implementing body not always smooth, their staff might be missing relevant expert opinion and professional advice needed for project implementation (e.g. knowledge about emission savings calculation)

This hindering factor goes hand in hand with a generally low level of people's environmental and economical awareness, and consumer's sluggishness and unwillingness to change an exerted pattern of behaviour with relation to energy efficiency and rational use of energy and natural resources.

A large number of project applications, such as those recorded in the newer member states, place considerable pressure on nascent administrative structures. Refining and harmonising the EU project appraisal system and increasing the transparency and efficiency of project selection criteria should ensure that recognition is given to strategically important and innovative projects.

### **3.2.) Project preparation / Application procedure / Capacity**

Support prior to the application for funding is needed, which offers more than a mere distribution of formal requirements and procedures and includes real help - manuals and other aids, feedback on enquiries, opinions and advice. The application process should be simple and efficient. It should avoid unnecessary complication and bureaucracy. The complexity of the application procedure was perceived as one of the major obstacles. Applicants had problems filling out the forms and with the completion of all required enclosures for the proposal. Instructions were often not clear.

The bureaucracy was widely seen as excessive (complaints about multiple hard copies, necessary certifications, number of attachments, many very detailed financial calculations).

The bureaucracy discourages the typical developers of small EE and RES projects with insufficient personal capacity for the project application preparation and relevant documentation.

The situation aggravates, where project developers have to deal with other administrative bodies and the regional authorities (acquisition of suitable land parcel, obtaining the planning permit etc.)

Municipalities with a lack of staff or financial means to hire consultancy seem to give preference to alternative, domestic financing sources with a higher probability of success. (Environmental funds on all administrative levels, Eco-Funds, Voivodship Funding (Poland))

Municipalities are under additional constraints, related to the annual budget. The project may be approved after the annual budget had been adopted. In this case local municipalities face problems with covering the costs. Problems may also occur, if the approved funding is less than initially applied for.

### **3.3.) Regulations and policies**

More or less "normal" barriers arise from the eligibility criteria. Project sizes are a limiting factor, they may be too big or too small (see example from the Czech Republic below).

Tender regulations can be hindering, where they actually don't match the overall guidelines. Ownership and property issues become critical, where certain stakeholder groups are excluded from project application (see example from Latvia below).

A higher probability of a formal mistake and additional paperwork may arise, if the official applicant and the final beneficiary are separated (due to the fact that the latter does not possess legal personality).

Due to the regulations, project developers may be deprived from other income generating sources, as in an example from Slovakia, where CO<sub>2</sub> emissions savings cannot be traded by project developer in case of EU funds utilisation.

A lack of transparency may pose a challenge and ultimately lead to disillusionment of the applicants. In some cases, project developers even complained about distortion of competition by unequal treatment of applicants.

Identifying and spreading good practices from these past programmes and encouraging regional authorities to run similar initiatives is a key element to foster access to finance for SMEs. Results of successful projects should be disseminated as widely as possible, even trans-nationally, with networking between project leaders. Additional resources may also be made available to ensure that outcomes from a project in one country are, if necessary, modified so that they can be applied in other countries.

### **3.4.) Change in market conditions**

The market conditions in the New Member States changed rapidly in the past few years, causing changes in fuel and material prices. In this context, management of funds within a fixed budget was causing troubles, especially for projects with a long preparation / application period. For example, the Kraslava City Council in Latvia will implement only half of the planned activities due to the high inflation rate and increase of the other costs.

### **3.5.) Co-Financing / Guarantees / Project implementation / Administration**

Project developers faced difficulties obtaining support from the local bank and/or finding equal partners to cover the co-financing share. In most cases, the most crucial success factor is securing co-financing resources. This puts additional stress on the project developer. In most schemes, solely projects with ensured sufficient financial resources for the project implementation are eligible. A confirmation of the bank about its readiness to provide a bank loan in the full amount is therefore mandatory. Since EU support is paid only after project finalisation, ensuring a bank loan is necessary before the application is submitted to the implementation agency. As a result, applicants are forced to apply for both, the commercial bank loan and the EU support, a difficult task, given the tight deadlines for application submission.

Setting of co-financing requirements should take into account the beneficiaries' capacities, such that more lenient requirements on the amount of co-financing can be stipulated in certain cases, and that larger advanced payments can be made available.

A very critical aspect for loan provision and financial security is the reliability of the EU-funds. But the commercial loan provider as well as the project developer has no legal hold, if financial transfers provided by implementation body and payment unit are delayed. First experiences show, that the transfer of EU-funds can take a long time, which puts an additional financial burden on the project developer.

It is important for SMEs to recover any direct costs arising from participation in planning and consultation processes. This could be overcome by the use of compensatory advance payments made from national public sources to mitigate the acute cash-flow problem they might experience. A revolving fund could be set up to offer preferential terms of interest rates, collateral, service fees and grace periods for loans and bank guarantees needed for co-financing.

### **3.6.) Public-Private Partnership**

There is a lack of speedy and large scale public-private partnerships with respect to projects co-financed by the EU funds. Company experience with the public sector is normally through less sophisticated modalities such as service and supply contracts, leases and to a lesser extent work contracts. Experience in more complex joint activities that require management responsibilities to be shared (concessions, co-operation contracts, joint ventures) is far more limited.

Public authorities need to develop a simple, concise and clear concept on public-private partnerships in the context of the Structural Funds. Included should be ideas on the types of projects for which PPP would be suitable and the types of business partners which would be desirable and eligible.

A public campaign may be useful to sensitise businesses about the benefits of closer co-operation with universities, research centres and laboratories.

#### 4.) Survey of projects which applied for Structural Funds conducted by E4C

Despite the many existing obstacles, an array of successfully implemented project could be identified.

## SLOVAK REPUBLIC

### **Project I**

Wooden waste utilisation for heat production and own utilisation on the site for semi-finished wooden products drying. This is the way of biomass utilisation with associated environmental and economical benefits resulting from cheaper energy sources utilisation.

The project consisted of installation of facility for wooden waste (sawdust) suction from operation, biomass storage and wooden-gas firing boiler installation with respective equipment.

The project's benefits are:

- lower costs on heating of wooden semi-products drying storage;
- higher firing efficiency compared to previous stage;
- better environmental characteristics of the production;
- increase of company's wood-processing capacity;
- increase of company's turnover.

### **Project carrier**

Holz - Möbel SR s.r.o., active in the field of wood-processing and joinery production. Main outputs of the production are office furniture, garden furniture, living rooms suites, wooden windows, doors, staircases etc. Company is also providing cuttings and round timber processing, including wood drying.

The company was established in 2001 as a private company (adequate to ltd.). The number of employees is varying depending on season - 27 during operating on 2 work shifts and about 19 employees out of main season.

### **Project stage of development**

Project has been successfully implemented in summer 2006.

### **Financing scheme**

Total project volume: 72.131,3 EUR

EU support: 47.881 EUR - 65% of eligible costs

Operational Programme Industry and Services

Scheme for sustainable development support (de minimis scheme)

funded by the State Budget of the Slovak Republic and European Reconstruction and Development Fund.

Priority 1: Increase of industrial and service competitiveness within utilisation of domestic development potential

Measure 1.4.: Energy savings and RES support

(Scheme DM - 003/04)

Provider: Ministry of Economy of the Slovak Republic

Implementing agency: Slovak Energy Agency

Equity share: 25.782 EUR - 35% of eligible costs (required share), provided by a commercial bank loan.

The bank promised to provide commercial loan only in case of successful project approval by the Ministry of Economy and submission of the project was conditioned by confirmation of the bank what has resulted in dual project inspection and checking economical criteria if the project was economically feasible.

After installation of technology and project evaluation by the implementation agency, company has received irretrievable financial support from state budget and ERDF fund in amount of 65% of eligible project costs. Investment support together with company's own financial sources is used for bank loan repayment.

#### **Risk mitigation instruments**

Feasibility study and relevant project documentation needed for EU funds application was prepared by the technical assistance provider.

#### **Technical Assistance**

Energy Centre Bratislava - NGO active in the field of RES and energy efficiency promotion since 1993.

#### **Time of the application process**

Project application process took 1 month and 1 person in charge full time.

### **Project II**

Fuel switch from natural gas to wooden waste. Biomass firing boiler VESKO-B installation and operation start in May 2006 with installed output 1,9 MWth (at fuel with moisture of 50% and calorific value 8MJ / kg).

#### **Project carrier**

Hriňovská energetická, s.r.o. (Energy management of Hriňová city Ltd.)

INTECH Slovakia Ltd. (a company that provides complex services in the field of energy efficiency) acquired the Heating Management of Hriňová City (Ltd.) - „Hriňovské tepelné hospodárstvo, s.r.o” with the aim of playing a more crucial role in the field of municipal energetics (Heating Management of Hriňová City was focused on the production and distribution of energy for the town and industrial area of the adjacent machinery plant). Consequently, after the acquisition the name of the company was changed to Hriňovská energetická, s.r.o. (Energy Management of Hriňová City Ltd.).

#### **Project stage of development**

Project was finished in September 2006.

#### **Financing scheme**

Total project volume: 554.021 EUR

EU support: 343.836 EUR

Operational Programme Environmental Infrastructure

Measurement 2.2. - Improvement and development of infrastructure for climate protection

Provider: Ministry of Environment of the Slovak Republic

Implementing agency: Ministry of Environment of the Slovak Republic

Measure is funded by the State Budget of the Slovak Republic and European Reconstruction and Development Fund.

Equity share: 7 053 368 SK (35% of eligible costs)

#### **Risk mitigation instruments**

Feasibility study and relevant project documentation needed for EU funds application was prepared by the technical assistance provider.

#### **Technical Assistance**

For - Euro consulting, s.r.o., Vilová 2, 851 01 Bratislava 5

#### **Time of the application process**

3 months

#### **Positive aspects / remarks**

One quite positive aspect is that the Hriňovská energetická Ltd. has maintained keeping the lowest heat price for its customers in wider vicinity. The heat price in 2006 is now 570 SKK (including VAT). In 2005 it was 500 SKK (including VAT). But the positive effect of biomass combustion has not become evident to its full extent thus far, because the biomass firing boiler has been in full operation only since the beginning of May 2006. It will be distinctly visible in 2007, after twelve months of the boiler's operation. Therefore, it is very presumable the price of heat will drop in 2007.

### **Project III**

Fuel switch from natural gas to wooden chips in DH of Nová Dubnica

Technological aspects and details:

- 2 wooden biomass firing boilers JUSTSEN (Danish producer) with installed capacity 7 MW both
- 2 MW container turnkey boiler units also for wooden chips firing, JUSTSEN type installed outside of the boiler room
- 2 hot water natural gas firing boilers type HBK 8 ZP with installed capacity 5.6 MW both

#### **Project carrier**

Termonova Joint Venture Company, operator of DH system in Nova Dubnica city, supplying about 220,000 GJ of heat annually. Company's main and only activities are production, distribution and sale of heat. Until the project implementation it was fully dependent on imported natural gas supply.

#### **Project stage of development**

Project was successfully implemented in 2006.

#### **Financing Scheme**

Total project volume: 4,669,090 USD

EU support: 687 274 EUR - about 16-17% of total project costs (not disbursed yet)

Operational Programme Environmental Infrastructure

Measure 2.2. - Improvement and development of infrastructure for climate protection

Measure is funded by the State Budget of the Slovak Republic and European Reconstruction and Development Fund.

Provider: Ministry of Environment of the Slovak Republic

Implementing agency: Ministry of Environment of the Slovak Republic

Equity share: 3,963,206 USD 84% provided by commercial loan from DEXIA Bank

DEXIA bank used the CEEF guarantee programme (Commercializing Energy Efficiency Finance) provided by the International Finance Corporation, the member of the World Bank group

Bank Loan Guarantee: 50% / value 1,981,603 USD

Company was burdened by previous credit loans

#### **Risk mitigation instruments**

Credit risk of project finance transactions was shared by IFC / CEEF programme.

Experience of technical assistance provider had been used in phase of project preparation, as well as the experiences of IFC with financing RES projects.

#### **Technical Assistance**

Private consultancy company PROEN s.r.o. ([www.proen.sk](http://www.proen.sk))

#### **Time of application process**

3 months

Preparation phase, feasibility study and economical assessment more than 3 months.

#### **Remarks**

Although fact that biomass fuel market is still under-developed in Slovakia and project was one of the first in municipal sector and DH in Slovakia; after the heating period 2004/2005 with heat supplied by new biomass boilers the DH company was able to continue with the reconstruction of whole system without any additional heat prices increase for final customers. Inhabitants of Nova Dubnica gain the benefit of steady heat prices, while the prices have increased in period 2003-2006 only in amount of 3.2%, what is in contrast with higher heat prices development in other municipalities of Slovakia. In 2006 inhabitants of Nova Dubnica are paying one of the lowest heat prices in Slovakia. The heat price approved by the Regulation Office for the Network Industries was 469.1 SK/GJ in 2006. In comparison expected average heat price in Slovakia is about 700 SK/GJ.

## **CZECH REPUBLIC**

### **Project I**

#### **Construction of 1,5 MW Solar PV park in Ostrožská Lhota**

The projects consist of reconstruction of so far largest solar PV grid-connected installation in the Czech Republic - solar PV park in Ostrožská Lhota in the Zlín region. The installation is located at the area of 4 ha. The first stage consists of installation of 5000 m<sup>2</sup> of PV panels with fixed orientation and total capacity of 600 kW and is expected to be finished in this year (2006). The second stage of project consists of installation of 8000 m<sup>2</sup> of panels of capacity approx. 900kW. The total area of panels after finalisation of the project will be approx. 13000 m<sup>2</sup> and capacity 1,5 MW. The PV power plant will supply electricity to distribution network of the regional power distributor E.ON Distribuce. The finalisation of the project is planned to end of 2007.

*Expected electricity production of the finalised project is 1500 MWh/year. Expected reduction of CO<sub>2</sub> emission is 1814 t/year. Expected simple payback of investment with inclusion of the support is approx. 10 years.*

#### **Project carrier**

HitechMedia Systems, s.r.o.

Stojanova 508

Uherské Hradiště 686 01

Czech Republic

Contact person: Mr. Vítězslav Jančík, tel. +420 572 554 222, e-mail: [vitezslav.jancik@hitech.cz](mailto:vitezslav.jancik@hitech.cz)

#### **Project stage of development**

The application for support for the first stage of project (600 kW) has been already approved and the first stage of project implementation was started in October 2006.

#### **Financing Scheme**

Total project volume: approx. 7,14 Mio EUR

Total investment for the first phase of project (600 kW) is approx. 2,8 Mio EUR.

EU support: Applied for up to 43% of total investment support from the Structural Funds, application was approved in the level of 36% of total investment.

Operational Programme “Industry and Entrepreneurship” 2004-2006, Programme “Renewable energy sources”.

Equity share: 66%

Own funds of company Hitech Media Systems provided by standard bank loan including bridging loan for the time of project implementation until the support is being provided.

#### **Risk mitigation instruments**

Financial analysis. Risk analysis was not required for application of support and was not elaborated.

#### **Technical Assistance**

Preparation of the application was provided by external consultant.

#### **Time of application process**

Technical development of the project (documentation etc.): approx. 9 months, still ongoing

Preparation of the application: approx. 1 month

- One of the main reasons for development of the project is improved economy of grid-connected solar PV systems due to rather high feed-in tariff for solar PV electricity which is currently 13,20 CZK/kWh (approx. 0,47 EUR/kWh)
- The experience of the project developer from previous, smaller (approx. 60 kW), solar PV project which has also received support from the Structural funds was one of key factors of success.
- Banks have learned to provide commercial loans to energy projects as well as bridging loans for the time of implementation of SF financed projects so now it is much easier to administer bank financing.

#### **Remarks**

The development of previous projects also helped to develop contacts with (foreign) technology suppliers so now it is not a problem to get sufficient capacity of panels in a short time.

The project developer is definitely willing to develop further projects (already some under development) and apply for support also in the period 2007 - 13.

#### **Project II**

##### **Reconstruction of boilerhouse and heating system in Pensioners home Podlesí - Bystřička**

The aim of the project is construction of environmental-friendly heat source, support of renewables and reduction of emissions of pollutants and greenhouse gases.

The projects consist of reconstruction of boilerhouse for combustion of biomass and reconstruction of heating system in a complex of 10 buildings of Pensioners home Podlesí - Bystřička near the city Valašské Meziříčí in Zlín Region.

Project consists of reconstruction of original coal-fired steam boilerhouse of total capacity 2,92 MW to combustion of biomass and reconstruction of steam heat distribution network to hot water system, installation of new exchanger stations and regulation in the buildings and replacement of steam consuming appliances in laundry and canteen by efficient electric appliances.

Expected reduction of CO<sub>2</sub> emission is 2 142 t/year, expected heat production from RES is 13 860 GJ/year.

#### **Project carrier**

Regional Office of the Zlín Region

Tř.T.Bati 21, 761 90 Zlín, Czech Republic

Contact person: Ms. Miroslava Knotková, Dept. of strategic development and programmes, tel. +420-577 043 442, e-mail miroslava.knotkova@kr-zlinsky.cz

#### **Project stage of development**

The application for support has been approved and the project is under implementation - currently, tendering procedure for supplier of technology is underway.

#### **Financing scheme**

Total project volume: approx. 940.000 EUR

EU support: 75% of investment (19,6 mill. CZK) EU Structural funds

Operational Programme "Infrastructure", Priority 3 - Improvement of Environmental infrastructure, Measure 3.3.C - Improvement of infrastructure for Air Protection - utilisation of renewable energy sources.

Co-financing partners: State Environmental Fund: 10% (2,6 mill. CZK)

Equity share of Zlín Region: 15% of total investment

#### **Risk mitigation instruments**

Feasibility study and financial analysis. Risk analysis was not elaborated as it was not required.

#### **Technical Assistance**

Private company TTS Eko, which has experience with implementation of biomass district heating systems.

#### **Time of application process**

6 months - decision by the officials of Zlín region that the project should be developed and the project application could be submitted

1,5 months - technical documentation

1 month - elaboration of application incl. financial analysis

#### **Remarks**

Project was developed due to very pro-active approach of Zlín Region and due to fact that the Regional Energy Plan of Zlín Region was already elaborated and is actively used. The experience with elaboration of the project will extend practical experience of Zlín region staff with renewable energy projects development and implementation.

## LITHUANIA

### **Project I**

Replacement of 1.3 km district heating network in Kaunas integrated district heating network (total length of network 340 km)

#### **Project carrier**

AB KAUNO ENERGIJA (regional district heating company, more information [www.kaunoenergija.lt](http://www.kaunoenergija.lt)), Raudondvario pl. 86, Kaunas, LITHUANIA

A project implementation group was especially assigned.

#### **Financing scheme**

Total project volume: 2.41 Mio EURO

EU support: 1,18 Mio from ERDF

#### **Risk mitigation**

Evaluation of similar projects; analysis of potential suppliers;

#### **Technical Assistance**

T.A. provided by a private consultancy

#### **Time of application**

2 months

### **Project II**

implementation of Combined Heat and Power (CHP) in the city of Panevezys. Capacity of CHP - 25 MW electricity, fuel - natural gas.

#### **Project carrier**

JSC "Panevezio energija", the District Heating company in the city of Panevezys.

Turnover of company 94 Mio Litas per year.

Staff 719 employees, company is running 35 boiler houses with total capacity - 693 MW.

#### **Project stage of development**

Implementation of the project started in May of 2006. End of project December 2007.

#### **Financing scheme**

Total project volume: 29 Mio EUR

EU funding: 5,8 Mio EUR from ERDF

Co-financing partners: Danish Government: 3,5 Mio

Equity share provided with loans from 5 local Banks.

#### **Technical Assistance**

T.A. and preparation of the financial documentation was provided by an international consultancy firm with headquarters in Denmark

Helpful support was provided by the Lithuanian Government and its authorities (Ministry of Economy, Ministry of Environment, and others).

#### **Time of application**

1 year

## LATVIA

### Project I

Cogeneration plant reconstruction in Kraslava Latgales Street 14

After the reconstruction cogeneration plant capacity will increase till 18 MW and instead of heavy fuel oil environmentally friendly wood chips, sawdust and peat, as fuel will be used. This project includes providing completed heat and hot water supply in Kraslava city as well as reducing of heat production expenses. It is planned to renovate fuel storages and boiler-house, build fuel-feeding system, woodchips storage area and to buy and install boiler, furnaces and technological equipment with higher thermal capacity.

This project is the first stage of Kraslava District Heating system reconstruction. At the end of August, 2006 the contract for implementation of the project was signed and the works have been initiated. Project has to be accomplished until April 2008.

#### **Project carrier**

Kraslava City Council (Municipality)

Address: Riga Street 51, Kraslava, LV-5601, Latvia

#### **Financing scheme**

<u>Total project volume:</u>	2.667.000 EUR
<u>EU-funding:</u>	1.770.000 EUR
<u>Equity share Kraslava City Council:</u>	450.000 EUR
<u>State subsidy:</u>	450.000 EUR

#### **Risk mitigation instruments**

State guarantee

This project is developed under National Program "District Heating enhancement by reducing sulphur content in fuel".

#### **Technical Assistance**

Project proposal was prepared by consultants

#### **Time of the application process**

Application was prepared in 3 months when call for projects was announced. However it took after 2 years for state institutions to evaluate the proposal.

#### **Positive aspects / remarks**

Though it was still unclear when the call for projects will be announced Kraslava City Council required a technical report of the DH system that indicated the weakest points of the district heating system in the town. Afterwards this report allowed and simplified application for the EU support.

### Project II

Development of Ventspils District heating system

This project includes construction of new thermal power station (electrical capacity 19 MW<sub>el</sub> and thermal capacity 40 MW<sub>th</sub>) in Ventspils city and connection of two separated existing

district-heating systems (1.5 km long) on both side of river Venta.

The new thermal power station will generate heat and power using coal (85 %) and wood chips (15%) as fuel. The main outcome of this project will be closing of heavy fuel oil boiler house in the city centre as well as promotion of decentralized power production. The use of local electricity will reduce energy losses of electricity transfer networks.

#### **Project carrier**

“Ventspils ENERGO”, Ltd. - at the moment 100% property of Ventspils municipality.

Address: Talsu Street 69, Ventspils, LV-3602, Latvia

#### **Project stage of development**

In 2<sup>nd</sup> of October, 2006 the contract for assistance for preparation of tender documentation was signed.

It is planned that project implementation will be completed by December 2009.

#### **Financing scheme**

<u>Total project volume</u>	81.3 Mio EUR
<u>EU support:</u>	34.6 Mio EUR (direct costs 72%) from Cohesion Fund
<u>Equity share:</u>	13.4 Mio EUR (direct costs - 28%)
	33.3 Mio EUR (indirect costs)

In the future it is planned to transform “Ventspils ENERGO”, Ltd. to State-Private partnership, where municipality will have 51 % from organisation’s equity share.

#### **Risk mitigation instruments**

To implement the financial scheme of project, new participant will be involved in Ventspils ENERGO, Ltd., which will have 49 % of equity share.

#### **Technical Assistance**

Project preparation was performed by work group including representatives from Ventspils City council, Ministry of Environment and Ministry of Economy

#### **Time of the application process**

approx. 2,5 years

## **ESTONIA**

#### **Project I**

Solving the waste management problem of 6 rural municipalities and construction of Maasi Waste Recycling Centre with the capacity of 3000 t/year

#### **Project carrier**

Orissaare Rural Municipality

Area: 163 km<sup>2</sup>

No of population: 2053

Contact person: Ivar Ansper, [ivar.ansper@mail.ee](mailto:ivar.ansper@mail.ee)

Web site: [www.orissaare.ee](http://www.orissaare.ee)

#### **Project stage of development**

Construction work has been finished. Maasi Waste Recycling Centre is in operation

#### **Financing scheme**

Total project volume: 541.076 EUR

EU support: 424.344 EUR (ERDF) 6448.345 EUR applied for

Contribution of co-funding partners: 116.732 EUR

Co-financing partners and their co-financing shares

Leisi Rural Municipality - 23.19 % Valjala Rural Municipality - 15.44 %

Laimjala Rural Municipality - 8.70 % Pöide Rural Municipality - 10.61 %

Muhu Rural Municipality - 20.30 % Orissaare Rural Municipality - 21.76 %

Equity share divided according to the share in the global investment cost

#### **Time of application**

2 years

### **Project II**

Construction of a complex water supply and sewage system for 21 rural municipalities

#### **Project carrier**

Kaarma Rural Municipality

Area: 400 km

No of population: 4300

Contact person: Kairi Niit, [kairi@kaarma.saare.ee](mailto:kairi@kaarma.saare.ee)

[www.kaarma.ee](http://www.kaarma.ee)

#### **Project stage of development**

Water supply and sewage system designed, construction works have reached the final stage. The system has not been launched yet.

#### **Financing scheme**

Total project volume: 24,70 Mio EUR

EU support: 20,15 Mio EUR Cohesion Fund

Own contribution: 2,3 Mio EUR

Co-financing partners and their co-financing shares:

Saaremaa County (the largest island in Estonia):

Kaarma Rural Municipality 18% Kuressaare Municipality 17,3%

Orissaare Rural Municipality 8,2% Salme Rural Municipality 3,3%

Torgu Rural Municipality 0,1% Laimjala Rural Municipality 2,4%

Mustjala Rural Municipality 2,2% Kärla Rural Municipality 7,1%

Kihelkonna Rural Municipality 0,4% Muhu Rural Municipality 3,1%

Ruhnu Rural Municipality 0,1% Lümända Rural Municipality 0,5%

Pihlta Rural Municipality 5,2% Leisi Rural Municipality 3%

Pöide Rural Municipality 0,6% Valjala Rural Municipality 4,6%

Hiiumaa County (the second largest island in Estonia):

Emmaste Rural Municipality	0,8%	Pühalepa Rural Municipality	3,8%
Kärdla Municipality	14,1%	Käina	2,2%
Kõrgessaare	3,1%		

#### Technical Assistance

The investment project was prepared by the Ministry of the Environment with the involvement of stakeholders

#### Time of the application process

About 4 years including project planning

#### Positive aspects / remarks

Good cooperation between project partners

## POLAND

### Project I

Installation of 60 flat solar collectors (with the active surface of 2m<sup>2</sup> each) on the premises of the Social Welfare Home in Trzebiechów in order to reduce the costs of hot water supply. 5 buildings with ca. 250 inhabitants and users will be connected to the new source of renewable energy.

#### Project carrier

Powiat Zielonogórski (County Authorities in Zielona Góra), ul. Podgórna 5, 65-057 Zielona Góra

Beneficiary: Social Welfare Home in Trzebiechów

#### Project stage of development of the project

Project implementation has started with preparatory works for installation of free-standing collectors on the proprietor's land.

#### Financing scheme

Total project volume: 411.524,50 PLN

EU support: 220.042,15 PLN - 53,47%, though 75% originally applied for

European Regional Development Fund - Integrated Operational Programme for Regional Development 2004-2006 offering support to public entities

Priority 3: Local development; Measure 3.1: Rural areas

#### Co-financing

Voivodship funding: 41.152, 45 PLN - 10%

County Fund for

Environmental Protection: 150.329,90 PLN - 36,53%

#### Technical Assistance

Application prepared by an external company

additional technical support from the designer and the Technical Supervisor

**Time of the application process**

Ca. 7 months

**Positive aspects / remarks**

High probability to obtain financial support with the innovative project in a relatively new field of RES; involved assistance offered by the responsible employees in the Marshall Office, though lack of experience was noticeable.

**Project II**

Energy efficiency project: “thermomodernisation” of the Special Education Centre in Nowa Sól (modernisation of the heating system, replacement of old radiators and windows)

**Project carrier**

County Authorities in Nowa Sól, ul. Moniuszki 3B

**Project stage of development**

Construction works are in progress

**Financing scheme**

Total project volume: 1.150.150,00 PLN

Public Support (no EU funding): 393.548,00 PLN 50% applied for; 34,42% finally received from the own sources of the voivodship authorities

Voivodship funding (priority “Extension and modernisation of technical and social infrastructure”)

Equity share of Nowa Sól County: 777.257,00 PLN (67,58%)

**Technical Assistance**

No external consultation or support needed

**Time of the application process**

3 months

**Remarks**

This sort of energy efficiency projects have been multiplied in the region over the last few years. Practically all county-owned buildings have already been thermically modernised, however, none of them with use of SF funding!

**Project III**

Installation of 80 solar collectors of Swiss production on the roof of the social building with 192 residents and surface of 8000 m<sup>2</sup> for hot water supply

**Project carrier**

Social Welfare Home for War Veterans in Zielona Góra, ul. Lubuska 11

**Project stage of development**

Application in progress; Preparation of appropriate documentation

**Financing scheme**

Total project volume: 300.000 PLN

Public Support (no EU funding): 210.000 PLN 70% (75% was applied for)

Voivodship Funding

Co-financing

Fund for Environmental Protection

Municipal funding

Equity share: 90.000 PLN 30%

**Technical Assistance**

Private consultancy company PROEKO

**Time of the application process?**

Ca. 6 months

## ITALY

**Project I**

Installation of Solar PV modules

**Project carrier**

Province of Reggio Calabria; Confibus (Private Company from Catania)

**Project stage of development**

The Project is finished and operative.

**Financing scheme**

Total project volume: 163.000 EUR

EU-support: 108.000 EUR (74% of the total amount of the Investment)

Two types of Structural Funds, were received:

1. Regional tender: for the installation of 6kW of PV (80 modules)
2. Provinces tender: for the installation of 14 KW of PV (114 modules)

**Co-financing partners**

Province of Reggio Calabria

**Risk mitigation instruments**

No insurance was made. The installation of the PV modules was located on private property and only the owner of the land was able to use insurance.

**Technical Assistance**

Confibus (company of Enel - National Electrical Company)

**Time of the application process**

Six month after the start of the project the funds arrived.

Installation of the PV modules took six months.

**Remarks**

The dissemination of the Project created positive effects.

## **Project II**

Wind park in the National Park of Locride

### **Project carrier**

Eolo 21 - company formed by the National Park of Locride and 7 Municipalities.

### **Project stage of development**

Several technical environmental analyses were made and now the Official Plan of the Park presents the next steps of the Project, the installation of the first wind generator.

### **Financing scheme**

Project volume and size of investment

25 wind generators (approximately 20 Million euro)

### **Public Support** (no EU funding)

Funding under Law 488, the national instrument with which the Ministry of Industry distributes grants for investments to Italian companies.

50% of the total investment

### **Co-financing partners**

ICQ (Roma): 49%

7 Municipalities: 51%

### **Risk mitigation instruments**

Insurance

### **Technical Assistance**

No

### **Time of the application**

The monitoring of the interested site started 4 years ago.

### **Remarks**

Citizens participation as a positive aspect

## **4.1.) Case Studies of failed projects**

Exemplarily some projects, which didn't receive funding are introduced below.

### **Project example Slovak Republic**

Fuel switch towards wooden chips firing in municipal boilers with related biomass logistic system construction:

Modernization of 17 obsolete heating systems supplying 42 public facilities

### **Project developer:**

Friends of Earth - Centre for Environmental Public Advocacy (FoE-CEPA)

Friends of the Earth - CEPA is a civic association, not-for-profit non-governmental organization with its headquarters in Ponicka Huta, Central Slovakia. Its objectives include protecting the environment, promoting environmental, social and economic justice, pursuing the development of democracy and open civic society; supporting sustainable development of the regions and strengthening effective participation of citizens in decision-making processes linked with public interest issues.

**Project applicant:**

Bioenergia Bystricko, Association of 9 municipalities and FoE-CEPA

Bioenergia Bystricko was established with the objective to access financing from EU funds for 9 municipalities in the Banská Bystrica region in central Slovakia.

**Stage of development of the project / company?**

Project was submitted to the Ministry of the Environment as managing body of EU funds. Project was approved, although without financial support allocation. Project's construction phase hasn't started yet.

**Financing scheme**

Total project volume: 4.607 Mio EUR: 75 % ERDF + 20 % state + 5 % municipalities

EU support applied for: 160 687 381.40 SK (95% of all eligible costs)

Operational Programme Environmental Infrastructure

Measure 2.2. - Improvement and development of infrastructure for climate protection

Provider: Ministry of Environment of the Slovak Republic

Implementing agency: Ministry of Environment of the Slovak Republic

Measure is funded by the State Budget of the Slovak Republic and European Reconstruction and Development Fund.

**Reasons for failed project implementation**Time of application preparation

Process of project preparation took 2 years. Convincing the mayors and municipality representatives (municipal council) to be involved in the project, designing suitable consortium eligible for EU funds application, ensuring financing of project preparation phase and mainly administrative requirements and building permits ensuring took longer time than expected, what resulted in delayed project application very close to the closing date of the opened call of the financial scheme.

While all project proposals had been evaluated continuously in the order they were submitted, budget of the measure was already spent at the time, when the project was approved by the Ministry of the Environment. The project was shifted in to a projects proposals reservoir for the next EU programming period.

Main problems encountered during the project preparation phase

- To convince the mayors and municipality representatives (municipal council) to be involved in project (municipalities have not any experiences with biomass heating on communal level, fossil fuels utilisation have very long tradition in region, while it was cheap (brown coal), steady and comfortable supply (natural gas)
- Unsteady public awareness in some villages - some residents have been afraid of fuel (wooden chips) shortage during the heating session
- To design suitable consortium eligible for EU Funds application
- Ensure financing of project preparation phase (e.g. costs on energy audit in each municipality (only 5 000 SK / 132 Euro per municipality) became a problem in some municipalities), nevertheless total project costs was 4.607 MEUR (75 % ERDF support + 20 % state support + 5 % municipalities co-financing)
- Overcome personal barriers (distrust, competitiveness between local NGO and municipality)
- Ensure project 5% co-financing through bank loans for municipalities
- To design economically feasible fuel supply (wooden chips) and storage and routes
- Lack of similar examples on national level
- Lack of municipal capacities to cooperate on adequate level

- Legal obstacles (uncertainty in ownership of properties)
- Relatively large area covered by the project
- Difficulties in facilitation of partnership dialogue among many partners

#### Main drawbacks of the bundled project

- Association was not able to exactly specify the technical costs on project implementation
- Project is not economically feasible without public support mainly due to complicated fuel logistic and storage (wooden pallets would be more suitable in this point of view, but are almost 4.5 times more expensive fuel)
- Municipalities have insufficient budget for running the project without public support.
- Recommendations or wishes for the next program period
- higher transparency in process of projects submission and evaluation
- not to support biomass co-firing with coal in large heat plants, prefer biomass utilisation in rural regions
- not to support projects causing environmental damages
- only partial investment support instead of full financing
- enable support for regional energy planning

#### Project example - Czech Republic

##### Solar PV Park Oznice

The project consists of a development of a large grid-connected solar PV park in locality Oznice near Valašské Meziříčí in the Zlín Region.

The total capacity is approx. 1,6 MW and estimated electricity production 1,6 GWh/year.

One of the main reasons is improved economy of grid-connected solar PV systems due to rather high feed-in tariff for solar PV electricity which is currently 13,2 CZK/kWh (approx. 0,47 EUR/kWh).

##### **Project applicant**

The project application was developed by the company 4Europartners, s.r.o. which is a specialised consulting company focusing on development of projects and applications for support from EU funds

##### **Project stage of development**

The application for support was submitted within the 3<sup>rd</sup> Call of Operation Programme infrastructure.

##### **Financing scheme**

EU support applied for: Operation Programme infrastructure (2004 - 2006), Measure 3.3.

##### **Reasons for failed project implementation**

Project not eligible under the national framework.

The project size and requested amount of support were too large for the funds available from the 3<sup>rd</sup> call of Operation Programme infrastructure. Therefore preference was given to smaller projects and the project application was put into "project incubator" from which projects will be selected for support from the new Operation Programme Environment for the period 2007-

2013.

The other problem was of technological nature - due to high demand for PV panels at the market it proved to be problematic to get the solar PV technology (panels) of requested parameters in the time that would be allocated for implementation of the project after approval of support.

### **Project example Latvia**

Development of Aluksne District heating system

Project proposal included energy efficiency measures in all parts of district heating system - reconstruction of five existing boiler-houses, renovation of distribution networks and heat sub-stations.

#### **Project carrier**

Joint-stock company "Simone"

Address: Parka Street 2, Aluksne, LV-3401, Latvia

#### **Financing scheme**

Project volume: 976.000 EUR

EU support applied for: European Regional Development Fund (ERDF)

#### **Reasons for failed project implementation**

Aluksne City Council could not provide financial support to Joint-stock Company „Simone“ due to the problems encountered regarding ownership of the district heating systems. Though “Simone” is company owned by the Aluksne City Council, state institutions evaluating the project proposal excluded all such companies from further evaluation (this is the case as well of other cities). The main argument was that DH system in the Land office was reported on the name of this organisation and not to Aluksne City Council.

Guidelines include several limitations that limit the participation of many cities (ownership issue).

In a late policy change EU-funding was limited to public institutions, although the guidelines stated that public and private organisations could apply. In many municipalities, where the district heating system is operated by private companies

#### *Cogeneration plant reconstruction LV*

Until then the DH of the Kraslava belonged and was maintained by a private company from which Kraslava City Council was buying the service.

In this case Kraslava City Council had to buy the DH system from this private company and to prepare all the necessary documentation. This took a lot of time, energy and resources that still limits the participation of other cities where private companies are maintaining the DH systems.

Aluksne City Council could not provide financial support to Joint-stock Company „Simone“ due to the problems encountered regarding ownership of the district heating systems. Though “Simone” is company owned by the Aluksne City Council,

The main argument was that DH system in the Land office was reported on the name of this organisation and not to Aluksne City Council.

#### *District heating system (LV)*

To apply this project for Cohesion Funding, Ministry of Finance has to bring changes in Latvian Single programming document according to legislative framework for Cohesion Funds, thus allowing projects related to air protection (reduction of sulphur emissions) apply for CF.

### **Project example Lithuania**

Construction of 5 MW biofuel boiler in Jurbarkas district

#### **Project developer**

AB KAUNO ENERGIJA (regional district heating company, more information [www.kaunoenergija.lt](http://www.kaunoenergija.lt)), Raudondvario pl. 86, Kaunas, LITHUANIA

#### **Financing scheme**

Total project volume: 1.04 Mio EUR

EU support applied for: 0.52 Mio EUR from ERDF

Project proposal was submitted, but wasn't approved. No clear reasons for the elimination of the project in evaluation process were given.

In comparison with other projects, the size is normal and follows the National energy strategy or EU directives for using renewable energy resources.

#### **Recommodations from the project developers**

##### Directed at administration bodies:

- to reduce administrative demands on the applicant
- extent the period between call publication and submission deadline
- increase the publicity of the call
- simplify project application forms
- give the project applicant chance for clarification after submission deadline, e.g. to deliver missing administrative bureaucratic confirmations after deadline
- radically shorten the period of project proposal assessment. Applicants from private sector cannot afford to wait with the project application till finishing the decision making process (sometimes almost 1 year!)
- Preference to open calls for proposal than only one call with tight deadline.
- increase the awareness implementing body's staff (Ministry of the Environment) about the technical aspects of the projects.
- Faster Decision making process in all administrative bodies
- Reduce time of evaluation leads to higher costs when the project is approved.
- have deadlines for project assessment finalisation also for implementation body;
- have deadlines for financial transfers in frame of project financing with support from EU funds;
- The whole project cycle should be much shorter. Otherwise it is very difficult to allocate funds from the municipal budgets in the middle of the year to cover the share of own contribution if the expenses had not been planned for the budgetary year.
- to set the rights of recovery in case of being behind the schedule of financial plan, also for implementation body and payment unit;
- Clear answer and motivation for elimination of projects

##### Directed at project developers

- Involvement of competent consultants both during the preparation and implementation of the project
- Projects of such scope should be managed by very good and experienced project managers and coordinators.
- The shares of contributions of involved co-funding partners should be planned and agreed well in advance to avoid the situation where, when time comes, some municipalities fail to meet their obligations either due to low budget or the fact that they have exceeded their investments or loan limits.

- Seek public discussion before and during the project implementation
- Seek for active involvement of local inhabitants
- Public communication and dissemination at all stages of the project
- Disseminate successful implementation of RES projects and collect projects ideas for the next funding period

## **5.) Recommendations for the new program period 2007-2013**

The new EU-funding period from 2007-2013 mentions improving energy efficiency and developing renewable energies as two of the convergence objectives within the European Regional Development Fund (ERDF). Stimulating energy efficiency and renewable energy production are also mentioned as objective for competitiveness within the ERDF. Within the Cohesion Fund (CF), aims at “areas to be developed on a sustainable basis and with clear environmental benefit in the fields of energy efficiency and renewable energy. Hence there are great opportunities for RES. The distribution of the funds need to exercised in a smart way. As shown in the analysis above, barriers can be removed by adopting regulations, which take the characteristics of RES into consideration.

According to Peter H. Ungar, EC Dir. - General Regional Policy, the commission clearly communicates, how the countries should go about it:

- Do not understand SF as a mere financing, but as a strategic development instrument
- Integrate energy priorities and operations into the overall program
- estimate and justify financing gaps
- consider modern forms of financing (incl. PPP) and contracting

### **5.1.) Developing financial tools to broaden access to SF**

As shown above, a crucial factor for accessing EU funds, is the ability of financing the first stages of the project. In the pre-feasibility phase it is most difficult to obtain the necessary capital required in order to get a project off the ground.

#### **5.1.1.) A Revolving Fund to provide Seed Capital**

One solution to provide finances for the initial phase of a project, might be the creation of a Revolving Fund. But there are a number of issues that need to be considered when assessing the potential for Revolving Fund. One important factor is that for a Revolving Fund to be established and to remain viable then the support of the government and it’s administration is critical.

The agency or institution that is responsible for the establishment of the fund will need to have the capacity to properly assess project proposals at a very early stage and needs to be able to form a strong network of people and associated information. Ideally, the administrative requirements should be as slim as possible. Looking at past experiences with EU and other Public Funds, it seems to be very difficult to create such a fund.

Another danger of such a fund is, that it’s creation might lead to market distortion. Usually revolving funds are an adequate tool, when the conditions in the commercial banking sector are unfavorable. But in the past few years, the lending sector in the New Member States has been able to offer good conditions.

Some examples of Revolving Funds show how they can be structured and managed in order to work.

## 5.1.2.) Review of Previously Implemented Revolving Funds

### Thailand's Energy Efficiency Revolving Fund

#### Investors/Finance Sources:

The Energy Conservation Promotion Fund (ENCON FUND)

ENCON Fund receives a tax of USD 0.001 per litre on all petroleum products sold in Thailand

#### Type of Project (technology/size):

Energy efficiency projects up to USD 1.25 million each, from total fund pool of USD 50 million

#### Models and Design:

The authority in charge of the Fund is the Department of Alternative Energy Development and Efficiency (DEDE).

The initial amount allocated to the fund is USD 50 million

Funds are only released from the ENCON Fund to the Revolving Fund as each bank is required to meet loan drawdowns.

Banks are responsible for most aspects of the lending process for the Revolving Fund

1. Feasibility study
2. Financial analysis
3. DEDE assesses the project and decides whether to approve
4. If approved, the bank considers and approves a loan and submits a disbursement and repayment plan to DEDE.
5. The borrower uses funds to invest in/implement energy efficiency project
6. The borrower makes repayments of loan principal and interest to the bank, and reports to DEDE on energy savings. Within 7 days of receiving a payment, the bank repays principal amount to DEDE. DEDE then returns funds to the ENCON Fund.

Participating banks are required to make monthly reports to DEDE on the status of the loans

Although recycling of repayments was initially anticipated, this has not yet been implemented, and all repayments return to the ENCON Fund.

#### Terms & Rates:

Funds provided to the banks at a 0.0% interest rate.

Banks provide funds to proponents at a fixed interest rate of no more than 4.0% per annum.

Depending on the customer's history and relationship with the bank, it may be offered as low as 2.7%

The maximum loan is USD 1.25 million per project

Late repayments from banks to the DEDE from defaulting project proponents attract a 14% interest rate (though in practice the bank would simply use other funds to avoid paying interest)

If a project proponent defaults on a loan made under the Revolving Fund, they face an interest rate of up to 7.5% per annum payable to the bank.

The bank will use all normal debt recovery procedures.

#### Repayments:

DEDE must repay Energy Efficiency revolving fund (total USD 50 million) within 10 years to the ENCON fund

#### Risk Mitigation Instruments:

Collateral - Land, buildings, equipment.

#### Project Eligibility:

Projects which implement „energy conservation“ as defined in ENCON Act

See Sections 7 and 17 for further definition.

Flexibility in defining what constitutes a project (may include several separate energy efficiency measures, or just one measure)

#### Eligible Parties:

Owners of any commercial or industrial facility, with capacity to repay.  
Third Parties, such as ESCO's are eligible, but may find it difficult to attract loans due to lack of collateral.

Advantages of the Fund:

Simple and straight forward financing model which does not rely on any factors unique to the situation in Thailand  
essentially requires - the fund, bank involvement, financing model, and loan application assessment  
Loans are processed by the banks  
Outsourcing of the administration of the Revolving Fund to the banks has expedited investments in energy efficiency projects.  
Attractive to governments - they carry no risk. Major risk on the project proponent and small risk on the banks  
All loan principal is repaid to the government.  
Repaid loan principle available for recycling into new loans

Disadvantages of the Fund:

DEDE should *set guidelines*, and then let outside parties be responsible for the implementation of the program  
Providing loans to applicants who lack collateral

Source / Further Information:

[www.reeep.org/media/downloadable\\_documents/ 8/p/APEC%20-%20EE%20Revolving%20Fund%20-%20Thailand.pdf](http://www.reeep.org/media/downloadable_documents/8/p/APEC%20-%20EE%20Revolving%20Fund%20-%20Thailand.pdf)

## Cascadia Community Loan Fund - Part of the Cascadia Revolving Fund

Investors/Finance Sources:

- Loan capital comes from approximately 245 investors, 80% of whom are individuals
- Local and National Banks
- U.S. Treasury's Community Development Financial Institutions Fund

Type of Project (technology/size):

- Typical borrower has one or more weaknesses that prevent it from accessing traditional bank financing
- Businesses owned by low-income people, women, minorities, and immigrants
- Child care businesses
- Businesses that create family-wage jobs in low-income communities
- Businesses in rural communities
- Nonprofit community building organizations
- Cooperatives
- **Businesses that work to preserve or restore the environment.**

Models and Design:

- The maximum amount for a term loan is \$500,000

Terms & Rates:

- Loan interest rates are fixed and are generally higher than bank rates.
- Loan terms range from one to five years, although certain loans can be amortized for longer periods.

Risk Mitigation Instruments:

- Collateral is usually required, although Cascadia's requirements are more flexible than those of commercial banks.
- Solid business plan with financial projections and an explanation of your business management skills and industry experience.

#### Project Eligibility:

- includes but not restricted to:
  - equipment and inventory
  - working capital
  - building improvements
  - debt refinancing

#### Eligible Parties:

- start up companies not eligible
- at least 6 months of operating required

#### Further Information:

- <http://www.cascadiafund.org/generalinfo.html>

## Ohio Energy Efficiency Revolving Fund

#### Investors/Finance Sources:

- The Loan Fund is financed through a fee on the electric bills of the customers of the investor-owned utilities in Ohio:
  - AEP (Columbus Southern Power and Ohio Power);
  - Cinergy (Cincinnati Gas and Electric);
  - First Energy (Cleveland Electric Illuminating, Ohio Edison and Toledo Edison);
  - Dayton Power and Light; and
  - Monongahela Power.

#### Models and Design:

- The utilities will remit the funds collected from their customers to the Ohio Department of Development on a quarterly basis.
- By 2011, the fund is expected to reach \$100 million. At that point, the riders will be eliminated.
- Banks are authorised by the treasurer of the state to participate in the loan fund

#### Terms & Rates:

- interest rates as low as half the standard bank interest rate
- For residential projects, minimum loan of \$500, maximum of \$25,000.
- For business projects, minimum of \$5,000 maximum of \$500,000
- Maximum term 8 years.
- The Loan Fund's actual participation is at 50 percent of these loan amounts (but the bank is able to provide more)

#### Project Eligibility:

- Various specifications and approval stages in place to ensure that proposed energy efficiency projects meet requisite specifications
- Is improving the energy efficiency of a one to three family residential building
- Project must be implemented within the State of Ohio

#### Eligible Parties:

- Customer of a participating Ohio electric utility
- Permanent resident of State of Ohio

## Energy Management Revolving Fund. Edmonton Alberta's Energy Management Revolving Fund

### Investors/Finance Sources:

- City of Edmonton
- Established in 1994 from budget surplus

### Type of Project (technology/size):

- energy efficiency projects such as lighting, heating, cooling and ventilation system upgrades
- The fund started at \$1 million in 1995 and stood at \$30 million in 2002

### Models and Design:

- loan size typically \$100,000 -\$200,000 (Canadian)
- 1.5-4.8 with an average combined simple payback of 2.9 years.
- Loan repayment is calculated during the application process.
- The interest charge is equal to the city's short-term interest rate for the previous year.
- A fixed repayment schedule is calculated over five years, with the option of early repayment.

### Terms & Rates:

- interest rates 5-7%

### Risk Mitigation Instruments:

- Meet 5 year payback threshold, possibility of 8 year on exception basis

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