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Bulgaria: Local Sustainable Energy Project
Final report

Energy for Sustainable Development Ltd, UK.

ESD – Bulgaria Ltd.

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GLOSSARY

DFID	-Department for International Development of the United Kingdom
DSM	-Demand Side Management
EE	-Energy efficiency
EEA	-Energy Efficiency Agency (formerly the SEEA, State Energy Efficiency Agency)
ESD B	-Energy for Sustainable Development Bulgaria Ltd (Bulgaria-based company)
ESD UK	-Energy for Sustainable Development Ltd (UK-based company)
LSEP	-Local sustainable energy planning
MEER	-Ministry of Energy and Energy Resources
MoEW	-Ministry of Environment and Water
MoRD	-Ministry of Rural Development
MoU	-Memorandum of Understanding
NFEP	-National Fund for Environmental Protection
NGO	-Non governmental organisation
NHF	-Know How Fund, UK DFID
RES	-Renewable Energy Sources
SAFIRE	-Strategic Assessment Framework for Implementing Rational Energy (see Section 2)
SC	-Steering committee
SEEA	-State Energy Efficiency Agency (ceased to exist in December 2001)
USAID	-United States Agency for International Development

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1. Executive summary

The Government of the United Kingdom, through the Department for International Development (DFID) financed the Bulgarian 'Local Sustainable Energy Planning' (LSEP) Project between November 2000 and March 2002. The project worked with the former State Energy Efficiency Agency (SEEA, now the Energy Efficiency Agency under the Ministry of Energy and Energy Resources - MEER), key national stakeholders, the Region of Kustendil and three municipalities in that region (Kustendil, Kocherinovo and Sapareva Banja). A team of UK and Bulgarian specialists worked with these municipalities to develop a clear, full understanding of past and present energy supplies, utilisation and costs in all sectors (household, government, commercial, etc.). They examined ways to improve energy efficiency and to develop local energy resources to meet local priorities (employment, investment, revenue generation, education, etc.), and identified projects and interventions to meet those priorities.

Local sustainable energy action plans were developed in each of the three municipalities. These plans were based on the large number of potential projects in each municipality that were identified through the local planning and stakeholder participation process. Five projects were selected for implementation in the near term – two each in Sapareva Banja and Kocherinovo, and one in Kustendil Municipality. These projects are currently being investigated further and are due to be funded both locally by the Kustendil Municipality, and with part-funding from the USAID Electratec Fund.

The action plans, and the projects identified during the development of them, represent the first local energy planning in Bulgaria. The whole process of involving local stakeholders (businesses, government officials, non-governmental organisations (NGOs), households, teachers, parents, etc.) in defining their current energy use, and then examining how that energy use could be improved, either through improved efficiency, or through new investment in renewable energy resources, has provided an important stimulus to local development. The process, which also involved key national stakeholders (including financial institutions) clearly demonstrates that local sustainable energy planning works, and that it can be used to meet local development needs throughout Bulgaria.

This is particularly important and timely in light of the recent changes in Bulgaria's energy legislation, and the requirement now placed upon regional and municipal authorities to develop local energy plans, and to focus on energy efficiency and renewable energy investments. It fits with the Government of Bulgaria's efforts to promote decentralised planning and management of resources and it certainly fits with the interests of Bulgaria's 28 regions. All but two of these regions submitted proposals to participate in the DFID-funded LSEP Project. Many participated in the two national local sustainable energy planning workshops (February 2001, December 2001), and all have indicated that they wish to utilise the results in their own regions.

In this project, the ESD/ESD B team worked with the State Energy Efficiency Agency (now Energy Efficiency Agency, Ministry of Energy and Energy Resources). It provided LSEP training to staff, and worked with them in the Kustendil Region during the course of the project. The new Energy and Energy Efficiency Act Amendment of December 2001 places great emphasis on the Ministry of Energy and Energy Resources (and the EEA) to support and provide assistance to local authorities for local energy planning, and investments.

The LSEP team strongly recommend that the results of this project be disseminated widely, and that a follow-on activity, working with four new regions and the Ministry of Regional Development, be undertaken as soon as possible (Annex 5). The LSEP project has demonstrated that, even with relatively few managerial and technical resources, with limited funding and national support, local authorities can make significant improvements in their own and their citizens' well-being by using the LSEP approach. By understanding their energy systems, by improving the way they utilise energy, and by investing in new renewable energy resources, local authorities can generate revenues, create employment, reduce energy imports, and meet environmental objectives.

2. Introduction

This section starts by providing a background to the project as whole, and the reasons why the project was proposed. It goes on to outline the objectives of the project, the project team and the approach taken for local sustainable energy planning.

2.1 Background

Bulgaria's energy situation is dominated by the legacy of forty years of central planning. During this period energy was cheap, as all energy infrastructure was owned and managed by the state and energy prices were heavily subsidised. Consumers tended to use energy without regard to efficiency and had little economic incentive, or legal freedom, to develop local renewable energy supplies.

Bulgaria emerged from central planning in 1989 with little capacity to adapt to the new international energy order it found itself in. Government, at all levels, was unprepared to deal with the commercial and technical realities of the energy sector and liberalised energy markets of the post-centrally planned era.

In the mid-1990s, while subsidies on heat, electricity, gas and petroleum supplies were being reduced, central government also handed over the responsibility of providing energy for public properties and facilities (schools, hospitals, clinics, public buildings, district heating) to local authorities. However, this was not accompanied by a transfer of either the finance or skills necessary to handle these new responsibilities. Consequently, local authorities were forced to take on the costs and operations of most publicly owned property without the skills to manage them, or the revenues to pay for energy supplies. Without the necessary support, skills and capacity for planning, most local authorities suffer from continuing energy crises.

However, the political and legislative framework exists to provide local authorities with the legal authority to address these issues and to meet these demands. The Local Government Act of 1995 provides local governments with considerable power to engage in all types of economic activities, allowing them to allocate earnings from such activities to meet local needs. The Energy and Energy Efficiency Act of 1999 also promotes the active involvement of local authorities to invest in energy efficiency, on the one hand, and the right and authority to develop local energy resources on the other.

Furthermore, the Energy and Energy Efficiency Act Amendment of December 2001 grants far more powers to local governments, and clearly places the responsibilities of energy planning at a local (regional and municipal) level. The law allows local energy suppliers to generate electricity and heat and sell it to third parties ('third party access') and enshrines the liberalised energy market policy of 'willing buyer, willing seller' which permits any energy supplier to sell their heat or electricity at prices agreed with buyers. At a time when local authorities and investors have unprecedented opportunities to develop their own plans, make their own investments, generate their own revenues and make savings in energy, they lack the most basic technical, managerial, financial and legal skills to take advantage of this new situation.

The Bulgaria Local Sustainable Energy Planning Project (LSEP) was designed on the premise that, given these changing circumstances in Bulgaria's energy economy, considerable scope exists for local authorities both to meet these new challenges, as well as to profit from them. They have the ability to reduce energy consumption, and thus energy expenditures, at low cost, on the one hand, and to promote and develop renewable energy resources to generate revenues and new investment opportunities on the other. Investments in energy efficiency could enable them to free up finances and resources to invest in social services and other activities. Bulgaria is rich in renewable energy resources (especially geothermal, biomass, hydro and solar), and there are numerous opportunities to develop these local renewable energy resources, both to substitute imported energy supplies, as well as to provide new sources of revenue, economic activity and employment.

The designers of the LSEP project recognised that a better understanding of local energy demand and supply options needed to be obtained if local authorities were to realise the potential for energy savings and renewable energy investments. As well as understanding the opportunities for local sustainable energy development, they also needed to understand the benefits (e.g., employment, rural development, income generation, revenue generation) and costs (finance, new management systems,

etc.) associated with such development. A key element to the success of local sustainable energy planning is the need to develop planning skills and capacity to manage local energy sources at a local level. These were major elements built into the LSEP project.

Of the many planning skills required by local authorities, one of the most important is how to involve and mobilise local stakeholders in the planning process, and obtain local support for new energy policies, plans and investments. Understanding local priorities, needs and aspirations, such as issues of employment, health and education must be taken into account in order for a plan to be successful. This aspect of planning was a key focus of the project.

In recent months, there has been further strengthening of the regulatory framework for Local Sustainable Energy Planning. In December 2001, an amendment was made to the 1999 Energy & Energy Efficiency law, which requires regional and municipal administrations to:

"…annually develop and update respectively regional and municipal programs to increase the energy efficiency of commercial energy users and in the buildings in the social and domestic sectors, as well as for the utilized of RES by them on the territory of the respective region or municipality." – Article 143, State Gazette No 108/14 December 2001

Thus, regional and municipality administrations across Bulgaria now have a statutory duty to perform many of the core activities of this project. This new framework makes the results of this first local energy planning project in Bulgaria of major national importance. The lessons learned, the experiences gained, the planning and participatory process developed under this DFID-supported local sustainable energy planning project will prove to be of enormous importance for other Bulgarian local authorities at a municipal and regional level to meet the new legal and market demands of Bulgaria. As Bulgaria moves towards accession with the European Union, as it aligns its policies with the EU, and as it liberalises its economy and politics, strengthened local planning, management and investment capabilities will be essential.

The LSEP project has demonstrated that these skills and capabilities can be developed relatively quickly and relatively inexpensively. Energy efficiency and renewable energy projects were identified in each of the three municipalities, and five projects are currently being developed for funding. This has taken place late in the project. Because of that, it is not possible to evaluate the economic, financial and other impacts of these projects. However, it shows clearly that the LSEP process can lead to concrete projects and interventions with considerable potential to meet local stakeholder needs and priorities.

All this means that the experience of the project is now more relevant than ever to Bulgaria. Being able to turn to practical and successful local energy planning through the LSEP Project should provide government and local authorities with some clear guidance on how to proceed with the new local plans. The LSEP project provides concrete examples for the rest of the country of how to mobilise both local interest and resources for developing plans, and funding for financing key priorities identified in the plans.

2.1.1 The pilot region: Kustendil

Part of the South-western Planning Region of the Republic of Bulgaria, the **Region of Kustendil** includes nine municipalities and 186 populated areas, the largest of which are the municipalities of Kustendil and Dupnitsa. In addition, there are five other small towns, plus many villages. The region covers an area of 308,430 km^2 and has a population of 170,559 inhabitants. Two thirds of the population live in the region's urban areas, while the remaining third inhabit the region's villages, and rural areas.

At present, the processing industry represents a high proportion of the region's economy, along with agricultural activity, especially fruit farming, and other industries such as forestry, the construction industry and the service economy. However, the region faces a range of social and economic threats, including the increasing emigration of the young population to larger towns like Sofia; unemployment relating to the decline of the coal mining and other major industries and a current lack of capacity among private farmers for cooperation, improvement of technical resources and modernization of agriculture.

Figure2.1: Regional map of Bulgaria

Kustendil Region has a great number of positive attributes. Its strong historical, ecological and cultural heritage means that cultural and other tourism is seen as an area with great potential for the future development of the region. The region's hot mineral water springs are also a key natural resource for the development of tourism, along with the region's mountainous landscape, and fishing and hunting opportunities.

The three pilot municipalities were:

Kocherinovo, which covers 181.7 km2 and has a population of 6246 people. The main town of Kocherinovo has 2695 inhabitants, with the remaining population occupying the ten villages in the municipality. Kocherinovo is located close to the famous Rila Monastery and the municipality is keen to maximise the benefits of this location by exploring the possibilities for further tourism within the region.

Kustendil, which covers an area of 923 km^2 and accounts for 30.21% of Kustendil Region's population. The municipality covers 72 populated areas, within which there is the main town of Kustendil and 71 villages.

Sapareva Bania, which covers 181hectares, the Sapareva Bania municipality has a population of 9398, of which 4573 people are living in the main town of Sapareva Bania with 4825 populating the four villages o f Saparevo, Ovcharci, Resilovo, Paniciste.

2.2 Goal, purpose and outputs of the project

The goal of the LSEP project was to increase energy efficiency in Bulgaria. The purpose of the LSEP project was to improve the ability of local authorities to plan and implement measures for improvement of energy services and develop sustainable energy projects.

The most important outputs of the project were to:

1. Increase the ability of local authorities in the pilot region (Kustendil) to plan and implement measures to improve energy services recognising the needs of all stakeholders.
2. Develop frameworks for local authorities in the pilot region (Kustendil) to have a framework for developing and implementing priority measures to improve energy services.
3. Increase the capacity and skills of the State Energy Efficiency Agency (SEEA, now the Energy Efficiency Authority under the newly-created Ministry of Energy and Energy Resources) to support and train local authorities in sustainable energy planning.
4. Put in place a framework and operations for the EEA to expand energy planning abilities to local authorities nation-wide, including a plan for monitoring and evaluating energy plan impacts.
5. Work with the EEA to understand the remaining legal/institutional barriers to promoting renewable energy and possible actions to address these.

2.3 Project team

The composition of the project team is presented in figure 1.2 below. Energy for Sustainable Development Ltd (ESD) was responsible for the overall management of the project. ESD Bulgaria managed the project on a day-to-day basis and was the main point of contact between the municipality stakeholders and the rest of the project. ESD Bulgaria also performed much of the technical analysis although their capabilities were supplemented a team of Bulgarian experts, with expertise in law, computer modeling (SAFIRE), environmental planning, finance and economics.

The State Energy Efficiency Agency (now EEA) was at once a project partner and a recipient of many of the skills, knowledge, hardware and software, transferred in this project. Their role as partner refers to their project management function principally through their involvement with the Steering Committee (see below). Their role as a recipient refers to the project outputs 3, 4, and 5 outlined in section 1.1.

Other government and non-governmental bodies, in addition to local authorities, participated principally through the LSEP Project Steering Committee. The Ministry of Environment and Water and the Ministry of Regional Development and Public Works participated actively on the Steering Committee and provided input and guidance on various aspects of the project's work. Both DFID and the European Union Delegation to Bulgaria also participated, and provided guidance and support to the team. The National Association of Municipalities sat on the Steering Committee and helped disseminate the results of the project to their members throughout Bulgaria.

At the onset of the LSEP Project, all regions in Bulgaria (except Sofia) were invited to bid to participate as the pilot region. They were given certain criteria to meet, which included agreement by at least three municipalities to participate in the project. The Steering Committee selected Kustendil Region, in south-western Bulgaria (on the Macedonian border) for the pilot region. Kustendil, Sapareva Banja and Kocherinovo Municipalities actively participated in the project.

A Steering Committee, comprising representatives from relevant government ministries and from the local and regional authorities in the pilot region was established at the beginning of the project. The members of the Steering Committee are listed in table 1.1 below.

Figure 2.2: Key organisations involved with the project and main linkages

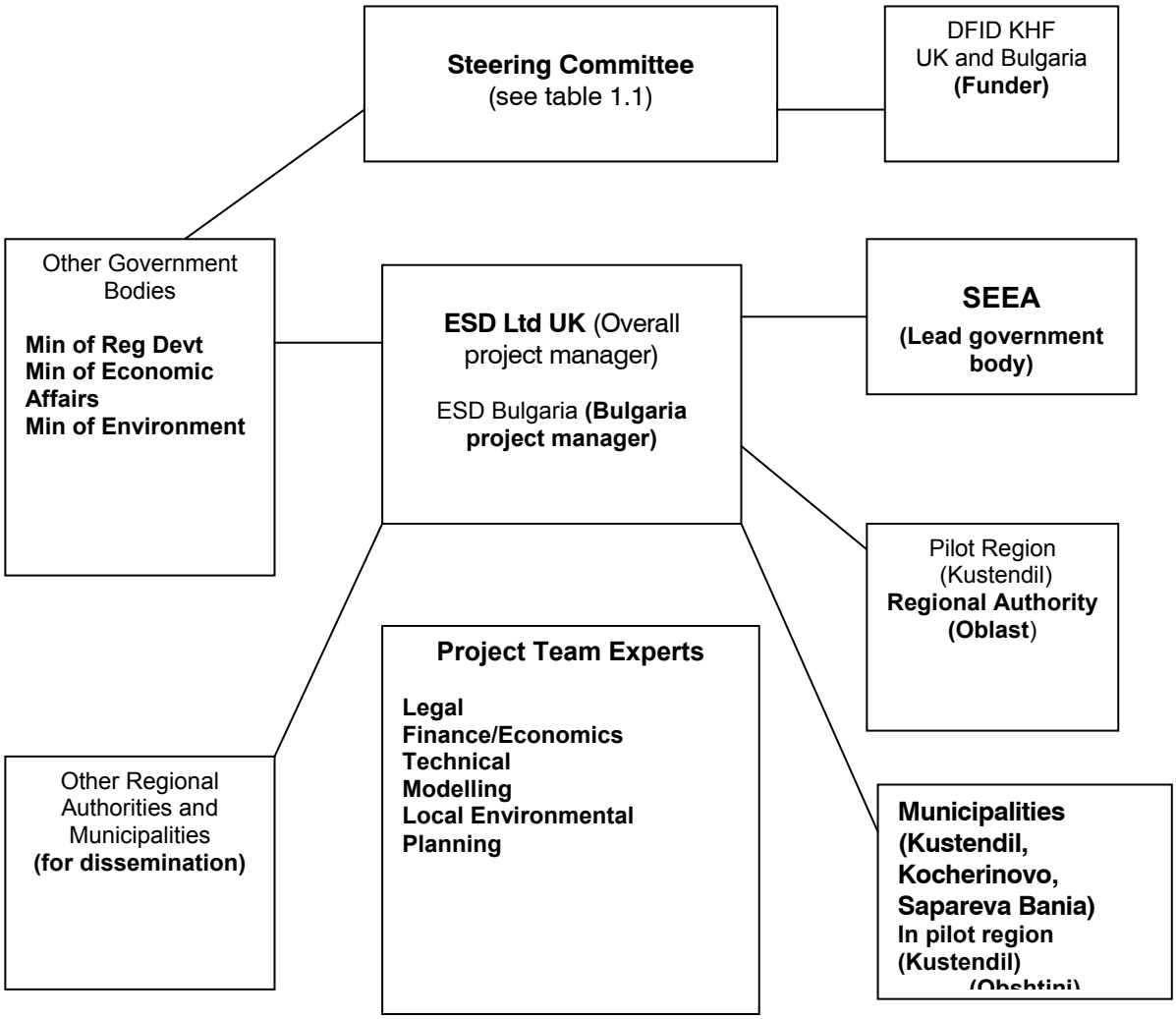

Table 1.1 Members of the Steering Committee

Chairman	Mr. Drumi Drumev	SEEA (now EEA)
Vice Chairman	Mr. Metodi Konstantinov	SEEA (now EEA)
Administrator	Mr. Kolio Kolev	SEEA (now EEA)
Members:	Mrs. Sylvia Stoinova (up until December 2001) Marina Faldjyiska (from December 2001)	Representative of DFID
	Mrs. Milena Todorova	MOEW
	Mrs. Julia Stefanova	NAMRB
	Mr. Toma Georchev	SERC
	Mr. Dobrin Oreshkov	ME
	Mr. Hristo Dimitrov	MRDPW
	Mr. Massimo Mara	EU Delegation in Sofia
	Mrs Neviana Negrevska	Kustendil region

2.4 The LSEP project approach

During the course of this project, the project team initiated a planning process in the pilot municipalities which was intended to be 'sustainable' in the widest sense of the word. An important part of achieving the 'sustainable' mandate was to focus on what are commonly referred to as sustainable energy technologies and practices. These are principally energy efficiency and renewable energy. But equally importantly, the project also focused on local planning capacity building. This is a crucial element of 'sustainability' because the planning process must be adopted locally, and must continue beyond the life of an externally-financed and supported project. It must become a normal part of the municipalities planning activities. This section outlines the key steps to energy planning, as employed in the LSEP project.

Local sustainable energy plans have been developed and are now being implemented in each of the pilot municipalities. The plans were developed through five sequential steps:

1. Raising awareness of local energy demand, source and costs.
2. Identifying local needs and priorities and defining how sustainable energy (energy efficiency, demand side management and renewable energy) can meet them.
3. Developing the information and data necessary to identify opportunities to change energy use patterns and opportunities for investments in renewable energy resources.
4. Developing local sustainable energy action plans that provide local authorities, local stakeholders, potential investors and financiers, and national authorities with clear areas for intervention.
5. Mobilising local, national and even international resources to make the interventions and investments in sustainable energy to meet priority needs.

Each of these steps is considered in greater detail in sections 2.3.1 to 2.3.5 below

2.4.1 Raising local energy awareness

Few local authorities truly understand where their energy sources come from, how much they cost, what effects they have on the local economy and environment and what, if anything, they can do to improve or change their energy utilisation and supplies. The first step in the LSEP approach is to bring together all key stakeholders to discuss the role energy plays in their lives, and to begin the process of determining how that use and supply can be improved to enhance people's livelihoods and environment. The project achieved these first steps through a series of stakeholder meetings in which the objectives of the project were discussed, and an initial review of the local energy situation was undertaken.

2.4.2 Tying local needs and priorities to LSEP

As part of the process of raising local awareness of energy, the team worked with local stakeholders to identify and define local needs and priorities. Experience elsewhere shows that unless energy use and energy supply changes address local needs and priorities, there is little potential for changing the way people supply and use their energy resources. Only when people see energy as a means to address key issues such as employment, education, health, social security and the local environment, do they begin to search for ways to use energy, either through better use of existing supplies, or through new supplies, to meet and address those needs and priorities.

The team initiated its work in the Kustendil Region by consulting with a range of local stakeholders in the region and in each of the three municipalities, in order to identify their needs and priorities. The team then systematically worked with these stakeholders to define how energy could meet those needs.

2.4.3 Developing local energy and energy resource data and information

A key principle in successful local sustainable energy planning is that people understand energy demand and supply not only in general, but in very specific terms. This requires them to build up a good quantitative and qualitative picture of energy supply and demand, and the costs and benefits of that.

Local energy data and information were virtually non-existent in the Kustendil Region and the three municipalities. Information on energy costs was dispersed, and no-one had ever really focused on how much was paid for energy, where the energy came from, and what options existed to change energy utilisation or supply. Thus, a key step in the project was to bring together a team in each municipality to collect this information and these data. Additionally, a committee of local stakeholders (NGOs, businesses, schools, etc.) was formed in each municipality to help identify and collect data, in the first instance, and later to analyse these data and information, and use them to develop local energy action plans.

Box 1: The use of SAFIRE

The SAFIRE (Strategic Assessment Framework for Implementing Rational Energy) computer model has been used at European Union, national, regional and local levels for sustainable energy planning since 1993. It was used in Bulgaria under the PHARE 'Technical and Economic Assessment for Renewable Energy Resources' during 1995 to 1997 for developing the most extensive national and regional picture of renewable energy use and potential in Bulgaria. It has been used in all of the Central and Eastern European Accession States for much of the same purpose, and has been used at local municipal, county and regional levels to develop sustainable energy plans in the UK, Austria, Denmark, The Netherlands, Portugal, Ireland, Poland and Germany.

SAFIRE is, in the first instance, a 'framework' in which people can place energy within the context of their social, economic and environmental setting. It enables people to begin the process of energy accounting; that is, it enables people to examine what kind of energy they consume, how that energy is supplied, how much that energy costs, who pays for it, and what benefits (if any) it brings to them.

Once local stakeholders understand the framework, and then collect the information and data necessary to answer these questions, they are then able to begin to examine possible opportunities, options, investments and interventions that can change energy supply and demand, and thereby address their key priorities and needs (e.g., education, health, employment, revenues, etc.). The local authorities and stakeholders in Kustendil collected considerable information and data, then defined two cases: a 'business as usual' and a 'preferred' scenario (a picture of the future they wanted for their local communities). Once these scenarios were identified, SAFIRE was run to show what costs, benefits, etc. were associated with each. In the preferred scenario case, the necessary interventions (e.g., energy conservation) and investments (e.g., energy efficiency and renewable energy) were identified by examining what it would take to achieve such a scenario.

2.4.4 Developing local sustainable energy plans

Having developed a clear picture of energy use and supplies, examining the costs and benefits of current use, and identifying the potential for changing or altering use and supply, local stakeholders began to put this information into local plans. Because they collected the information and data themselves, and examined and analysed this information in light of their own needs and priorities, local stakeholders 'owned' the information.

Box 2: Stakeholder dialogue

Stakeholder dialogue was achieved through public meetings, and was essential at all stages. It was necessary in identifying the current situation; and crucial in defining key local priorities and needs. It was required to analyse the data and to develop the preferred options for the future. Finally, it was essential to identify the interventions and investments required to achieve the preferred options, and to identify who should make those investments, at what costs, and with what financial and other assistance

As a result, the most critical step in successful planning was reached – with ownership of information and data, and with participation of key stakeholders (technical, business, commercial, financial, etc.),

local authorities can begin to make changes in the way they use and supply energy in order to meet their priority needs. This is the essence of any successful planning, and in each of the three municipalities, once they began to make the connection between information and concrete projects and activities, local sustainable energy planning began in earnest.

A key lesson was learned in this process. This was that it is crucial to move quickly to examine and begin to explore concrete actions and investments in order to make data and information collection and analysis meaningful. Until data and information start being used to identify and define investments, it remains theoretical, and is of no use to people. However, once it is seen to result in concrete activities, then people not only 'own' that information, but they begin to use it for future planning. This is the essence of local sustainable energy planning, and it formed the basis for each of the three municipalities to develop their first local action plans.

2.4.5 Identifying local energy interventions and investment opportunities

The process of developing good information and data on energy and renewable energy resources, helped people identify what actions they wanted to take to meet their local priorities. Thus, in each of the municipalities, education was one of the top priorities, and understanding how either to reduce energy expenditures, or to develop alternative renewable energy supplies, became both a key element of energy planning, as well as the first in a series of investments and interventions.

The same principles applied to other potential interventions and plans. Once good information and data exist on a project, and once people have identified what they want to do with that project, it becomes much easier to 'sell' that project, and obtain finance and technical support in order to realise the project.

Thus, in each of the three municipalities, the whole process of information and data collection, right through priority and needs definition, to defining desired future development, to determining the costs and benefits of that development, all led to identification of real projects and interventions that could be financed and implemented. Two such investments were identified in each municipality, and are currently being financed.

Interventions in each of the municipalities fell into two categories. Both types of projects were identified in the course of this project. The categories include:

- Those actions not requiring external investment or funding. For example, low cost energy efficiency measures that can be implemented with municipality or private company budgets (often referred to as demand side management/DSM or 'improved energy housekeeping').

- Investment projects, which require applications for funding, whether in the field of energy efficiency improvements or investments, or renewable energy investments.

3. Description of work carried out

3.1 Phase 1: Project inception

A detailed report on the tasks of phase 1 was presented in the inception report, submitted in March 2001. The phase ran from November 2000 to March 2001. The major tasks were:

Task 1.1: Defining working arrangements with the SEEA: The working arrangements are outlined in the Memorandum of Understanding (MoU), signed by both parties in December 2000.

Box 3: Criteria for Selection of Pilot Region

- Interest in the project
- Availability of human & other resources to invest in the project
- Availability of renewable energy sources
- Energy efficiency measures and plans
- Expenditures for energy, as a proportion of total expenditure
- Environmental strategy
- Description of the region
- Level of economic development

Task 1.2: Selection of the pilot region: The selection was carried out on the basis of criteria, defined by the consultant and the SEEA, and agreed by the LSEP Steering Committee. The selection criteria covered the factors deemed most important to the success of the project, including the region's institutional capacity, the willingness of at least three municipalities to participate in the project, the technical potential for sustainable energy interventions (availability of renewable energy and need for energy efficiency), among others. Invitation letters were sent to all regions (28), except the Sofia, and all were invited to bid on participating in the project.

The response was excellent. Almost all regions responded with proposals to participate in the LSEP project. However an additional condition for participation was added by the Steering Committee after all responses were received. The condition was that any applicant region could not already have, or be in the process of establishing, a regional energy centre (e.g., supported under the EC PHARE Programme). This removed four of the six top ranked regions as ranked by the previous 'merit based' criteria and caused delays in initiating the project. Kustendil region was selected by the Steering Committee as fulfilling all the criteria, and work began with the region after the First National Stakeholders' Conference in February 2001

Task 1.3 Establishment of the Steering Committee (SC). The DFID terms of reference for the project called for the establishment of an LSEP Project Steering Committee (SC). One of the first activities under the project was to select the agencies and groups who could best provide guidance and input into the project. The organisations invited to participate in the Steering Committee included the State Energy Efficiency Agency/SEEA (Chair); the Ministry of Economic Affairs; the Ministry of Regional Development; the Ministry of Environment and Waters, the Mayors and Governor of pilot municipalities/region; the Delegation of the European Commission; DFID itself, and the Bulgarian Municipalities Association. The members of the SC are presented in table 1.1. The Steering Committee met four times during the course of the project: January, February and November 2001, and February 2002.

Task 1.4: **Preparation of the detailed work plan**. This was attached to the inception report in March 2001.

Tasks 1.5, 1.6, 1.7: **Preparation, submission and acceptance of inception report.** This task was completed in March 2001.

3.2 Phase 2: Development of planning capacity in pilot region.

Phase 2 of the project was undertaken between April 2001 and October 2001.

Task 2.1: Assess SEEA training needs and deliver training in local sustainable energy planning. Training needs were assessed in March 2001, which led to SEEA training workshops on 18th and 23rd May 2001 in Sofia. The training focused on the methodology of local sustainable energy planning and introducing the SAFIRE computer model (see Box 1, section 2).

It was planned to install the SAFIRE model at the SEEA at approximately the same time and the training. Unfortunately the installation was severely delayed due problems with the Cyrillic script, incompatibility of SAFIRE with the Windows NT operating system of the SEEA computers. This problem led to a straining of relations between the project team and the SEEA during the autumn of 2001 and early part of 2002, which had a knock-on effect on task 3.2.

However, the issue was resolved at the final Steering Committee meeting on 27th February 2002. Marina Faldjyiska, the DFID in-country project officer, suggested the purchase of a dedicated desk top computer on which SAFIRE will be installed at the SEEA (now the EEA). This was agreed by all parties and the procurement procedures were defined. It was also agreed that the contractor will install the SAFIRE programme and provide the necessary training within one month of the computer being installed at the EEA.

The completion of task 2.1 in the three target municipalities was straightforward. SAFIRE training, data entry began in June 2001 and modelling analysis completed by September 2001.

Task 2.2: Carry out baseline assessment in municipalities: Initial visits to the selected region (Kustendil) and the three pilot municipalities (Kustendil, Kocherinovo and Sapareva Banja) by the local project team (led by Alexander Penchev) took place in February and then in April and May 2001. From then on, during the summer and autumn of 2001, there were almost weekly visits to the municipalities by the local project team to meet with the municipality's LSEP contact points, collect data and visit sites. ESD UK staff visited the regions and worked with the regional and municipal authorities and stakeholders in May, July, September and December 2001.

The first regional seminar took place on the 21st May 2001. This was attended by staff from ESD UK, ESD B, project experts and representatives from the SEEA and DFID, as well as representatives of the three participating municipalities, and other regional and local stakeholders. Working meetings with the pilot municipalities took place in May 2001, and these were attended by staff from ESD UK, ESD B, project experts and representatives from the SEEA.

Three desktop computers were procured and installed in each of the three pilot municipalities in early June 2001. The SAFIRE computer model was installed in June 2001, and training on SAFIRE began in June 2001.

In late July 2001 further working meetings with the pilot municipalities took place (attended by the Municipality teams, local stakeholders, staff from ESD UK, ESD B and project experts). The main topics covered at these meetings were: how to gain participation and 'ownership' of the LSEP process by local stakeholders, data collection, the initial baseline assessment and the next steps for the project

Data collection by the municipalities began in late May 2001 and continued into October 2001. An initial baseline assessment of energy demands and renewable energy potential was produced in July 2001 and updated periodically in October and December 2001.

SAFIRE modelling was completed for all three municipalities in September 2001. The full baseline assessment was completed in August/September 2001. Results were presented at the consultation meetings that took place on the 17th and 18th September in each of the three municipalities. Staff from ESD B and ESD UK presented at the meetings and helped facilitate the discussions with local stakeholders. A wide range of local stakeholders attended the meetings, although the participation of the private sector in the largest town, Kustendil, was disappointing.

Task 2.3 Elaborate scenarios for future local supply and demand: One scenario (in addition to the baseline) was developed and elaborated in each of the three municipalities. This showed the potential for renewable energies in each pilot municipality. Given the difficulties of data collection, it was not practical initially to develop a wide range of scenarios. Moreover, it became clear during the work with the municipalities and their stakeholders, that comparing the baseline to one scenario (one that focused on sustainable energy investments and interventions) was sufficient to enable them to define optimal interventions, and to form the basis for examining the costs and benefits of those interventions that SAFIRE helped define.

Task 2.4 Assist local authorities in preparation of local sustainable energy plans: The concept of local energy planning was first presented and discussed at the first regional seminar in May 2001. There were also working meetings with individual municipalities in May, July, September and December 2001. In addition, regular interim visits were made by the ESD team, and assistance was provided by ESD's local consultants.

Given the highly decentralised data available, and the fact that many data and much information had to be obtained for the first time, this proved to be a longer and more difficult process than anticipated. Until the early 1990s, virtually all data on energy, the environment, economics, business and other key factors, were collected by central Government. Few data and almost no capacity to collect, handle or analyse data existed at the local, particularly municipal level. Furthermore, liberalisation and privatisation of Bulgaria's economy (particularly in the energy and energy distribution sectors) means that many data are no longer publicly available, and must either be purchased from the concerned entities, or collected using other means (e.g., demand surveys).

This all resulted in the fact that it took more than twice the time to collect information and data for SAFIRE and the planning and consultation process than anticipated. It also proved frustrating for the local authorities and stakeholders, as the time and effort expended on this part of the project was considerably higher than planned

Task 2.5 Assist local authorities and other relevant local partners in the development of an investment portfolio of viable projects: A 'matrix' of possible sustainable energy options was identified by the project team in conjunction with the Municipality teams, which divided possible sustainable energy options into suggested short, medium and long term actions. This information provided the basis for prioritisation of the possible options.

Task 2.6 Assist local authorities in decision making processes resulting from the plans: The municipalities formed municipal stakeholder committees in early June 2001. These committees were recommended to the municipalities by the project team as a means to formalise and facilitate the participation of local stakeholders with the development and implementation of the energy plan.
The sustainable energy options were presented at the municipality consultation meetings in September. Municipality teams subsequently prepared a shortlist of possible options in October 2001.

Task 2.7 Produce interim report. This was submitted in October 2001

3.3 Phase 3: Implementation of pilot energy plans and dissemination

Phase 3 of the project ran from October 2001 through to the end of the project in March 2002.

Task 3.1: Assist municipalities to obtain funding for investment proposals: All three pilot municipalities produced lists of priority projects at the end of phase 2. The municipalities are currently planning to implement seven priority projects. Projects include energy efficient street lighting, solar hot water heating in social housing, geothermal heating, and biomass boilers in a school. Details of four of these projects are contained in Annex 2. It is anticipated that the projects will continue on to implementation after the DFID contract period.

The format of the final national workshop, held on December 12th 2001 in Sofia (see Annex 1), was specifically designed to allow the municipalities to present their priority projects to potential sources of finance. Representatives of four financial institutions were invited. They were: the US AID sponsored 'Electratec' fund, the commercial bank 'Union Bank', the Swiss sponsored Eco Trust Fund and the

National Fund for Environmental Protection. As a result of this meeting, four of the five projects currently being moving towards implementation are being investigated for support by the Electratec. The local consultants (ESD Bulgaria) are currently assisting the municipalities prepare funding applications. The remaining project in Kustendil is set to be financed from Municipality funds.

Task 3.2: Develop framework plan for dissemination of experiences.

The suggested framework attached as Annex 5 to this report. The context of this task has been substantially strengthened by the Energy and Energy Efficiency Act Amendment of December 2001 (see section 2.1). The amendment sets out the Bulgarian Government's commitment to local sustainable energy planning, and the roles of the various government bodies in support planning at the regional and municipality level.

From meetings with staff of the new Ministry of Energy and Energy Resources, it is clear that this project is viewed within the Ministry as an important first step towards achieving the objectives of the new amendment.

As the amendment was only gazetted at the end of 2001, the full consequences of the amendment have yet to take effect. In particular, it the exact roles and responsibilities of the different government bodies (including the EEA) have yet to be fully clarified. However the framework in Annex 5 has been designed to take account of this uncertainty as far as possible, and it is clear that the Bulgarian Government is fully committed to promoting this approach.

At the start of the project, it was planned that the contractor and the SEEA work together to complete this task. However the SEEA would not to work on this task until the receipt of equipment in accordance with article 4.3 of the contract, under which the SEEA expected to receive equipment up to the value of £10,000. The issue was resolved at the project Steering Committee meeting on 27th February 2001, with the agreement by DFID to purchase one server and the desk top computer for SAFIRE (see section 3.2, task 2.1). In acknowledgement of the fact that the EEA was not intimately involved with the development of this framework, it was also agreed that consultant liaise with EEA in the period following the delivery of the equipment to support them in the further develop and implementation of the dissemination plan.

Task 3.3: Carry out seminars and other actions to disseminate experiences: The final regional seminar and the final national seminar were held on the 10th and 12th December 2001 respectively. A series of bi-monthly newsletters have also been produced which have served to disseminate the progress and findings to regions across Bulgaria. The project website (http://bulgariaplan.energyprojects.net) has been used as a continuous dissemination tool throughout the project.

Task 3.4: Produce draft final report. This was submitted to the Steering Committee on 15th February 2002.

3.4 Phase 4: Assistance to SEEA

Phase 4 of the project ran parallel to the other three phases of the project, starting in December 2001 and finishing in February 2002.

Task 4.1 Identify areas of the new Energy Law requiring further elaboration to assist local sustainable use of energy resources
&
Task 4.2 Review activities of other actors in the area of energy legislation

These two tasks are reported on together as there are closely linked. The primary and secondary legislation connected with the energy resources and their use on local level were analysed and the obstacles to the energy efficiency and RES in the municipalities identified in the spring of 2001. The issues were subsequently discussed with the stakeholders listed in table 3.1. Further information of the issues identified can be found in the October 2001 Interim Report, annex 6.

Table 3.1: Main stakeholders consulted during phase 4

Organization	Name	Occupation	Address
Energy Efficiency Agency (former SEEA). Two meetings were carried our with the representatives of the SEEA	Mr Kolio Kolev Miss Daniela Ivanova Mr Vania Sotirova Mr Luchezar Konuhov	Director Environmental Expert Senior legal expert Expert	No 37 "Eksarh Iosiff"str., 1000 Sofia Tel:+ 359 2 9801434
State Energy Regulation Committee	Mr Toma Georchev	Vice Chairman,	Bul. "Dondukov" 7 , 1000 Sofia Tel: +359 2 9808154
Parliamentary Energy Commission	Mr Hristo Hristov	Expert	Bul."Dondukov"No 1, 1000 Sofia Tel: +359 2 9311816
Kustendil Municipality	Mrs Zlatka Anastassova Mrs Antoaneta Ivanova	Deputy Mayor Senior Expert "Construction" Department	No 1 "Democracy" bul., Kustendil Tel: +359 78 2 43 56
Sapareva Bania Municipality	Mr Tsvetan Dinev Mr Ivan Kiossev	Mayor Expert "Tourism and Trade"	No 1 "Germany" str. Sapareva Bania Tel: +359 701 33 78
Kocherinovo Municipality	Mr Kostadin Katin	Mayor	Kocherinovo Tel: +359 7053 20 70

The sequence of activities and procedures related to the implementation of investment projects in the field of RES and EE measures was developed and presented on the bases of analysis carried out on 12 relevant groups of acts and legal documents. The following procedures were reviewed:

⇒ Construction of RES
⇒ Utilization of the geothermal energy
⇒ Energy utilization of biomass
⇒ Energy utilization of wind resource
⇒ Energy utilization of solar energy
⇒ Energy utilization of hydro resource
⇒ Energy efficiency measures for reduction of heat energy expenses

Task 4.3 Provide legal/institutional advice to SEEA

In July 2001 two meetings were organized between the representatives of the SEEA and the Project Team. The legal framework concerning the separate renewable energy sources and the energy efficiency were discussed, as well as the necessary steps which every potential investor should to undertake for the implementation of RES and EE projects. Detailed information for the meetings and the legal framework are presented in the Interim Report, October 2001, Annex 6.

Task 4.4 Assist SEEA to present issues to the SC and work directly with other government organisations to remove barriers to local sustainable energy planning and implementation that are outside the SEEA remit.

A full analysis of the barriers, impeding the implementation of the RES and EE projects are presented in Annex 6. This annex represents the final outline output of phase four.

3.6 The Bulgaria – Poland Exchange

DFID is currently funding a similar local sustainable energy planning project in the region of in North East Poland (contract reference: CNTR 012291A). The Poland – Bulgaria exchange was proposed to DFID in mid-2001, as a means to enhance the value of both projects to the local stakeholders. Ten delegates from each country took part in reciprocal exchanges, spending a week in the host country, during which time delegates met with their counterparts for formal meetings, informal discussions, site visits and cultural exchange. The Polish delegates visited Bulgaria between November 24th and December 1st 2001, while the Bulgarian delegation visited Poland between December 14th and 21st 2001. Feedback questionnaires from the participants indicated that the exchange visits were very valuable for participants of both projects. From the consultants' point of view, the exchange raised the profile of the projects amongst decision makers of the pilot regions and helped engage local stakeholders in the process. The objectives of the exchange as defined in the contract were met and costs kept within budget. A report can be found in Annex 4.

4. Project results and analysis

This section comments on the project outputs as defined in the 'log frame' of the DfID contract. The section is divided into two main subsections. First, energy planning in the pilot region. Second, the national dimension of the project, i.e. the provisions to disseminate the project concept and findings to other regions in Bulgaria, primarily through capacity building of the SEEA.

4.1 Energy planning in the pilot region

The table below outlines the project results associated with the first two project outputs. These outputs are specifically related to the development of energy planning and the implementation of measures in the pilot regions.

Table 4.1: Project outputs (1 and 2) and results

Planned project output (1-2)	Result
1. Increase the ability of local authorities in pilot region to plan and implement measures to improve energy services recognising the needs of all stakeholders.	All three pilot municipalities have: • Municipality staff who have worked consistently on the energy planning activities of the project since May 2001. As a result they have developed many of the skills necessary for local energy planning and gained significant practical experience. • Municipality staff (2 from each pilot municipality) who participated in the Poland-Bulgaria exchange. • Received extensive day-to-day support from the local consultants ESD B, in developing and implementing energy plans
2. Develop frameworks for local authorities in the pilot region (Kustendil) to have a framework for developing and implementing priority measures to improve energy services	All three municipalities have: • Established extensive data resources on energy supply and demand in their municipalities. • Established Stakeholder committees as a framework for stakeholder participation in energy planning activities. • Received personnel computers with the SAFIRE energy planning software installed, including the databases with the energy information for their municipality installed. • Received SAFIRE training. • The creation of detailed energy plans for each municipality, containing short, medium and long-term actions (see annexes of the October 2001 interim report for copies of these).

It is the view of the project team that project outputs 1and 2 were very well achieved, indeed beyond the initial expectations. At the time of writing, the municipalities report that they have seven projects set for implementation in 2002/3. Although it is too early to comment on the outcome of the projects, we can conclude the municipalities have selected these project themselves, having gained an in depth understanding of their energy situation and possible sustainable options open to them. The energy plans they have developed will serve them for many years to come, and they have the skills and knowledge to adapt the plans in response to changing circumstances.

Annex 2 of this report contains some brief technical and economic pre-feasibility reports of four of these projects. For detailed information of the energy situation and plans of the target municipalities please refer to the annexes of the October 2001 interim report.

4.2 Dissemination of the LSEP concept to other regions in Bulgaria

The table below lists the project results in respect to the remaining three project outputs. These outputs are related to the dissemination of the LSEP concept to other regions of Bulgaria. As such they are now intimately linked with the December 2001 amendment to the Energy and Energy Efficiency Act (see section 3.3, task 3.2).

Table 4.2: Project outputs (3 - 5) and results

Planned project output (3-5)	Result
3. Increase the capacity and skills of the State Energy Efficiency Agency (SEEA, now the Energy Efficiency Authority under the newly-created Ministry of Energy and Energy Resources) to support and train local authorities in sustainable energy planning.	Specific project results associated with this output are listed below • The SEEA training needs assessment in March 2001. • The first training session held at the SEEA on 18th May 2001. The session was attended by 14 SEEA staff • 2 SEEA staff accompanied the project team during field work with municipalities beginning in May 2001. • A second training session was held at the SEEA on 23rd May 2001. The 2 staff who accompanied the project team to the region reported back their findings and experiences to the SEEA. • An SEEA representative took part in the Bulgaria-Poland exchange program. Her report is attached in Annex 4.
4. Put in place a framework and operations for the EEA to expand energy planning abilities to local authorities nation-wide, including a plan for monitoring and evaluating energy plan impacts.	• A suggested framework was sent to the SEEA in mid-January 2002, and has been refined and expanded upon in this draft final report. • During February 2002, the project team has been working and liaising with representatives of the EEA, and the Ministry of Energy and Energy Resources to integrate the proposed framework and operations in light of the December 2001 Energy and Energy Efficiency Act Amendment.
5. Work with the EEA to understand the remaining legal/institutional barriers to promoting renewable energy and possible actions to address.	• The recommendations concerning these issues are attached in Annex 6 of this report.

In addition to the outputs specific to the SEEA, the LSEP project helped raise awareness at a national level with key stakeholders, and with other regional authorities of how LSEP works, and how it could work in other local areas. The project held two national stakeholders (one in February 2001 and one in December 2001) workshops with considerable participation from other regions. It also published periodic newsletters that were distributed to all regions, a number of other municipalities, and key government, NGO, financial and other stakeholders showing project progress, and identifying areas for intervention and investment relevant to a wider audience. The project created a dynamic Web site (http://bulgariaplan.energyprojects.net), covering each of the three municipalities, showing project progress, demonstrating project methodology, and illustrating the opportunities for sustainable energy investment relevant to other local authorities. The website is in both Bulgaria and English.

Furthermore, the project undertook an exchange visit to Poland, where ESD is implementing another local sustainable energy project, with a reciprocal visit from the Polish counterparts, in which local, regional and national stakeholders participated and benefited from working with their counterparts at a local, regional and national level in Poland. This resulted in a project proposal to the European Commission to share experiences and know-how from Bulgaria and Poland in Slovenia, Slovakia and Lithuania.

5 Conclusions

When the Bulgaria Local Sustainable Energy Planning Project (LSEP) was first designed, it was not known that the Government of Bulgaria would move so far or so fast towards decentralising energy planning and promoting local sustainable energy planning as it has through the Amendment of December 2001 to the 'Energy and Energy Efficiency Act' of 1999. The newly amended Act places responsibility for energy planning squarely on the shoulders of regional authorities and municipalities. As has been learned during the course of this LSEP Project, very few local authorities have the required skills necessary for such planning, and none have the requisite data and information on energy supply, demand, use and resources necessary to develop and then implement those plans.

The LSEP Project has introduced local energy planning to Bulgaria for the first time. It has shown that not only is there need and demand for such planning, but that such planning can result in widespread local participation with the subsequent 'ownership' of the plans that is necessary to move from planning to actions, interventions and investments. Developing these plans, with good information and data, with clear plans, and with full local participation and ownership is essential for attracting funding and other support (e.g., technical and managerial support, additional planning support) that will convince investors and financing agencies to invest in these local projects and activities. When local authorities clearly understand their local energy supply and demand, their needs and priorities, and how local sustainable energy can meet those needs and priorities, it is much easier in both the short and the long term, to attract the necessary support to realise these projects.

The LSEP Project in Kustendil Region has shown clearly that this can work. It has shown that it is important to simplify and streamline the data and information collection process. It has shown the importance of early demonstration of concrete interventions and projects in order to attract the attention and support of local stakeholders. Without such early demonstration of concrete implementation, local stakeholders lose interest, and local plans are doomed to be theoretical rather than practical.

The project also demonstrates the need for national and, in the short term, international support for this planning and planning process. There are 28 regions in Bulgaria and thousands of municipalities. There must clearly be a mechanism for disseminating the results of the LSEP Project, and then following this up with more practical applications, specifically investments in energy efficiency and renewables. This requires a national framework, and a plan that starts with, say, four more regions, ensures that other regions periodically participate in these pilots, and then begins to initiate the planning processes themselves.

The Project team recommends that the Ministry of Energy and Energy Resources, who is mandated under the newly amended Energy and Energy Efficiency Act, to promote and ensure local energy planning, and the Ministry of Regional Development, who are charged with promoting local planning and decentralisation on a number of fronts, work together to develop this framework. The Team further recommends that DFID fund the next stage of this LSEP in four regions, supporting the two Ministries and regional and municipal governments to use the SAFIRE model framework, and the lessons and approaches learnt from the LSEP project in Kustendil Region and the three municipalities who participated on the LSEP Project.

The LSEP Project is relevant to the current legislation because it has demonstrated not only that the process gains local participation and concrete action, but that this results in demonstrable savings for local authorities, businesses and households (energy efficiency) and new revenues and incomes, new sources of employment and development. Bulgaria is rich in renewable energy resources, from geothermal to hydro, from biomass to solar, and almost any local authority can tap and develop those resources to their benefit, to the benefit of local development and regeneration, to the benefit of local households and businesses. Reducing expenditures on energy through energy efficiency measures leaves more funds for education, for health and for social services, all increasingly important responsibilities for local governments as central government decentralises and devolves responsibilities further.

Promoting LSEP is also important to facilitate accession to the European Union. LSEP that leads to concrete implementation of energy efficiency and renewable energy projects not only stimulates development in municipalities and regions, but it also helps improve the environment, and helps to

achieve European Union renewable energy, energy efficiency and environmental targets. This, in turn, will help speed up Bulgaria's accession process on a number of fronts, which is a major aspiration of Bulgarians at all levels.

6 ANNEXES

6.1 Annex 1: Report on final regional and national seminars

6.1.1.Final regional seminar, Kustendil 10th December 2001

Purpose:
To hear from each pilot municipality:
⇒ their experiences of the project,
⇒ further details of the priority projects
⇒ progress with implementation.

Table A1.1: Agenda for final regional seminar

Time	Agenda item
09:30	Welcome
9:40	Introduction, recap of story so far and objectives of the day.
10:00	Kocherinovo: Experience of project Priority projects Progress with implementation
10:30	Projects in Kustendil Experience of project Priority projects Progress with implementation
11:00	Break
11:20	Projects in Sapareva Banja Experience of project Priority projects Progress with implementation
12:10	Structured discussion: Benefits of local sustainable energy planning Difficulties and barriers of local sustainable energy planning Project implementation – comments and ideas What should be done next?
12:45	Conclusion and next steps
13:00	Meeting close

Table A1.2: Final regional seminar participant list

Town	Participant	Position	Address	Phone	e-mail
Kustendil	Milka Stoilova Deianova	Manager of department Regional Administration	44, Demokratsia street	(+359 78) 259 56	oblast.kn@infotel.bg
Kustendil	Kamen Dimitrov	Manager	7, Nikola Grancharov street	(+359 78) 233 63 (+359 88) 864 509	kamdim@infotel.bg
Rila	Vasilka Dimitrova	Head of department Municipality Administration	1, Vazrajdane street	(+359 7054) 2020 ext. 39	
Kustendil	Ivan Georgiev Kitov	Deputy Governor	44, Demokratsia street	(+359 78) 227 09 (+359 87) 915 617	
Kustendil	Zlatka Anastasova	Deputy Mayor	1, Velbajd square	(+359 88) 888 329	obshtinakn@infotel.bg
Kustendil	Irina Filipova Velkova	Junior Expert	1, Velbajd square	(+359 78) 2131 ext. 216	
Kustendil	Georgi Ivanov Atovski	Representative of Regional development agency	1A, Peter Beron street	(+359 87) 290 98	rdak@infotel.bg
Kustendil	Krum Kirilov Grigorov	Manager of Branch OBB - AD	1, Demokratsia square	(+359 78) 290 11 (+359 88) 440 818	grigorov_K@kus.bg
Kustendil	Yordan Belovodski	Chief Secretary Industrial and Comersial Hause	189, Tsar Osvoboditel street, Floor 2	(+359 78) 281 85	kncci@infotel.bg
Kustendil	Neviana Negrevska-Yonova	Chief Expert Regional Administration	44, Demokratsia street	(+359 78) 260 90	kn.search@infotel.bg
Trekliano	Violeta Manova	Secretary Trekliano Municipality	26, Makedonia street, Ent.A, Apt.6		
Sapareva Bania	Ivan Georgiev Kiosev	Head of department Trade and tourism	1, Germaneia street	(+359 707) 33 78	kiosev@yahoo.com
Kocherinovo	Vasil Simeonov	Municipality Representative		(+359 88) 996 563	
Kocherinovo Sapareva Bania	Lyubka Damianova Evelina Georgieva Nesheva	Head of Department Head of Department Municipality possession	 1, Germaneia street	(+359 7053) 20 70 (+359 707) 33 78 Ext. 212	 sap_oba@abv.bg
Sapareva Bania	Vencho Ivanov Zlatanchev	Chairman of Municipality Administration	1, Germaneia street	(+359 707) 2365	sap_oba@abv.bg
Dupnitsa	Radostina Pavlova	Junior Expert Investment	1, Svoboda square Floor 2, Room 49	(+359 701) 261 57	
Dupnitsa	Asen Pilev	Mayor	1, Svoboda square Floor 1, Room 1	(+359 701) 278 30	
Sapareva Bania	Tsvetan Nikolov Dinev	Mayor		(0359 701) 256 19	
Kustendil	Nikola Pavlov Chavdarov	Chief Expert	1, Velbajd square	(+359 78) 224 41	

6.1.2. Final national seminar, Rodina Hotel, Sofia, 12th December 2001

Purpose of meeting:

⇒ To bring potential project developers & financiers together in an open forum to discuss financing opportunities
⇒ To discuss local sustainable in the context of national legislation
⇒ To discuss what can be done to encourage local sustainable energy

Table A1.1: Final national seminar agenda - morning session: local energy planning and project finance

Time	Agenda item	ACTIONS / NOTES
09:30	Welcome	Representative of the State Energy Efficiency Agency Representative of the DFID
09:40	Introduction to the local sustainable energy project Objectives of the today's seminar Methodology of the project Results	ESD Ltd. – UK, ESD-Bulgaria
10:00	Presentations by municipalities: Project progress & experiences of initiating local sustainable energy planning Potential investment projects	*Representatives of:* *Kocherinovo Municipality* *Sapareva Bania Municipality* *Kustendil Municipality*
11:00	Coffee Break	
11:30	Presentations by financial institutions: Brief overview of fund	Representatives of financial institutions *Electrotec* *Eco Trust Fund* *Union Bank (invited)* *National Environmental Protection Fund (invited)*
12:30	Panel discussion: Response from financial institutions on the presented by the pilot and other municipalities investment projects	Representatives of the financial institutions *Chairman: Mr. Mike Bess, Director, ESD Ltd*
13:00	Lunch	

Afternoon session: Sustainable energy – national and local policy perspectives

Time	Agenda item	
14:00	New changes made in the legislation concerning Energy & Energy Efficiency Act. Harmonisation of the Bulgarian legislation in the field of RES & EE with the EU Directives	Representative of the State Energy and Energy Resource Agency
14:20	What is the demand for local sustainable energy planning, what can government do?	Representative of State Energy Efficiency Agency
14:40	Policy of the parliament in the field of RES and EE	Representative of the Parliamentary Energy Commission
15:00	Panel discussion. ⇒ Benefits from local sustainable energy planning. ⇒ Dissemination of results ⇒ The role of the local authorities for dissemination of results	*Chairman: Mr Alexander Penchev – ESD-Bulgaria*

	Barriers for dissemination of results	
15:40	Conclusions, recommendations and next steps	*ESD-Bulgaria Ltd.*
15:45	Meeting close	Representative of the State Energy Efficiency Agency *Representative of the DFID*

Table A1.2 Final national seminar participant list

Town	Participant	Position	Address	Phone	e-mail
Sofia1700	Ivan Breshkov	Associate Professor,	Student town	(+359 2) 962 37 95	Ivanbr@unwe.acad.bg
		University of National & World Economy		(+359 88)340070	
Sofia	Russi Yordanov Russev	Head of department Investment Analysis "Deisy Techology"	15, Tintiava street	(+3592) 68 11 66 (+35988) 43 42 05	
Kustendil	Milka Stoilova Deianova	Manager of department Regional Administration	44, Demokratsia street	(+359 78) 2 59 56	Oblast.kn@infotel.bg
Sofia 1407	Ivanka Handjieva	Program coordinator Energy Centre in Sofia – Balkan OPET	51, Djeims Baucher boulevard	(+359 2) 96 25 158	Ivankap@enpro.bg
Sofia 1712	Kristian Milenov	Executive manager Agency for Sustainable development and Eurointegration	Sveto preobrajenie 4, Mladost	(+359 2) 981 82 16	Stalkerkm@mobikom.com
Sofia	Yeni Katsarska	Head of Joint Implementation projects	37, Ekzarh Yossif street	(+359 2) 981 31 05	Ji-unit.katsarska@seea.government.bg
Sofia	Vania Lyubenova Sotirova	Chief Legal Expert State Agency of Energy Efficiency	37, Ekzarh Yossif street floor 3	(+359 2) 980 14 34 int. 208	Vlubenova@seea.government.bg
Velingrad 4600	Engineer Angel Toporchev	Deputy Mayor Velingrad Municipality	35, Han Asparuh boulevard	( ) 220 20 ( ) 220 19 ( ) 222 68 (+359 88) 507 235	Velingrad@unacs.bg at2000@langame.net
Sofia	Boriss Iv. Stanimirov	Manager of department	72, Tsarigradsko shousse	(+359 2) 75 51 79	
		Energy Efficiency BAS	boulevard	(+359 88) 440 860	
Gotse Delchev	Ilea Dimitrov Jelev	Municipalituy counsil	2, Tsaritsa Yoana street	( ) 25094	
Sliven	Atanas Pavlov Ivanov	Deputy Governor Regional Administration	3, Dimitar Dobrovich street	(+359 44) 38 565(+359 48) 889 012	Pavlov@regionsliven.com
Sofia 1000	Vasil Vlahov	Representative of Energy Ltd.	46, Solunska street	(+359 2) 988 45 19	v.vlahov@techno-link.com
Sofia	Yordan Milanov Yordanov	Chief technical expert National assembly – Energy Commission	2, Dondukov boulevard	(+359 2) 986 18 94	JMJordanov@nt52.parliament.bg
Plovdiv	Tsoko Nikolov Dobrev	Oditor of Energy Efficiency Energy Agency	15, Gladston street	(+359 32) 62 57 55 (+359 32) 62 57 56	Eap@mail.techno-link.com
Targovishte	Engineer Panayot Marinov Abadjimarinov	Deputy Governor Regional administration	2, Stefan Karadja street	(+359 601) 692 32	Oblast@tg.bia-bg.com
Sofia	Lyubov Trifonova	Expert National institute – Meteorology and Hydrology-BAS	66, Tsarigradsko shousse boulevard	(+359 2) 975 39 86 int. 373	Lyubov.Trifonova@meteo.bg
Razgrad	Akif Djevadil Hasan	State Expert Regional Administration	37A, Beli Lom street floor 8	(+359 84) 306 208	
Dupnitsa	Asen Georgiev Pilev	Mayor Dupnica municipality	1, Svoboda square	(+359 701) 2 27 05	

Sofia	Daniela Ivanova	Environment expert SEEA	37, Ekzath Yossif	(+359 2) 980 14 34 int. 212	Divanova@seea.government.bg
Dupnitsa	Radostina Pavlova	Junior expert Dupnitsa Municipality	1, Svoboda square	(+359 701) 22 707	
Silistra	Engineer Yordan Georgiev Tagarov	Managing Director ET "Ragat" - private company	3, Rila street	(+359 86) 730 25 (+359 87) 35 02 04	
Sofia	Valentin Dimitrov	Chief Expert State Energy of Energy Efficiency	37, Ekzarh Yossif street floor 3	(+359 2) 980 11 34 int. 215	DimitrovVD@SEEA.government.bg
Sofia	Milena Todorova	Senior expert Environmental Executive Agency – Department Äir	136, Tsar Boris III boulevard	(+359 2) 955 98 11	Airmon@ufp-bg.eu.net
Sofia	Peter Georgiev Kovachev	Free practics	Ovcha kupel 1, B. 612	(+359 2) 955 77 86	
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Plovdiv	Engineer Alexander K. Zahariev	Head of Technical Department Power Distrubution Company, Plovdiv	37, Hristo G. Danov street	(+359 34) 26 73 77	
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Sofia	D-r Milena Hristova Mihailova	Deputy Governor Regional administration Sofia region	6, Vitosha boulevard	(+359 2) 988 42 94 (+359 2) 54 99 113	
Sofia	Krassimir Petkov	Chief Expert-energy projects Electrotec Concepts (Finance)			Krasi@electrotec.com
Sofia	Teodosi. B. Dimitrov	Bulgarian Forestry Association	Raiko Daskalov street, Bl. 434		
Sofia	Professor Simeon Georgiev Batov	Chairman of Assossiation of energetics in Bulgaria Technical University	1, Milin Kamak street	(+359 2) 965 23 09 (+359 2) 988 41 58	Chroma@cblink.net
Smolian	Momchil Karaivanov	Manager of Regional Administration	14, Bulgaria boulevard	(+359 301) 270 13 (+359 301) 272 82 fax:(+359 301)21033	Obl_adm_sm@bsbg.net
Sapareva Bania	Ivamn Kiosev	Head ot department"Trade and Tourism" Municipality Administration	1, Germanea street	(+359 707) 33 78	Sap_oba@abv.bg
2650	Tsvetan Nikolov Dinev	Mayor	47, Germanea street	(+359 701) 256 19	Sap_oba@abv.bg
Sapareva Bania	Engineer Evelina Georgieva Nesheva	Head of department Municipal Property	1, Germanea street	(+359 707) 33 78 int. 212	Sap_oba@abv.bg
Sapareva Bania	Vencho Ivanov Zlatanchev	Representative of Municipality Counsil, Sapareva Bania Municipality Administration	1, Germanea street	(+359 707) 23 65 (+359 707) 33 78	Sap_oba@abv.bg
Troyan	Engineer Vencislav Hristov Yotov	Municipality Expert		(+359 670) 31 520 (+359 88) 436 799	
Sofia	Boriana Uzunova	Chief expert SEEA	37, Ekzarh Yossif street	int. 213	Buzunova@SEEA.government.bg
Sofia 1461	Valia Peeva	Program manager Centre of Energy Efficiency EnEffect	1, Hristo Smirnenski boulevard	(+359 2) 963 07 23 (+359 2) 963 17 14	Vpeeva@eneffect.bg
	Silvia Stoyanova	Project officer DFID			Silvia.Stoyanova@fco.gov.uk

	Dennis Leith	Diplomat British Embassy – Sofia			
Sofia (media)	Ralitsa Vasileva	Reporter"Duma" newspaper	146, Evlogi Georgiev boulevard	(+359 2) 946 18 90	Raly@duma.bg
Lovech	Tatiana Ivanova Stoikova	Chairman Regional Energy Centre	43, Targovska street floor 7, room 710	(+359 68) 259 45 (+359 68) 430 36	Rec@bsbg.net
Kustendil	Ivan Georgiev Kitov	Deputy Governor Regional Administration	44, Demokratsia street	(+359 78) 227 09 (+359) 915 617	Oblast.kn@infotel.bg
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United Kindom	Tim Crozier-Cole	Project Manager Energy for Sustainable Development Ltd			Tim@esd.co.uk
United Kingdom	Matthew Clayton	CEEC Field manager, Energy for Sustainable Development Ltd			matthew@esd.co.uk
Sofia	Nikolai Leontiev	Legal Expert			
Sofia	Alexander Penchev	"ESD-Bulgaria"OOD	10, Slavianska street, floor 5	(+359 2) 981 70 41 (+359 2) 981 68 59 (+359 2) 989 19 63	Alexander.esdb@mbox.cit.bg
Sofia	Albena Yanakieva	"ESD-Bulgaria"OOD	10, Slavianska street, floor 5	(+359 2) 981 70 41 (+359 2) 981 68 59 (+359 2) 989 19 63	Albena.esdb@mbox.cit.bg
Sofia	Sonya Petkova	"ESD-Bulgaria"OOD	10, Slavianska street, floor 5	(+359 2) 981 70 41 (+359 2) 981 68 59 (+359 2) 989 19 63	Sonya.esdb@mbox.cit.bg

6.2 Annex 2: Technical and economic pre-feasibility reports

Project Proposal - Kocherinovo Municipality

ENERGY FIELD - Energy Efficiency

TYPE OF TECHNOLOGY – Energy saving lamps for street lighting

NAME OF MUNICIPALITY	- Kocherinovo
SITE	- Street Lighting
SECTOR	- Social

CURRENT SITUATION	
Number of lighting fixtures	- 685
Installed capacity	- 171250 kW
Electricity consumption for 2000	- 293914 kWh, value 34333 BGL
Electricity consumption for 2001	- 309380 kWh, value 38390 BGL

DESCRIPTION OF THE PROJECT
Provisions replacement of mercury lamps with high pressure sodium lamps

ECONOMIC ANALYSIS	
Output data	
The economic assessment has been carried out in accordance with the following conditions:	
Project value	- 97490 BGL
Price per kWh electricity	- 0,124 BGL/kWh
Economic result	
Electricity saving - 13000 kWh/y	
Payback period – 6 year	

PROJECT BENEFITS
Reduce the expenditure of the municipality for street lighting
Revenues for the municipality
Improve the lighting on the street

FINACIAL SCHEME
20 % own funds
80% bank credit, provided by ELECTROTECH Concepts under “Municipal Energy Efficiency Program”

ENVIRONMENTAL IMPACT ASSESSMENT	
Based on replaced electricity	
Reduction of CO2 emissions	- 14,04 t/y
Reduction of CO2 emissions	- 0,484 t/y

Project Proposal - Kocherinovo Municipality

ENERGY FIELD	- Renewable Energy Resources

TYPE OF TECHNOLOGY	- Solar installation for hot water

NAME OF THE MUNICIPALITY	- Kocherinovo
SITE	- Old people's house, Gara Kocherinovo
SECTOR	- Social

CURRENT SITUATION
Number of inhabitants – 60 people Hot water consumption – No data available Standard consumption - 100 l/person.day Energy source - electrical boilers *Installed capacity:* *2 x 120 l, unit capacity 3,5 kW* *2 x 80 l, unit capacity 3,0 kW* *2x200 l, unit capacity 6 kW* *Mode of operation – 24 hour period* Energy consumption for domestic hot water Summer - 6450-7000 kWh/month. Price per kWh – 0,124 BGL.

PROJECT DESCRIPTION
Provisions construction of solar installation, which will provide domestic hot water for the period April – October Description of the installation Flat plate solar collectors Heat accumulator Heat exchanger Pumps Electric control panel Stopping and protective fittings Pipes and bends Heat insulation Bearing structures and strengthening elements

TECHNICAL PARAMETERS OF THE INSTALLATION	
Area of the collector field - 49,4 м^2	
Total accumulative volume - 2000 liters	
Quantity of solar energy gained during the period March – October - 48068 kWh	
Average seasonal percentage of solar part from the total load of the installation - 53,19 %	
Note: the solar installation profit are defined for collectors with the following characteristics:	
Optics characteristics	*$\tau/\alpha >= 10$*
Total efficiency factor for heat losses	*$U_L < 4,5$*

ECONOMIC ANALYSIS

Output data
The economic assessment is based on the following conditions:
Value of the installation - 24453 BGL
Price per kWh electricity - 0,124 BGL/kWh
Economic result
Payback period (defined on the basis of the fixed price of the replaced energy) – 5,5 Seasons

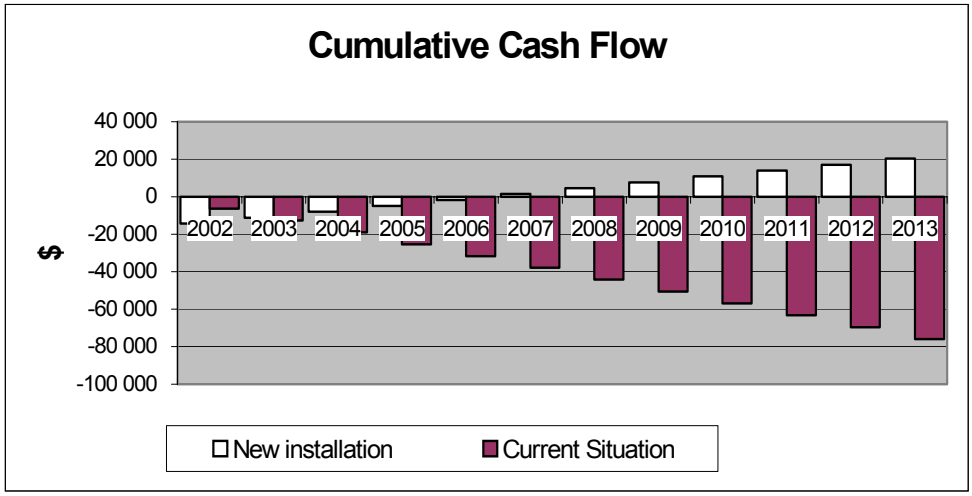

Figure 1 – Cash Flow

PROJECT BENEFITS
Utilization of the local Renewable Energy Resource
Improvement of the sanitary hygienic conditions in the old people's house
Improve the comfort of the inhabitants
Reduction of the budget expenditures for domestic hot water and using the funds for other purposes

FINANCIAL SCHEME
20 % own funds
80% bank credit, provided by ELECTROTECH Concepts under "Municipal Energy Efficiency Program"

ENVIRONMENTAL IMPACT ASSESSMENT
Based on replaced electricity
Reduction of CO_2 emissions - 51.913 t/y
Reduction of SO_2 emissions - 1,789 t/y

Project Proposal - Sapareva Bania Municipality

ENERGY FIELD - Renewable Energy Resources

TYPE OF TECHNOLOGY - Geothermal Station for Space Heating

NAME OF THE MUNICIPALITY	- Sapareva Bania
SITE	- "St.Anna" Kindergarten
SECTOR	- Social

CURRENT SITUATION
Energy resource Oil boiler – 500 kW Internal heating installation – radiators Seasonal oil consumption – 35 tons (insufficient quantity)

DESCRIPTION OF THE PROJECT
Provisions construction of geothermal station and external heat supply pipeline Plate heat exchanger Circulation pump Heat meter Stopping and protective fittings Heat supply pipeline with heat insulation

TECHNICAL PARAMETERS OF THE INSTALLATION
Installed capacity - 408 kW Total length of the pipes - 2800 m Energy gained from the geothermal station - 1,042 GWh

ECONOMIC ANALYSIS
Output data The economic assessment is performed in accordance with the following conditions: Value of the installation - 291170 BGL Price per kWh heat energy from oil boiler - 0,15 BGL./kWh Economic results Payback period – 2 heating seasons

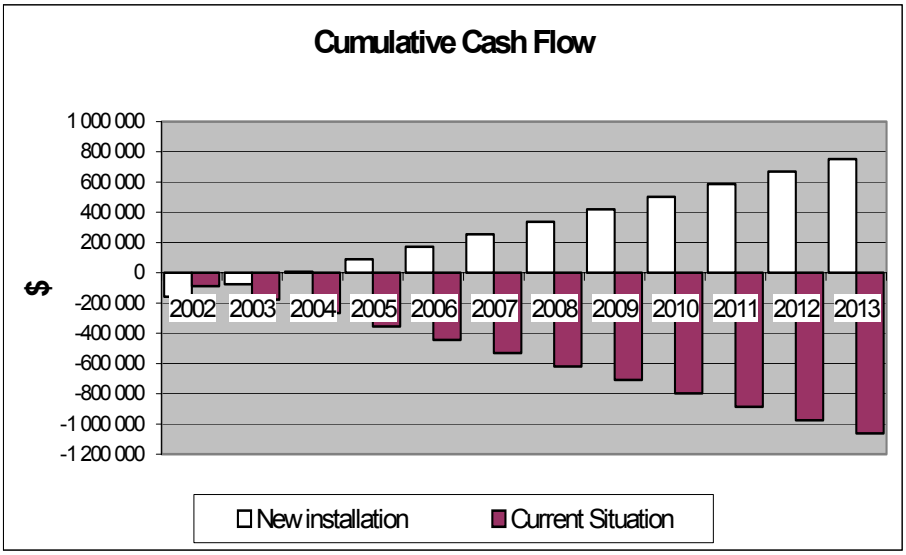

Figure 1 - Cash Flow

PROJECT BENEFITS
Utilization of the local renewable energy resource
Improvement of the sanitary and hygiene conditions in Kindergarten “St.Anna”
Improve the living conditions
Reduce the budget expenses for heating
Revenues for the municipality
Environmental preservation

FINANCIAL SCHEME
20 % own capital
80% bank credit, provided by ELECTROTEK Concepts plc. Under the “Municipal Energy Efficiency Program”

ENVIRONMENTAL IMPACT ASSESSMENT
Based on replaced electricity
Reduction of CO_2 emissions - 728 t/y.
Reduction of SO_2 emissions - 18 t/y

Project Proposal - Kustendil Municipality

ENERGY FIELD - Renewable Energy Resources

TYPE OF TECHNOLOGY - Solar Installation for Domestic Hot Water

NAME OF THE MUNICIPALITY – Kustendil
SITE - House for retarded people, Kustendil
SECTOR - Social

CURRENT SITUATION
Number of inhabitants – 105 people Hot water consumption – No data available По норматив 100 л/човек.ден Energy source - electrical boilers *Installed capacity:* *1 x 120 l, unit capacity 3,5 kW* *1 x 1000 l, unit capacity 12,0 kW* *1x250 l, unit capacity 6 kW* *Mode of operation – 17h/per 24 hour period* Energy consumption for domestic hot water Summer period - 13700-14750 kWh/month. Price of kWh – 0,124 BGL

PROJECT DESCRIPTION
Provisions construction of solar installation, which will provide domestic hot water for the period April – October Description of the installation Flat plate solar collectors Heat accumulator Heat exchanger Pumps Electric control panel Stopping and protective fittings Pipes and bends Heat insulation Bearing structures and strengthening elements

TECHNICAL PARAMETERS OF THE INSTALLATION
Area of the collector field - 80 м^2 Total accumulative volume - 3200 liters Quantity of solar energy gained during the period March-October - 42420 kWh Average seasonal percentage of solar part from the total load of the installation - 28,82 % Note: the solar installation profit are defined for collectors with the following characteristics: *Optics characteristics* *$\tau/\alpha = 1$* *Total efficiency factor for heat losses* *$U_L = > 7$*

ECONOMIC ANALYSIS

Output data
The economic assessment is based on the following conditions:
Value of the installation - 15488 BGL
Price per kWh electricity - 0,124 BGL/kWh
Economic result
Payback period (defined on the basis of the fixed price of the replaced energy) – 3 Seasons

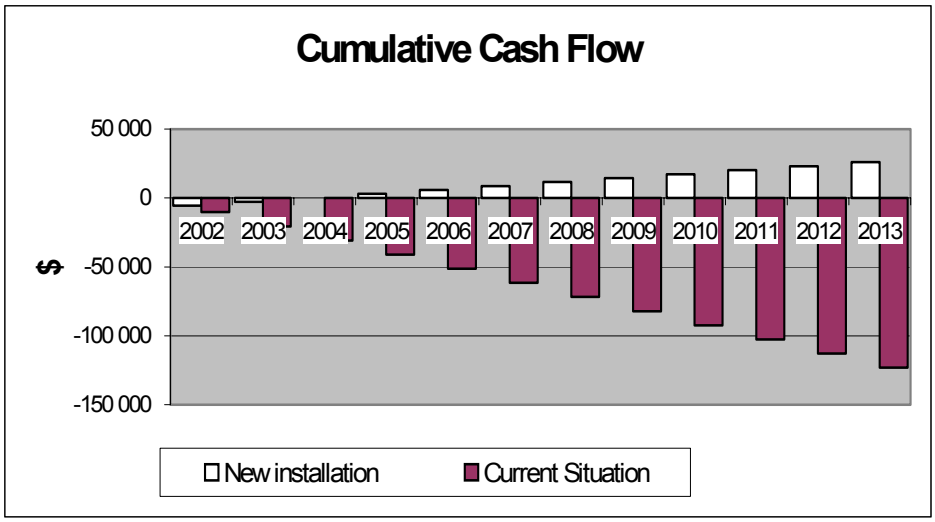

Figure 1 – Cash Flow

PROJECT BENEFITS
Utilization of the local Renewable Energy Resource
Improvement of the sanitary hygienic conditions
Improve the comfort of the inhabitants
Reduction of the budget expenditures for domestic hot water and using the funds for other purposes

FINANCIAL SCHEME
100% financing by the budget of Kustendil Municipality

ENVIRONMENTAL IMPACT ASSESSMENT
Based on replaced electricity
Reduction of CO_2 emissions - 45,82 t/y
Reduction of SO_2 emissions - 1,579 t/y

6.3 Annex 3: Copy of project newsletter January 2001

6.4 Annex 4: Bulgaria – Poland exchange report

Ten participants[1] each from two Know How Fund (KHF) financed projects promoting local sustainable energy planning (LSEP) in Bulgaria and Poland carried out structured exchange visits from Bulgaria to Poland, and from Poland to Bulgaria in November and December 2002. The purpose of these visits was to enable the key stakeholders working on the projects in each country to:

⇒ learn from one another regarding ways to identify and involve key local stakeholders in the process of local sustainable energy planning (priority setting, information collection, plan development and implementation);
⇒ exchange information on the ways and means of defining and developing local energy planning priorities;
⇒ determine how to identify sustainable energy interventions;
⇒ define how to gain the local support, and local, national and international support necessary to implement those interventions; and,
⇒ propose how to incorporate this work into a continuous planning process to address local strategic needs (environment, development, employment, etc.).

At the end of the exchange visit, the Bulgarian participants were asked to complete a questionnaire to indicate what they had learned from the exchange. The full responses to the questionnaire can be found in Section 3.2 below, but in summary, all participants stated that the visit had benefited their organisation, the most useful elements including: new ideas for the utilisation of alternative energy resources; the opportunity to establish contacts with private developers and the insight gained into the structure and operation of local authorities and municipalities in Poland.

New ideas for sustainable energy projects that were stimulated by the exchange included: the utilisation of geothermal energy to heat buildings; improvement of insulation in existing buildings; steam installations; briquettes from wood waste; energy crops (willow) and the production of biogas.

In addition to the questionnaire, the Kustendil Regional Administration volunteered a report on the exchange from their perspective. This report is attached in Section 3.1 below.

From a project manager's perspective, the exchange helped raise the profile of the project amongst local stakeholders, and noticeably improved the confidence and enthusiasm of the Municipality teams in the area of energy planning. It appears to have helped the municipalities make the step from talking about sustainable energy in general terms, to actually focusing on projects and seeing how projects can come to fruition. The direct contact been the Bulgarian and Polish representatives was also extremely useful.

A report of the exchange from the Polish perspective can be found in Annex 4 of the Polish Local Sustainable Energy Project (contract CNTR 012291A) , mid-term report January 2002 available from DFID, London, alternatively contact Madeleine Chapman, ESD Ltd, +44 01225 812 102, Madeleine@esd.co.uk.

1.1.1.1.1

[1] One Bulgarian participant, Julia Stefanova, the representative from the Association of Municipalities, was unable to travel to Poland at short notice. Unfortunately The airline ticket was non-transferable or re-fundable so a replacement was not possible.

Table A4.1 Exchange Participant list

Name	Position and Organisation	Country
Mr Ivan Georgiev Kitov	Deputy Regional Governor, Kustendil	Bulgaria
Mr Ivan Simeonov Minkov	Deputy Mayor , Kocherinovo Municipality	Bulgaria
Mrs Lubka Iordanova Damianova	Contact person , Kocherinovo Municipality	Bulgaria
Mr Tsvetan Nikolov Dinev	Mayor, Sapareva Bania Municipality	Bulgaria
Mr Ivan Georgiev Kiosev	Contact person , Sapareva Bania Municipality	Bulgaria
Miss Daniela Ivanova	Environmental Expert, State Energy Efficiency Agency	Bulgaria
Mrs Antoaneta Assenova Ivanova	Senior Expert, Kustendil Municipality	Bulgaria
Mrs Katerina Ilieva Derlipanska	Head of Municipality, Ownership Department Kustendil Municipality	Bulgaria
Mrs Albena Yanakieva	Project Coordinator, ESD Bulgaria Ltd	Bulgaria
Mrs Anna Onisk	Strategy and Policy Section, EC BREC	Poland
Mr Andrzej Konieko	Vice-Regional Governor, Lidzbark Warminski County	Poland
Mr Wlodzimierz Rago	President, Association of Polish Counties	Poland
Mr Jozef Bialuski	Manager of the Building Department Lidzbark County	Poland
Mrs Iwonna Ficek	Environmental Protection Department, Lidzbark County	Poland
Ms Anna Wozniak	Ministry of Environment	Poland
Mr Stanislaw Rawinski	Secretary, Lidzbark Warminski Municipailty	Poland
Mr Wojciech Michanczyk	Municipality employee, Lubomino Municiplaity	Poland
Mr Ryszard Robaczewski	Director, Heating Company in Orneta	Poland
Mr Ireneusz Slawinski	Municipality employee, Lidzbark Warminski Township	Poland
Mr Wieslaw Tkaczuk	Municipality employee, Kiwity Municipality	Poland

Table A4.1.1 Participants in meetings and site visits – Bulgaria & Poland

Mr Valentin Dimitrov	Senior Expert	Bulgaria
Mr Rossen Kosharski	Junior Expert RES - SEEA	Bulgaria
Mr Ahmed Bozadjiski	Junior Expert - SEEA	Bulgaria
Ms Nadejda Staneva	Expert - SEEA	Bulgaria
Mr Nikolai Nikolov	State Environmental Expert	Bulgaria
Mrs Milena Todorova	Executive environmental agency	Bulgaria
Mr Mihail Balgarencki	SEERA - Chief Expert	Bulgaria
Sapareva Bania Municipality		Bulgaria
Ms Kalinka Andreeva	Secretary of Regional Administration	Bulgaria
Dr Marin Atanasov	Doctor	Bulgaria
Ms Evelina Nesheva	Head of Environmental department	Bulgaria
Mr Vencho Zlatrichev	Chairman of Municipal Council	Bulgaria
Mr Sasho Ivanov	Deputy Mayor of Sapareva Bania	Bulgaria
Kocherinovo Municipality		Bulgaria
Mr Radoslav Boiadjiski	Engineer	Bulgaria

Mr Ivanka Krasteva	Head of High school "Hristo Botev"	Bulgaria
Mr Kostadin Katin	Mayor of Kocherinovo	Bulgaria
Mr Slavcho Temelakiev Lanev	Mayor of Stob village	Bulgaria
Mr Kostadin Grozdanov	Municipality advisor	Bulgaria
Mr Yordan Katin	Advisor in the Municipality	Bulgaria
Mr Stoian Karkov	Chairman of the Municipal Council	Bulgaria
Mrs Veska Icheva	Specialist in the Municipality	Bulgaria
Mr Peter Vezenkov	Mayor of Barakovo village	Bulgaria
Mr Vasil Yarkov	Accountant	Bulgaria
Mrs Marusia Doichinova	Head of "Centre for old people"	Bulgaria
Kustendil Municipality		
Architect Nevena Negrevska	Senior Inspector - Regional Administration	Bulgaria
Mrs Milka Deianova	Senior Expert -Regional Administration	Bulgaria
Mrs Desislava Panova	Deputy Governor - Kustendil region	Bulgaria
Mr Alexander Penchev	Managing director ESD-B	Bulgaria
Mr Jacek Protas	Regional Governor of Lidsbark Warminski County	Poland
Mrs Hanna Uzar	Member of the Board, Lidzbark County	Poland
Mr Wojciech Kowalski	Director, Agricultural School, Lidzbark Warminski	Poland
Mrs Janina Zacharzewska	Scoutmaster, Lidzbark Warminski	Poland
Mr Mieczyslaw Byczkowski	Mayor, Lidzbark Warminski Municipality	Poland
Dr. Artur Wajs	Director of Hospital, Lidzbark Warminski	Poland
Mrs Magdalena Rogulska	Strategy and Policy Section, EC BREC	Poland
Mrs Ludmila Lakomiec	Executive Manager, EC BREC/IBMER	Poland
Mr Tadeusz Ratyński	Executive director, Regional Fund for the Environment in Olsztyn	Poland
Mr Miroslaw Rydzewski	Mayor, Tolkmicko Municipality	Poland
Mr Jaroslaw Kogut	Mayor, Olstyn Municipality	Poland
Mr Benedykt Nowak	Director, Straw boiler – Cherninie	Poland
Mr Zdzislaw Zuromski	Director, ZAMER factory – Kraszewo	Poland
Mr Henryk Janowiak	Owner, MHPP – Eldyty Wielkie	Poland
Mr Marec Gostkovski	Vice Director, Landfill gas and municipal biogas plant	Poland
Mr Vladimej Grigerovski	Vice Director, Landfill gas and municipal biogas plant	Poland
Mr Henryk Mieczkowski	Director, Furniture factory	Poland
Mr Remigiush Alchimowicz	Reporter, Radio Olstyn	Poland
Mr Andrzej Mazur	Mayor, Lubomino Municipality	Poland
Mr Bogdan Maina	Regional Governor, Warmia and Mazury Voivodship	Poland

6.4.1 Visit agendas

Agenda of Polish delegates visit to Bulgaria, November 2001

Date			Activity
25-Nov	Sunday	PM	Arrive Kustendil
26-Nov	Monday	AM	Meeting with Kustendil Regional Administration
		PM	Meeting with Kustendil Municipality
27-Nov	Tuesday	AM	Visit Geothermal Springs, installations, Art Gallery, school, factory, solar installatio
28-Nov	Wednesday	AM	Meeting with Sapareva Bania Municipality
		PM	Visit geyser, Sanitorium, greenhouses, school, canteen
29-Nov	Thursday	AM	Meeting with Kocherinovo Municipality
		AM	Visit school, old people's home, social kitchen
		PM	Visit solar installation Hotel Rila town
		PM	Visit Rila Monastery
30-Nov	Friday	AM	Travel to Sofia
		PM	Meetings with representatives of the National Association of Municipalities, the State Energy Efficiency Agency, the Ministry of Environment and Waters, and State Energy and Energy Resource Agency, representatives of the delegation group.
01-Dec	Saturday	Day	Free time in Sofia
02-Dec	Sunday	AM	Return to Warsaw

Agenda of Bulgarian Delegates Visit to Poland, December 2001

Friday 14.12.2001
Arrival in Warsaw
Saturday 15.12.2001
Sightseeing of the Old Town in Warsaw with a tourist guide – 9.30 – 13.00
Departure to Lidzbark Warmiński
Sunday 16.12.2001
Visit to a wood chip installation in Lidzbark Warmiński - under construction
Visit to the Warmiński Bishops' Castle
Visit to the Agricultural School - one of the most modern schools in the region Presentation of the French - Polish agricultural exchange program Presentation of involvement of pupils in the renewable energy issues Presentation of the school facilities Presentation of energy efficiency measures at the school Exchange of experiences between Polish and Bulgarian Counterparts
Visit to Monastery Stoczek Klasztorny
Monday 17.12.2001
Departure to – sightseeing of 2 biogas plants- landfill gas and municipal biogas plant
Visit to a straw boiler in Czerninie
Meeting with government representatives from the region in Lidzbark - Presentation of both Polish and Bulgarian regions Presentation of energy efficiency programs in the County Presentation of RET programs in the County Discussion and change of experiences between Polish and Bulgarian Counterparts
Festive Banquet with VIPs – Hotel Pod Kłobukiem
Tuesday 18.12.2001
Departure to Tolkmicka
Visit to two wood boilers
Visit to Frombork

14.00 – Project meeting
17.00- presentation of the educational aspect of the project Meeting with local teachers and scouts, Presentation of planned educational program at schools concerning RET which came as a result of the project Presentation of the outcomes of the regional conference- program, participants and conclusions Discussion and change of experiences between Polish and Bulgarian counterparts
Wednesday 19.12.2001
Visit to the small hydro in Ełdyty Wielkie
Visit to a district heating plant in Orneta
Visit to the ZAMER factory in Kraszewo, manufacturer of wood chip boilers
Visit to the “Mieczkowski” factory in Lidzbark Warmiński
15.30 - meeting with the working group Presentation of the structure of the working group Presentation of the so far experiences with the project Local energy planning in Poland- lecture by EC BREC Discussion and change of experiences between Polish and Bulgarian counterparts.
Thursday 20.12.2001
10.00 – meeting with Regional Found for the Environment in Olsztyn
Sightseeing in Olsztyn
Departure to Warsaw
Friday 21.12.2001
10.25 departure to Sofia

6.4.2. Reports from participants

The following pages contain reports by Bulgarian exchange participants. The main report is from the Vice Regional Governor of Kustendil Region, Ivan Kitov, who was the most senior participant of the Bulgarian delegation. The questionnaires have been filled in by the remaining participants. The reports and questionnaires are translated from Bulgarian without alternation.

Report by Regional Administration of Bulgaria

REPUBLIC OF BULGARIA
REGIONAL ADMINISTRATIVE CENTER
KUSTENDIL

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2500 Kustendil

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e-mail: oblast.kn@infotel.bg

Report on the Bulgarian visit to Poland

From the 14th to the 21st of December I was attending a working meeting in the Republic of Poland and more specifically in the region of Warmia and Masuria. The delegation included six representatives from the Municipalities of Kustendil, Sapareva Bania and Kocherinovo and one representative from the State Energy Efficiency Agency and from "ESD-Bulgaria" OOD. This visit was organized by the consulting company ESD Ltd. – UK, whose polish counterpart are EC BREC with head office in Warsaw and with the financial support of DFID.

The objective of the visit was exchange of experience under the local sustainable energy planning project, developed in parallel in Poland and Bulgaria.

The region of Warmia and Masuria is located in the North-East Poland. The region is one of the newly set up sixteen regions, functioning as of 01.01.1999. Until then the administrative division of Poland has been identical to the one in Bulgaria, consisting of 48 regions. The new division provided setting up of counties, which are considered as self-government units. Nineteen counties and 116 municipalities are situated within the region of Warmia and Mazuria. The area of the region is 24 200 km^2 or 7,7% of the territory of the country. The population of the region is 1,5 million people. The region borders (210 km) with Kaliningrad district, which is a part of the Russian Federation. From an economic perspective, food processing, furniture and car tire industries are predominant. The wood processing is also well developed (30% of the territory is covered with forests), as well as agriculture and forestry. From a financial perspective this region is considered as one of the poorest regions in Poland. The level of unemployment is 20%, while in some populated areas it reaches 30%. The two bigger towns, which have a status of counties are Olsztyn /150 000 people/ and Elblag /130 000 people/.

Our delegation was situated at the Lidzbark Warminski county, where the above mentioned project is implemented. From a historical point of view Lidzbark Warminski has been for over 400 years a capital of Warmia. That is why the castle of the Bishops of Warmia with eminent Gothic architecture was situated here. Over 50 years were necessary to build the castle – from 1350 – 1401. Apart from the castle, the agenda provisioned sightseeing of other interesting places with historical importance, such as the "St. Lipka" Cathedral, which is build in Baroque style, rich in ornaments. We also visited Malbork and the largest medieval castle in Europe. As a whole the region of Warmia and Mazuria has a very rich cultural and historical heritage. Apart from that, the region has a lot of lakes, which cover 6% of the territory of the region. All these factors favour the development of tourism, which is one of the priority fields of the regional administration.

The laying of the region is flat and hilly and the highest peak is with an altitude of 180 m, enough for the construction of ski-slope - 400 m long. This indicates that the natural resources are fully used.

The working meeting started on Sunday with a visit of heat installation, utilizing as fuel wood waste, supplied from the wood processing enterprise located close by. This is low cost alternative energy resource. In the afternoon, we had a meeting with the Director of the Agricultural School in the town, which acquainted us with the syllabus, showed us the base, which the school has. It was interesting to find out, that the management of the school have established international contacts with other countries, especially with France. Every summer, on an exchange base, they sent students on training courses in France and vice versa, French students visit Lidsbark Warminski. Our suggestion for a similar cooperation was accepted by the Director of the School, Mr Wojciech Kowalski. On the next day we visited waste treatment plant in Elblag. This is a very modern installation, fully automatic, where the wastes are utilized 80%. Biogas is obtained from the decaying of waste, used for production heat and power energy and for covering their personal needs. Compost is produced from the waste, which is used in the rural economy. We also visited a thermal power plant, where straw is used as fuel. The straw is collected and baled from the owner of the plant with special equipment obtained from the plantations of the local farmers. The utilization of this type of raw material has a double effect: first of all it is a cheap energy resource (for 1 ton of straw the owner receives 30 Zloty or 15 Leva) and secondly, this is a type of subsidy for the agricultural producers. On Tuesday /18.12.2001/ we visited thermal power plant, using timber for fuel (a region rich on biomass). The wood is supplied in three ways:
from trees located on the roads (the cheapest type of wood);
from wood cutting areas;
from wood processing companies.

The installed capacity of the boiler installation was 1 MW with total investment costs of 490 000 Zloty /USD 120 000/. Currently, close attention is paid to the growing of energy willow, imported from Sweden. This is a fast growing plant with a high efficiency factor. It can be used after the third year. The areas planted with this type of willow can be used for 20 years. We also visited a geothermal station under construction, which will use heat pump technology. The principle used is the utilization the heat energy of the water. Two drilling rigs are used – one with 25 m depth and the other on 1500 m. The used water afterwards is returned in the ground.
We had the opportunity to visit small HPP, located close to Lidsbark Warminski, with installed capacity of 700 kW.

On Wednesday /19.12.2001/ we visited district heating plant, which uses wood and coal as fuel. After its privatization, the new owner has entirely modified the boiler rooms and as a result currently the harmful emissions in the air meet the required norms. Apart from that the fuel consumption has considerably decreased. Before the reconstruction, about 40 tons of coal were necessary per month, while after the reconstruction about 35 tons per year. We also visited ZAMER factory, which manufactures and reconstructs boilers for the district heating plants. We were pleasantly surprised from the achievements of the owner in this field. He is a serious competitor to the best manufacturer of boilers – Holland. He told us how he started with initial capital of 300 USD and one employee. Currently he has a modern enterprise with 50 employees and an annual turnover of 1,5 million USD. The owner Mr Zdislav Juromski has invested in a joint venture enterprise with Russia. To our invitation to invest in Bulgaria as well, he expressed his readiness and expects to receive proposals for specific actions.

We also visited a small furniture enterprise, which manufactures furniture for export to Germany. The owners have found a good solution for the utilization of the wood wastes for briquette production, which is the main raw material (free) for the boiler installation heating the factory. This is the best possible solution for the utilization of the wood wastes.

We also had an official meeting with the county administration of Lidsbark Wareminski, where we exchanged information on the both pilot regions. During our meeting with the representatives of the municipalities involved in the “Local Sustainable Energy Planning” project, we exchanged ideas and experience in this field. Our Polish colleagues are in a phase collection of data for the quantity and type of energy used in their region and the possibilities for the utilization of renewable energy sources. We also had a meeting with an NGO - scouts organization. They are actively involved in the project. The members of the organizations are young people. They assist the local authorities in data collection. They also learn how to save energy and are getting acquainted with the renewable energy sources and their utilization. Extremely useful are the so-called “green schools”, where the children

are placed in a natural environment. There they learn more about the natural resources and how to protect the environment.

We had a useful meeting in the regional center in Olztyn /20.12.2001/ with the representative of the Environment and Water Protection Fund. We were impressed by the fact that the people, who violate and pollute the environment, after being sanctioned, cannot appeal the fines, which are extremely high.

I would like to note, that this visit was extremely useful for all of us, because the contacts, which we established, shall be useful not only in the field of energy planning, but also in all the other field of national economy. Personally myself and Mr Jacek Protas, the Regional Governor of Lidsbark Warminski, have agreed to cooperate in the sphere of tourism, by exchanging tourists.

In the commercial field we have agreed to exchange proposals for demand and supply of good and services. These offers will be provided to our manufacturers and commercial companies.

The nearby location of Kaliningrad district, where a lot of Russian companies have representatives and provide commercial services throughout Russia, as well as our good relations with the regional/county administration will be an additional stimulus for our producers, which should concentrate on the export.

Vice Regional Governor of Kustendil Regiona : Ivan Kitov

27.12.2001
Kustendil

Feedback Questionairres from participants
Blank Questionnaire

Name:

Organisation:

1. Was the exchange visit useful to you and your organisation? Yes ☐ No ☐

If yes, please describe briefly what were the most useful things about the visit:
1.1 ……
1.2 ……
1.3 ……

2. Has the exchange helped with achieving the goals of the Sustainable Energy Planning project? (priority setting, information collection, energy plan development and implementation of sustainable energy projects)? Yes ☐ No ☐

If yes, what do you expect the exchange to help you most with? (tick all appropriate)
2.1 Developing actions plans ☐
2.2 Helping collect information and data ☐
2.3 Involving stakeholders ☐
2.4 Identifying projects ☐
2.5 Financing projects ☐
2.6 Other (please specify): ……

3. During the course of the exchange, did you learn ways or means to identify and involve key local stakeholders in the process of local sustainable energy planning? Yes ☐ No ☐

If yes, please note the things you learnt to help identify and involve local stakeholders?
3.1 ……
3.2 ……
3.3 ……

4. Did the exchange stimulate any new ideas for sustainable energy projects or actions? Yes ☐ No ☐

If yes, what were they?
4.1 ……
4.2 ……
4.3 ……

5. Will what you have learnt on the exchange help you to implement sustainable energy projects or actions, either now or in the future? (e.g. ideas for the commercial arrangements of a project or financing methods) Yes ☐ No ☐

If yes, in what way?
5.1 ……
5.2 ……
5.3 ……

6. Did the exchange help you to develop any proposals on how to integrate energy planning into the wider planning process to address local strategic needs? (e.g. development, employment, environment…etc) Yes ☐ No ☐

If yes, what are they?
6.1 ……
6.2 ……
6.3 ……

7. Did the exchange provide you with new ideas on how to disseminate the results at a national level?
Yes ☐ No

If yes, how?
7.1 ……
7.2 ……
7.3 ……

8. What was the most useful part of the exchange and why? (e.g. the informal meetings with counterparts? The meetings with national organisations? The site visits?) (please tick all appropriate)
8.1. Visits to renewable energy sites ☐
8.2 Visits to energy efficiency sites ☐
8.3 Meetings with your counterparts in Poland/Bulgaria ☐
8.4 Discussions about local sustainable energy planning ☐
8.5 Meetings with representatives of regional or national organisations ☐
specify) ……

9. Do you have any additional comments you would like to make regarding the exchange visit?
9.1 ……
9.2 ……
9.3 ……

10. Finally, do you have any ideas, issues or comments regarding the Local Sustainable Energy Project as a whole that you would like to raise at this point?
10.1 ……
10.2 ……
10.3 ……

Please feel free to attach additional sheets to your response in necessary.

Please return the questionnaire by Friday 11th January 2002 to ESD Bulgaria.

Thank you very much!

Questionnaire responses from Bulgarian participants

Name: Miss Daniela Ivanova

Organisation: Expert "Environmental Preservation" at the Energy Efficiency Agency

1.1 The participation in the "bottom up" approach in cooperation with the local authorities and local key stakeholders will improve the skills and knowledge of the EEA (former SEEA) to provide professional consultation services to the municipalities in the Republic of Bulgaria in the field of Energy Efficiency (EE) and Renewable Energy Sources (RES) utilization

2.1 Developing actions plans ☐
2.2 Helping collect information and data ☒
2.3 Involving stakeholders ☒
2.4 Identifying projects ☐
2.5 Financing projects ☐
2.6 Other (please specify): ……

3.1 Preparation of posters, related with the project
3.2 Dissemination of inquiries related with environmental preservation
3.3 Collection and dissemination of written guidelines for data collection for operation with the SAFIRE model

4.1 The Energy is not an isolated component, but an important element in the development of priorities. I suggest methods for the introduction of the term "sustainable energy" in the primary schools in Kustendil, Kocherinovo, Sapareva Bania and Lidsbark Warmionski to be sought.

5.1 The experience gained will facilitate the development and implementation of environmental preservation policy with a view to EE and RES

6.1 Possible legal amendments, which will engage the municipalities within the process of implementation of the policy in the field of EE and RES

7.1 Yes ☐ No ☒

8.1. Visits to renewable energy sites ☒
8.2 Visits to energy efficiency sites ☐
8.3 Meetings with our counterparts in Poland ☒
8.4 Discussions about local sustainable energy planning ☐
8.5 Meetings with representatives of regional or national organisations ☒

9.1 In compliance with the policy of the EEA (former SEEA), I would like to recommend an active cooperation between the team members of the two countries working under the local sustainable energy projects, in order to improve the energy efficiency in Bulgaria. Acquiring the necessary skills and knowledge, the representatives of the local administrations and the key stakeholders should develop local sustainable energy plans and should apply measures for improvement of energy services and abilities for identification and implementation of sustainable energy projects.

10.1 No ☒

Name: Mrs Albena Yanakieva

Organisation: ESD-Bulgaria OOD (Local consultant)

1.1 Exchange of experience and ideas with our Polish colleagues on the development of the local sustainable energy planning projects implemented in Poland and Bulgaria. What was extremely important for the participants in the exchange was the "direct contact" between the Polish and Bulgarian counterparts, the informal way of exchange of ideas, establishment of useful contacts and the site visits. The situation in Poland is similar to Bulgarian. The Polish colleagues are facing similar problems.

The Bulgarian and the Polish teams exchanged experience on the way of identifying the priorities and needs in the region of Kustendil and the county of Lidsbark Warminski. During the working group meeting, the representatives of the pilot municipalities selected by the Lidsbark Warminsky county provided brief information on their municipalities, their strategies for development, the problems faced by the local authorities (employment, high energy costs, local development, environmental protection issues, etc.). The representatives of the pilot municipalities from Kustendil Region shared with their Polish colleagues, that they have similar problems. The means to address these problems were discussed, mainly the importance from utilizing the available renewable energy resources and application of energy efficiency measures.

The benefits from the implementation of local sustainable energy planning projects were recognized. Issues like data collection, SAFIRE training courses in the municipalities, difficulties encountered during collection of data, involvement of key local stakeholders in projects, environmental issues, preparation of draft energy plans, investment projects, legal barriers, exchange of ideas for dissemination of results as well as various other issues related with the implementation of energy planning in the region of Lidsbark Warminski and Kustendil region were discussed.

2.1 Developing actions plans ☐
2.2 Helping collect information and data ☒
2.3 Involving stakeholders ☒
2.4 Identifying projects ☒
2.5 Financing projects ☒
2.6 Other (please specify):

3.1 The Polish consultants EC-BREC jointly with the local authorities have prepared very useful posters, provisioned for the local schools, containing texts and pictures promoting RES, energy efficiency, energy planning, environmental preservation. It is prepared in a very accessible for the children form, thus introducing the energy and environmental problems and the ways to overcome them.
We had the chance to meet the local teachers and a youth organization (scouts), NGO involved in the project. Jointly with some schools and the support of the Regional EcoFund they have developed a program, which aims at introducing to the young people issues like energy saving, energy planning, utilization of Renewables, ecological education. Lectures and talks on environmental protection are organized at schools and universities. "Green" schools are organized, where the children learn more about the nature and how preserve it. The members of the Bulgarian team noted that 'green" schools are organized in the schools in their municipalities as well, even involving the parents in these activities. Primary, secondary and higher education curriculum should be adopted by the Ministry of Education in Bulgaria to educate students on the possibilities and benefits of renewable energy, energy efficiency and environmental protection. The Polish partners noted that the Ministry of Environment should prepare a syllabus and introduce it in the schools.

4.1 Since 1992 Lidzbark has been in cooperation with the Dutch town of Oud-Beijerland. The co-operation includes school exchanges and cultural exchanges. Similar international co-operation and exchange programs in the sphere of RES, energy efficiency, environmental preservation and respectively sustainable energy planning should be established. The exchange programs will help establish international contacts in other countries. Joint ventures between local and international companies should be actively encouraged by the local and municipal authorities.
4.3 Waste treatment plants and biogas installations should be constructed in Bulgaria.

During our visit in Poland, we visited the Waste Utilization Plant in Rubno, near Elblag. It was commissioned in 1998 and it provides possibilities to fully dispose the municipal and industrial wastes of Elblag (about 250 thousand m3 of waste a year). The recovery of reclaimed raw material takes place as well as gaining of biogas that is pumped into the nearby sewage treatment plant and used for generation of electricity for personal needs.
4.4 The benefits from planting fast growing energy willow, which can be used for energy production should be introduced. This benefits from this complex technology is well known in Poland and widely used.
4.5 Utilization of wood waste (from furniture factory) for production of briquettes, which will be used for heating the buildings ("Mieczkowski" furniture factory).
4.6 Regional Environmental Protection Fund should be established

5.1 Establishment of Joint ventures with municipal participation (exp. Bioenergy Association - Tolkmicka Municipality (51%) and "Haisgovski" private company (49%) for construction of boiler systems using wood wastes and straw)
5.2 The local regional and municipal authorities should prepare a data base of potential energy efficiency and RES projects. With the support of the Municipality, bankable projects should be presented to investors or investment funds. The Municipality as a party interested in local renewable energy resource utilization and energy efficiency measures should actively support these investment projects.
5.3 Foreign investment can bring in capital and can result in the transfer of modern technology. Regional, municipal and other relevant state authorities will cooperate with the potential investors and will help for development of their business activities through the relevant legislation and regulations.
5.4 Funds from the municipal budgets should be allocated to replace the old and inefficient installations working with conventional fuel with RES installations.

6.1 To analyze the future growth of energy demand, based on the strategy development plans of the municipality.

7.1 No ☒

8.1 Visits to renewable energy sites ☒
8.2 Visits to energy efficiency sites ☒
8.3 Meetings with your counterparts in Poland ☒
8.4 Discussions about local sustainable energy planning ☒
8.5 Meetings with representatives of regional or national organisations ☒
specify) Regional Governor of the Warmia and Mazury Voivodship, Regional and Vice Regional Governor of Lidsbark Warminski County, Executive Director of the Regional Fund for the Environment in Olsztyn, Members of the Working Group under the Project, representatives of EC BREC, Mayors, representatives of the municipal administrations, local key stakeholders, etc. (See List of Participants)

9.1 The exchange visit in Poland was extremely useful for the entire Bulgarian delegation and for me personally as a consulting party in the Project.
9.2 The exchange visit expanded the experience in local sustainable energy planning.
9.3 The Bulgarian delegations established useful contacts with the local administration, the key stakeholders and local entrepreneurs. Possibilities for international co-operation, such as students exchange programs, development of eco-tourism, implementation of joined projects, business opportunities, etc. were discussed on the meetings and site visits.

Name: Regional Administration – Kustendil

Organisation: Mr Ivan Kitov – Vice Regional Governor

1.1 Establish contacts with the local structures
1.2 New ideas for the utilization of the alternative energy resources
1.3 Establish contacts with private developers (potential investors – "ZAMER" factory)

2.1 Developing actions plans ☐
2.2 Helping collect information and data ☒
2.3 Involving stakeholders ☒
2.4 Identifying projects ☒
2.5 Financing projects ☐
2.6 Other (please specify): ……

3.1 Involvement of NGOs

4.1 Boiler installation for straw
4.2 Utilization of biogas, wood wastes

5.1 Cooperation with "Zamer" factory, manufacturer of wood chip boilers - different modifications, including gas generators, as well as modernization of the existing

6.1 Preservation of ambient air by replacing the liquid fuel with renewable energy resources – exp. Wood, straw, natural gas, etc.

7.1 Through the national media
7.2 Through NGOs

8.1 Visits to renewable energy sites ☒
8.2 Visits to energy efficiency sites ☒
8.3 Meetings with your counterparts in Poland ☒
8.4 Discussions about local sustainable energy planning ☐
8.5 Meetings with representatives of regional or national organisations ☐
specify) ……

9.1 ……
9.2 ……
9.3 ……

10.1 ……
10.2 ……
10.3 ……

Name: Mrs Katerina Derlipanska – Head of Department "Municipal ownership and privatization"

Organisation: Kustendil Municipality

1.1 Utilization of renewable energy resources

2.1 Developing actions plans ☒
2.2 Helping collect information and data ☐
2.3 Involving stakeholders ☐
2.4 Identifying projects ☒
2.5 Financing projects ☒
2.6 Other (please specify): ……

3.1 Establishment of joint venture companies between the municipalities and private companies

4.1 One of the ideas, which can be applied in Bulgaria, is the utilization of the geothermal energy for heating the buildings.
5.1 ……
5.2 ……
5.3 ……

6.1 The Polish legislation can be used as an example. It does not provision the decision on the fines related with the environmental preservation to be appealed. Our legislation should be amended.
7.1 Their experience should be applied in some of the regions in Bulgaria, which have large resources of straw and wood wastes.
8.1. Visits to renewable energy sites ☒
8.2 Visits to energy efficiency sites ☒
8.3 Meetings with your counterparts in Poland/Bulgaria ☐
8.4 Discussions about local sustainable energy planning ☒
8.5 Meetings with representatives of regional or national organisations ☐
specify) ……

9.1 ……
9.2 ……
9.3 ……

10.1 ……
10.2 ……
10.3 ……

Name: Eng. Antoianeta Assenova Ivanova – Senior Expert "Construction"

Organisation: Kustendil Municipality

1.1 Review of non-traditional energy resources
1.2 ……
1.3 ……

2.1 Developing actions plans ☐
2.2 Helping collect information and data ☐
2.3 Involving stakeholders ☐
2.4 Identifying projects ☒
2.5 Financing projects ☒
2.6 Other (please specify): ……

3.1 Establishments of joint ventures
3.2 ……
3.3 ……

4.1 Improvement of the heat insulation of the existing buildings in order to improve the thermal characteristics of the buildings

5.1 Yes ☒

6.1 Establishment of a municipal (regional) fund for environmental preservation and modification of the current legislation in this direction.
7.1 Promote the benefits from the utilization of wood wastes for heating

8.1. Visits to renewable energy sites ☒
8.2 Visits to energy efficiency sites ☒
8.3 Meetings with your counterparts in Poland/Bulgaria ☐
8.4 Discussions about local sustainable energy planning ☐
8.5 Meetings with representatives of regional or national organisations ☒
specify) ……

9.1 ……
9.2 ……
9.3 ……

10.1 ……
10.2 ……
10.3 ……

Name: Mr Ivan Kiosev – Head of Department " Trade and Tourism", Contact person under the LSEP

Organisation: Sapareva Bania Municipality

1.1 Acquaintance on site with the experience of the local experts in the implementation of RES and their energy planning. We consider replicating their experience in Sapareva Bania (construction of boiler installation)
1.2 ……
1.3 ……

2.1 Developing actions plans ☐
2.2 Helping collect information and data ☒
2.3 Involving stakeholders ☒
2.4 Identifying projects ☒
2.5 Financing projects ☒
2.6 Other (please specify): Further cooperation

3.1 The underlined interest and the responsibility of all the key stakeholders and the process of activities
3.2 ……
3.3 ……

4.1 Visiting: steam installations in Libsbark Warminski and Tolkmicka; HPP in Eldyty Wielkie; "ZAMER" factory in Kraszewo (manufacturer of wood chip boilers), and other sites on the territory of Olsztyn County
4.2 Briquette production
4.3 ……

5.1 Desire for further cooperative consultation activities for participation in financially viable projects
5.2 Cooperation with Polish companies, exp. "ZAMER" wood boiler manufacturers
5.3 ……

6.1 Construction of small HPP
6.2 Installation of boiler systems
6.3 Environmental preservation

7.1 Global program for utilization of RES and its implementation
7.2 ……
7.3 ……

8.1. Visits to renewable energy sites ☒
8.2 Visits to energy efficiency sites ☒
8.3 Meetings with your counterparts in Poland/Bulgaria ☒
8.4 Discussions about local sustainable energy planning ☒
8.5 Meetings with representatives of regional or national organisations ☒
specify) Vice Regional Governor of Olstyn, Regional Governors and Mayors, Managing Directors of different Companies, Environmental organizations (Scouts), experts from the water treatment plant, etc.

9.1 ……
9.2 ……
9.3 ……

10.1 ……
10.2 ……

Name: Mr Tsvetan Nikolov Dinev - Mayor

Organisation: Sapareva Bania Municipality

1.1 The management structure of Poland, the role of the local authorities and municipal authorities in their utilization of RES and their planning activities. I think, that boiler systems using straw, energy willow, poplar and wood waste will be successfully applied in our municipality for heating some social (schools, kindergartens, companies) and residential buildings
1.2 ……
1.3 ……

2.1 Developing actions plans ☐
2.2 Helping collect information and data ☐
2.3 Involving stakeholders ☒
2.4 Identifying projects ☒
2.5 Financing projects ☒
2.6 Other (please specify): ……

3.1 Association of all stakeholders for project implementation – through a development of joined scheme with clear regulations in respect to responsibilities, execution and results.
3.2 ……
3.3 ……

4.1 Steam installations - /boiler systems/
4.2 Geothermal installation - /sports hall in Orneta/
4.3 ……

5.1 During project implementation or while facing difficulties
5.2 Cooperative activities with boiler manufacturing company “Zamer”
5.3 ……

6.1 Construction of small HPP – 10 working places
6.2 Boiler and heating installation – 10 working places
6.3

7.1 Not exactly. The answer is somewhere in the middle, because I think we have progressed considerably in this field. This is my personal opinion.
7.2 ……
7.3 ……

8.1. Visits to renewable energy sites ☒
8.2 Visits to energy efficiency sites ☒
8.3 Meetings with your counterparts in Poland/Bulgaria ☒
8.4 Discussions about local sustainable energy planning ☒
8.5 Meetings with representatives of regional or national organisations ☒
specify) Mayors, regional and vice regional governors, as well as the managing directors of all the companies visited. Meeting with the scout organization.

9.1 ……
9.2 ……
9.3 ……

10.1 ……
10.2 ……
10.3 ……

Name: Mr Ivan Minkov – Deputy Mayor and Mrs Lubka Damianova – Contact person in Kocherinovo Municipality under LSEP

Organisation: Kocherinovo Municipality, Kustendil Region

1.1 The exchange visit was extremely useful. We had the opportunity to obtain a lot of useful information from the Polish experts. We had a lot of working meetings and we visited a lot of sites. The obtained information is a source of ideas and specific proposals in the sphere of energy planning.
1.2 We made very useful contacts. We were informed by our polish colleagues on the progress of the "Local Sustainable Energy Planning" project implemented in Poland and the encountered barriers during the implementation of the project.
1.3 The unofficial communication with our Polish and Bulgarian colleagues was extremely useful. New ideas and proposals were discussed for solving the problems in the field of energy planning.
1.4. During the working meetings and site visits, a number of issues related with the energy planning and Renewables were discussed.

2.1 Developing actions plans ☒
2.2 Helping collect information and data ☒
2.3 Involving stakeholders ☒
2.4 Identifying projects ☒
2.5 We found out that the problems encountered in Lidsbark Warminski in the field of local sustainable energy planning are similar to the ones faced by Kocherinovo Municipality. Therefore, partially the experience of the Polish colleagues can be applied in Bulgaria as well.

3.1 The involvement of a lot of key local stakeholders in the process of the local sustainable energy planning was very impressing. We were impressed by the joint activities of the county and the local business in the field of energy planning. Jointly they have achieved a lot and thus they have solved their heating problem in the schools and social buildings.
3.2 The joint activities undertaken with the children and the young people in the field of environmental preservation and renewables were very interesting. The active participation of the county/region in this process and their support provided to the NGOs is of high importance.
3.3 Apparently, most of the problems are as a result of insufficient legislation. The Government and the municipality have not taken active role in stimulating the private business and NGOs in the field of energy planning.

4.1 Of great interest is the production of biogas. With the future construction of a depot for solid municipal wastes in Kocherinovo municipality, this technology can be considered for application.
4.2 After getting acquainted with the process of growing energy willow, we considered the possibility of growing fast-growing plants (exp. poplar) on the valley of Rilska and Struma rivers.
4.3 We considered some ideas for the utilization of solid agricultural wastes, as a result of our visit of a straw boiler in Czernin.
4.4. The wood waste boiler site visit was very interesting and useful.
4.5. The fact that our Polish colleagues are focusing on the reconstruction, modernization and automation of existing boilers is very interesting. Ways to replace the expensive fuel with more cheaper energy sources is sought.
5.1 The exchange helped us realize, that the municipality should do all that is in her power to implement sustainable energy projects. Until now Kocherinovo municipality has done very little to attract the key local stakeholders for joint cooperation.
5.2 We were impressed by the cooperative activities of the county and the regional environmental protection fund.

6.1 We had the opportunity to visit the "Mieczkowski" furniture factory. The wood waste is used there to produce briquettes, which are used to heat the premises. In the past the wood waste were polluting the environment, while the company was using other heating sources.
6.2 By developing a technology for fast growing plants, the municipality creates employment and provisions cheaper energy source.
7.1 One of the ways to disseminate the results is promotion in schools and NGOs. Teaching the children, while introducing the benefits of sustainable energy planning in lectures and classes, as well as organizing green schools is one of the ways in laying the grounds of energy planning.
7.2 Organization of regional and national seminars

7.3 We evaluate as extremely useful on the site visit. Acquaintance with the problem on the site and assistance provided by competent experts is the way to successful energy planning.
7.4 Establishment of working groups

8.1. Visits to renewable energy sites ☒
8.2 Visits to energy efficiency sites ☒
8.3 Meetings with our counterparts in Poland ☒
8.4 Discussions about local sustainable energy planning ☒
8.5 Meetings with representatives of regional or national organisations ☒
- The Regional Environmental Protection Fund, Director of the Agricultural School, Regional Governor and Vice Regional Governor and Mayors, representatives of the Private Business Chamber.

9.1 We found very useful the visits on the sites related with renewable energy resources and energy efficiency. We also consider important our visit in the different municipalities, which settle their problems in the field of energy planning in a different manner.
9.2 The information, which we received on the sites, as well as the brochures and profiles of the companies.
9.3 We were closely introduced with the work of our Polish colleagues in the field of energy planning. We received full and detailed answers of the questions, which interested us, including financial issues and management of municipalities.
10.1 This project can be called a “glance in the future”. This is a new way of thinking and a big responsibility for the municipalities.
10.2 This project should be incorporated in the other municipalities as well.
10.3 At this stage there is big need of competent support (as the one we received from ESD-Bulgaria OOD) in the municipalities.

6.5 Annex 5: The framework plan for the Energy Efficiency Agency to transfer experiences to other regional and local authorities

The LSEP Project Proposal and Work Plan set out tasks and outputs specifically related to the then State Energy Efficiency Agency (SEEA), now the Energy Efficiency Agency (EEA), under the Ministry of Energy and Energy Resources:

- Increase the capacity and skills of the EEA to support and train local authorities in sustainable energy planning.
- Put in place a framework and operations for the EEA to expand energy planning abilities to local authorities nation-wide, including a plan for monitoring and evaluating energy plan impacts.
- Work with the EEA to understand the remaining legal/institutional barriers to promoting renewable energy and possible actions to address.

The framework for the Energy Efficiency Agency to transfer the experiences from the lessons learnt under the LSEP has largely been set by the newly-amended Energy and Energy Efficiency Act of 1999. In December 2001, just over a year after the LSEP Project started, Bulgaria's Energy and Energy Efficiency Act of 1999 was amended by State Gazette Number 108/14, published 14th December 2001. The newly amended Act created the Ministry of Energy and Energy Resources (formerly Committee of Energy, renamed the State Energy Efficiency Agency to the Energy Efficiency Agency, and brought the EEA within the Ministry of Energy and Energy Resources.

A number of elements of the amended Act are directly relevant to local sustainable energy planning in Bulgaria. The amended Act puts major emphasis on renewable energy resources and energy efficiency, and requires municipalities and regions to develop energy plans that incorporate energy efficiency and renewable energy. The amended Act further requires other Government of Bulgaria agencies and ministries to assist local authorities not only develop their plans, but also to help mobilise resources (financial and other) to realise actual investments in energy efficiency and renewable at a municipal and regional level. The Act proposes the establishment of energy centres as non-governmental organisations, and to develop data and databases to promote energy efficiency and renewable energy.

The amended Act has effectively changed the project's support as it relates to the current EEA. Specifically, the Act provides far more legal support and guidance on how the EEA should promote local sustainable energy planning and investment in Bulgaria. Further, the new Minister of Energy and Energy Resources clearly supports local sustainable energy planning, and sees it as important to build upon the lessons learnt under the current LSEP Project in Kustendil Region in other regions and local authorities. In particular, the current Minister supports the focus, as set out in the newly amended act, on project implementation and finance as the logical outcome of local energy planning. He sees it important that local authorities understand their energy efficiency and renewable energy investment options, and that they have the information and data to mobilise finance for investments that reduce energy expenditures at a local level, on the one hand, and that generate new revenues, new employment, improved environment and regeneration in local areas, on the other.

Lessons learned and next steps

A key element of the framework for expanding the LSEP to other regions and municipalities in Bulgaria is to learn from the experiences of the current project. Several important issues arose during the project's implementation that need to be borne in mind for future LSEP projects:

1. Reduce data and information collection requirements: The SAFIRE model needs to be simplified to be more manageable for local authorities. This would first reduce significantly the amount of data and information required for planning, and the times spent and cost of obtaining those data.

2. Develop generalised information and data collection procedures and techniques: With decentralisation and liberalisation of Bulgaria's economy, particularly in the energy sector, data and information that were earlier publicly and easily available are often now privately controlled, unavailable to the public, decentralised amongst a number of companies and agencies, and/or expensive to buy.

However, simple techniques have been learnt during the LSEP that allow for much easier data collection requirements, such as using standard energy consumption coefficients for housing, public buildings, hospitals, etc. These can be easily cross-checked with sales and payment information, but the project has shown that requirements for collecting primary information and data from multiple supply and demand sources can be reduced significantly in other municipalities.

3. Simplify SAFIRE modelling: Now that SAFIRE has been run for three municipalities in Bulgaria, not only can the data and information requirements for the model be reduced, but the actual operations of the model can be simplified. A key lesson learnt through the LSEP project is to move quickly to identify most likely interventions and projects in the area of sustainable energy, and then to focus using SAFIRE on those types of activities. For example, where it is readily apparent that energy efficiency offers the most likely initial improvements in LSEP, then, that is the area where data collection and model running should focus.

It is important to recognise that SAFIRE, indeed any good model, provides a framework for understanding energy demand, supply, costs and options. Particularly at a local, micro-level, developing extensive databases, and putting considerable faith in the results of model "runs" are not the best approaches to planning. Rather, the process of collecting key information and data, and then of examining opportunities and options for meeting important local priorities and strategies, is key to successful LSEP. Therefore, SAFIRE should be used primarily as a good indicator, as a good means to navigate amongst a number of options, to decide which ones lead to the results most important to local authorities (increased revenues, improved employment, reduced expenditures, etc.).

4. Choose next round target regions carefully: It is important to demonstrate and pilot the LSEP approach more widely, say, in four regions of Bulgaria. It is crucial that these regions be selected on the basis of their ability to adopt the LSEP approach quickly, with the most easily available data, with the best mobilised local stakeholders, with the greatest potential for investments and interventions in energy efficiency and renewable energy. In the next round of LSEP, regions should not be excluded on the basis of receiving past support, or having energy centres in place, and the like.

Rather, they should be chosen using most of the same criteria as set out for the current LSEP project, but with the greatest likelihood to succeed in planning and investments. That is, "success breeds success". Showing other municipalities and regions that LSEP can work, and can meet their key priorities, and can lead to investments that address local needs, is crucial at the earliest possible stage if a national programme of local energy planning is to succeed. Therefore, the team recommends that those regions and municipalities who are best able to participate, who have the most up-to-date information, and who are most prepared to make investments based upon sound local planning, should be selected for the next phase of LSEP.

5. Undertake exchanges between participating regions: It is crucial for the next phase of LSEP in Bulgaria, particularly in light of the amended Energy and Energy Efficiency Act, to involve all regions, and as many municipalities as possible, in expanding the LSEP process. This should be done in a structured way, involving general information dissemination (Web site, newsletters, radio and television programmes), focused workshops and seminars on key elements of LSEP, investment and finance workshops (bringing local authorities into contact with financing agencies), and exchanges with regions participating in LSEP. As shown through the Bulgaria-Poland LSEP exchange, the process and speed of planning and investment can be accelerated quickly by giving local authorities participating in one region the opportunity to participate and work with local authorities participating in other regions working with LSEP.

6. Structure involvement of all regional governments in LSEP: As with exchanges between participating regions, it is important to put in place an exchange programme in which other regions who have yet to embark upon LSEP, actual spend time with those who are participating. Structuring visits with practical work and national seminars or workshops, will accelerate the rate of adoption of the LSEP, and will lead to better understanding of the LSEP process. This is all in the interest of both local authorities and central Government. Local sustainable energy planning achieved, in large part, by learning from others, will prove a cost-effective means to achieve Government's objectives, and strengthen the overall planning and project implementation process. Reaching "critical mass" is

crucial at an early stage, and this can be achieved by well-focused dissemination and participation with others involved in the next phase of the LSEP.

7. Develop national guidelines, case studies, and support: The next phase of the LSEP should develop series of focused case studies in the field of planning, training, project identification, project financing, and project implementation. Case studies should be short (not more than 5 pages long), and focused on each step of the LSEP (data collection techniques, planning, etc.). These should form the basis of a training package that can be disseminated to all municipalities. Additionally, these should be used to formulate national guidelines and instructions for municipalities to follow for LSEP at least cost, with least central technical support.

6.6. Annex 6: Recommendations to the Energy Efficiency Agency on legal and institutional barriers.

As a result of our research we suggest that following changes in the legislation in force be made in order to remove the existing obstacles and barriers to the measures for implementation of energy efficiency and renewable energy sources /RES/.

We suggest that paragraph 2, article 22 of the Law of Energy and Energy Efficiency /LEEE/ (State Gazette, No 64/1999, amended No 1/2000, No 108/2001) be changed in order to give a possibility for different preferential prices and allowances, reflecting the different cost price of each RES /wind, water, solar energy, geothermal energy, biomass/.

Paragraph 2, article 22 should be changed as follows:

Article 22 (2) The transporting or respectively distributing enterprise shall buy the electric or heating energy produced from renewable energy sources or by combined heating plants in quantities and on preferential prices determined in a regulation adopted by the Council of Ministers.

To Article 35 of LEEE a new paragraph should be added which reads:

"(6) A permission has to be obtained also in case of construction or extension of a number of energy facilities, producing electric energy, each of them with a power of up to 5 MW, respectively producing heating energy each of them with a power of up to 1 MW, if these energy producing facilities have a total power exceeding 5 MW, respectively 1 MW, are situated in the same place and represent one and the same economic entity."

Article 71, paragraph 2 of LEEE should be changed as follows:

(2) Electric energy may be produced without a license when the total producing power does not exceed 5 MW.

Article 96, paragraph 2 of LEEE should be changed as follows:

(2) Heating energy may be produced without a license when the total heating power does not exceed 1 MW.

In the Regulation for integrating producers or consumers to the transporting and distributing electric networks (State Gazette, No 40/2000, No 67/2001) we suggest the removal of the transporting/distributing enterprise right to refuse integration of energy plants to the network on the grounds other than non-compliance to the technical standards. Such a right is in antinomy with article 72 of LEEE.

Article 3, paragraph 2 of the Regulation should be changed as follows:

"(2) Electric energy enterprises have no right to refuse integration of energy facilities or plants except in case of non-compliance to the requirement under paragraph 1."

In the Law on the Local Taxes and Charges (State Gazette, No 117/1997, No. 71/1998, No. 83/1998, No. 105/1998, No. 153/1998, No. 103/1999, No. 34/ 2000, No. 102/2000, No. 109/2001) we suggest the removal of the stipulations which groundlessly increase taxation on real estates with energy efficient facilities.

From Appendix No 2 *Standards for taxation evaluation of real estates* article 8, paragraph 1, subparagraph 3, Table No 8 the following items should be removed: A. Heating installation; B. Air-conditioning; C. Aluminium joinery; D. Heat insulation.

In the texts under table No 8 subparagraphs A and B should be removed:

a) heating installations include local heating, floor or wall heating
b) air-conditioning installation is an installation which is permanently installed in the building

Article 44, paragraph 3 of The Law on Waters (SG, No 67/1999, No. 81/2000, No. 34/ 2001, No. 41/2001, No. 108/ 2001) should be changed as follows:

(3) Under this law a permit is not needed when the water energy is being transformed into electric energy by any number of turbines each with a power of up to 50 kW and without diverting the water current. A permit is not needed also when hydro-geothermal energy is being produced through the reinjection of underground water without changing its chemical composition or polluting underground waters.

The duration of the permit to use water (article 57 of the Law on Waters) for production of energy under concession should be increased.

In the article 57 a new paragraph 3 should be created, as follows:

(3) In case of a concession for production of energy, the duration of the permit to use water should be equivalent to the duration of the concession.

In article 91 of the Law on Waters the restriction on the right of use on water installations to up to 10 years should be canceled when water installations are used by water corporations, producing hydro-energy. Article 91 should be changed as follows:

Article 91 (1) The owners of water installations may give the right of use on these installations or on technologically independent parts of the installations to water corporations in connection with their activity for a period of up to 10 years. The restriction does not apply to water corporations with activities in the field of hydro-energy.

The list of mineral waters which are exclusive state property under Appendix No 2 to the article 14, subparagraph 2 of the Law on Waters should be reduced. The mineral waters removed from this list become public municipal property. Thus a decentralisation of the ownership on mineral waters is obtained.

To the Regulation No 9 for use of water-supply and sewerage networks (SG, No. 77 /1994, amended, No. 7/1996, No. 3/1997, No. 16/1998, No. 47/1998, No. 3/1999, No. 70/1999, No. 78 /2000) texts regulating the production of electric energy by micro hydro-electrical plants situated on water-mains should be added.

In article 2, paragraph 1 the following sentence should be added after the text *and fire precautions*:

Water-supply systems may be used also for energy production by small- and micro-hydro-electric plants.

Article 14, paragraph 1 should be changed as follows:

Article 14 (1) Any kind of construction or forestation in the region of the permanent way (at a distance of at least 3 metres away from the two sides of the water-main, and for water-mains exceeding 1500 mm – at a distance stipulated in the construction project) of the underground interurban water-supply and sewerage installations is prohibited. Exceptions are made for construction of small- and micro-hydro-electric plants in accordance with an approved project coordinated with the Water-supply & Sewerage exploitation enterprises.

In Regulation No 3 of 16 October 2000 for the terms and conditions of examination, projecting, approving and exploitation of sanitary-supervised zones in the region of water basins and drinking water equipment as well as in the region of mineral water springs, used for healing, prophylactic, drinking or hygiene purposes (SG, No 88/2000) the following changes should be made:

To Article 9 the following paragraph 2 should be added:

(2) Production of energy through construction of small- and micro-hydro-electric plants in the inner belt of the sanitary-supervised zone is permitted when they conform to the following requirements:
they are build from ecologically pure materials
their activity does not pollute the water or transform its chemical composition

Article 12, paragraph 4, subparagraph 1 should be changed as follows:

1. Permanent investments, changes in the use of the land or detracting estates from the forestry in the inner belt I is prohibited except in cases of energy production through the transformation of the energy of water.

In the Regulation No 1 for examination, utilization and preservation of underground waters (SG, No 57/2000, No 64/2000) it is necessary to recategorise mineral waters in order to reduce the charges for using water for energy production by geothermal plants

Article 85 should be changed as follows:

Article 85 (1) According to their use mineral waters are categorised as follows:
I category – mineral waters which may be used for bottling and drinking purposes, mineral waters with high values of biologically significant parameters for healing and prophylactic effects, and mineral waters, containing valuable substances.
II category - mineral waters with law values of biologically significant parameters for healing and prophylactic effects.
III category - mineral waters with under-the-standard values of biologically significant parameters for healing and prophylactic effects.
IV category - mineral waters, unsuitable for drinking and healing purposes or in a regime of reinjection.

In the Tariff of the charges on the right of use of waters and/or permitted use of water basins (State Gazette No. 65/2000, amended, No. 97/2001) the charge for water use should be reduced when for energy production are used waters unsuitable for drinking and healing purposes or in a regime of reinjection.

To the correcting coefficient according to the category of the used mineral water (in Article 3, paragraph 2) a new column *IV category* should be added:

№	Purpose of water use	Single value of the charge (BGL./m^3)	Correcting coefficient according to the category of the used mineral water			
			I category	II category	III category	IV category
1	For healing, rehabilitation, prophylactic or drinking purposes	0,5	1	1	1	-
2	For sport, rest, household or hygiene purposes	0,5	3	1	0,5	0,5
3	For other purposes	0,5	5	3	1	0,5

A new paragraph 3 should be created:

(3) In case of a complex use of water the coefficient K (correcting) is determined as follows:
K = K (maximum) + Σ 0,1 K (other cases)

Example: In case of using category I mineral water for energy production (other purposes):
K = 5 (K for other purposes) + 0,1 x 3(K for sport) + 0,1 x 1(K for healing)"

To Article 237, paragraph 1 of the Law on Urbanization a new subparagraph 6 should be added which reads:

6. an owner (investor) or construction supervisor who has allowed the realization of a construction in discrepancy with the approved project requirements for saving heating energy should be imposed a fine of 3000 – 30000 levas.