



Integration of Sustainable Energy in Bulgaria Introduction



SusCom Project
under the European Commission Altener and SAVE Programmes
Directorate General for Transport and Energy



This project will be disseminated through the international networks of the International Council for Local Environmental Initiatives



Over the past decade, energy efficiency and the use of renewable energy sources has become more important in energy policy discussions, and these have been identified as two of the main instruments to reduce greenhouse gas emissions. Considerable work has been undertaken in Europe to promote clean energy at a local level.

I. INTEGRATING ENERGY AND SUSTAINABLE DEVELOPMENT

The tendency to treat energy as an independent element of local policy and planning in local authorities has often led to a lack of co-ordination of sustainability initiatives.

Experience shows, however, that integrating energy into other local sustainable development plans and strategies is a key condition for increasing the development of renewable energy (RES), rational use of energy (RUE) and Clean Energy for Transport (CET) at a local level, while at the same time addressing a range of other social development priorities, such as education, health, and employment.

II. SUSCOM PROJECT

For the benefits of sustainable energy to be realised, there is a clear need to understand the critical success factors for mobilisation of local governments and key stakeholders (private sector, NGOs, etc.). It is important to identify what factors are at work when sustainable energy is successfully incorporated into local strategic and development plans so that this can be demonstrated to other communities.

To obtain this information, twenty one case studies were carried out in communities in seven countries across Europe and it was focused specifically on the key drivers that have encouraged those local authorities to adopt clean energy support policies, the conditions that have allowed them to integrate clean energy into their other sustainable development plans, and the factors preventing other communities from doing so. The pilot municipalities in Bulgaria, where the case studies were carried out were Velingrad, Sandanski and Assenovgrad.

As a result of the undertaken case studies national operational guide (one for each participating country) has been produced, which highlights both success factors and lessons learned, and includes recommendations on how local and national governments, community leaders and agencies can promote the accelerated uptake of RES, RUE and CET as part of sustainable development plans.

More information on the project and the results can be found on the project's web site::

<http://suscom.energyprojects.net>

III. NATIONAL OPERATIONAL GUIDE

These guidelines will include recommendations for the municipal and local authorities, different ministries and energy agencies to include RES and EE into the municipal development plans across Europe.

The document "National operational Guide" aims to:

- ⇒ Demonstrate the different approaches for development of RES, EE and CET projects on local level;
- ⇒ Demonstrate the benefits from the utilization of RES, application of EE measures and CET in the communities, where energy has been successfully integrated in their development strategies;
- ⇒ Illustrate how the communities have successfully applied these types of projects;
- ⇒ Identify the main barriers, which have to be overcome through the implementation of these types of projects;
- ⇒ Define how and to what extent the RES, EE and CET projects can be or have been included in the local development plans and strategies;
- ⇒ Support (guides, manuals, mechanisms) the local authorities (local authority, NGOs, etc) to develop the plans and successful implementation of projects;
- ⇒ Define the conditions, where the application of the sustainable energy is most effective;

The preparation of the sustainable energy plan is part of the development of the municipal/regional plan/strategy for development.

IV. MAIN STEPS OF THE SUSTAINABLE ENERGY PLAN

1. Preliminary phase

1.1 Review of the strategy for sustainable development of the community and region;

Local sustainable energy planning (LSEP) is based on local priorities and such plan represents an element of the development strategy and plans of the respective municipality (region).



The municipal development strategy and plans should be closely examined.

LSEP should be based on the priorities, identified in the municipal development plan (for the formulation of the short-term objectives) and on the municipal development strategy (for the formulation of medium-term and long-term objectives).

The final objective of LSEP is to contribute for the implementation of the local plans and strategy for economic and social development.

1.2 Establishment of Working Group (WG)

Representatives of all interested parties (shareholders) from the local community should participate in the LSEP working group (e.g., representatives of: the municipal authorities, the energy utilities, the fuel suppliers and the fuel and energy consumers from the various sectors - households, industries, services, health care and education, etc.).

LSEP is the plan of all above mentioned interested parties, so it can be implemented successfully only if the interested parties have previously participated in its elaboration and if it corresponds to their interests.

1.3 Development of Action Plan

The working group has the task to conceive a work plan, indicating the following items:

- Principal tasks for the energy plan development
- Responsible persons for fulfilment of these tasks
- Time schedule for the tasks
- The investment needed and costs

General coordinator of the work group should be appointed. The work plan should include a schedule for the work group meetings for discussion and reporting of the planned activities.

1.4 Organization of public awareness campaigns on regional and municipal levels;

Organization of preliminary public discussion to obtain broad public support from the very beginning, because the energy plan should correspond to the interests of the entire community.

2. Main Activities

2.1 Evaluation of the existing energy consumption

Previously to the energy planning, there should be a clear picture on the existing situation - the structure of the energy consumption of the various sectors of your municipality (public sector, households, services, health care, education, industry, etc), the fuel and energy suppliers, the prices, the locally available RES, etc.

In order to collect the necessary information, you could use the specially prepared questionnaires. The collected and processed information will provide the answers to questions such as:

- What is the fuel and energy consumption of households, public sector, services, etc.?
- Who are the fuel and energy suppliers?
- What are the energy prices?, etc.

Such information is basically needed for selection of EE measures and RES applications.

3. Assessment of RES potential

Data collection

- Solar, wind, biomass, geothermal, hydro energy,

Data processing

- Solar, wind, geothermal, hydro energy;
- Biomass;
 - Wood;
 - Solid agricultural wastes;
 -

4. Assessment of market potential and market penetration of RES

For a detailed assessment of the applicable RES technologies forecast models are needed. E.g., such is the computer model SAFIRE (Strategic Assessment for Implementation of Renewable Energy),



which was successfully used in Bulgaria.

5. Energy Efficiency measures (energy saving technologies at the demand side – organizational measures)

In the initial stage of the planning, focus on application of EE measures at the end user. In general, such measures involve less investment and quickly result in social and economic benefits. These measures should correspond to the type and quantity of generated and/or consumed energy and the specific site characteristics.

In some cases, EE measures could be applied even without positive financial results, in case of significant social benefits. Such could be the case, e.g. in the following types of applications: improvement of school heating; street lighting; emission reduction, etc.

In order to be able to make a correct selection of EE measures, experts should be consulted with proven experience in this area.

6. Assessment of RUE market potential and market penetration;

The assessment provides an answer to the question when and under what conditions an energy technology (respectively the energy generated) becomes competitive.

The assessments of the market potential and market penetration of Renewable Energy are extremely important, when developing mid- and long-term activities in the Energy Plan.

Special computer models are used to assess the market potential and market penetration of RES. Contact companies, which have wide experience in this field.

7. Selection of applicable RES technologies and energy efficiency measures

The selection of these technologies is limited to the available type and quantity of RES, located on the territory of the respective municipality (region). In most of the cases the application of renewable energy technologies (RETs) depends on the financial and economic results.

However, the following benefits should not be underestimated:

- environmental preservation;
- opportunities for attracting investments
- opportunities for CO₂ emissions trading, etc.
- emissions reduction, etc.

In order to select the applicable RET, consultation with experts is required.

8. Monitoring and Evaluating Progress;

The LSEP processes focuses strongly on the realisation of social, economic and environmental benefits that will result from successful local planning and contribute to sustainable development at a local level. However, as a sustainable energy planning process is adopted by municipalities, there is a need for a monitoring and evaluation process to be established. Unless municipalities have a system in place to enable them to monitor their progress towards meeting these objectives, it is difficult to measure and report to the community and other key stakeholders the impacts of implementing sustainable energy interventions.

9. Development of Energy Plan Matrix

After the development of the initial plan (list of activities), follows the preparation of the energy plan matrix. This represents an important part of the energy planning. The drawing up of the energy plan matrix is a technical task. It involves presentation in a table of the planned activities, based on the identified priorities. Both investment project activities and organizational measures are included (e.g., energy management, creation of web site, conduction of public awareness campaigns, etc.)

That the energy plan matrix will be subject to continuous development and changes in future.

10. Development of investment project proposals

The development of an investment project proposal includes several stages:



1 Preliminary preparation
Three types of preliminary analyses are included: <ul style="list-style-type: none">• Technical analysis• Economic analysis• Financial analysis• Project description
2 Financing of investment projects
It is made by a specialized consulting company
3 Development of proposals for the financial institution
<ul style="list-style-type: none">• Municipal budget• Local financial institution, sponsors and donors• International financial institutions, sponsors and donors

The project proposals represent a simplified form of description of investment projects. However, they are conceived to include sufficient initial information. Investment project proposals could include both short-term, medium-term and long-term activities. It is important that they are well-grounded and attractive for investors.

11. Action plan

The action plan is based on the already developed energy plan matrix. It includes detailed description of: The specific activities

- The timing for their implementation
- The responsibilities
- The financing scheme
- The type of implementation control

The above components of the action plan are just recommended ones. You may use also other components provided that they could facilitate your work and improve its quality.

On this planning stage you should already have the LSEP financing program and scheme, covering also the investment projects. Having made a careful assessment of the possibilities of your budget, you should include in it the LSEP related expenses.

Remember that you can obtain 100% external funding in rare occasions only.

Your financial participation in the project, even if being a small one, will indicate to the external investor that you are interested in the investment project and ready to assume responsibility.

12. Public discussion to present the sustainable energy plan

The final results from the LSEP development activities should be presented to the community for review and recommendations before it is submitted to the Municipal Council.

Special attention should be paid to the presentation of the investment projects.

Representatives of various financial institutions (banks, funds, private investors, etc.) should be invited to participate and should be encouraged to discuss:

- what type of the projects they finance;
- what are their conditions.

The next activity is to present the investment project proposals on the municipal/regional web site in Bulgarian and in English. Then publish a suitable booklet with investment project proposals, in order to be able to suggest them to potential investors at each suitable occasion.

It should be noted that investors prefer to have written and well-founded proposals rather than oral descriptions of possible activities.

13. Presentation the plan.program to the Municipla Council for approval

The Municipal Council is the local body of self-government, elected by the inhabitants of the municipality. It determines the development policy of the municipality and all activities stipulated by law. The plan should be approved by the Municipal Council.



V. CONCLUSION

The results from the undertaken twenty one case studies in the seven European countries – Bulgaria, France, UK, Poland, Sweden, Spain, Austria and as the seven National Operational Guides will be distributed at the end of the project through the international networks of the International Council for Local Environmental Initiatives ICLEI

For contacts:

“ESD-Bulgaria” Ltd.

No 38 “Dondukov” blvd.

2nd floor, ap.2

1000 Sofia

Tel.: +359 2 981 68 59, 981 70 41

Tel./Fax: +359 2 980 83 06

E-mail: esdb@esdb.bg

<http://www.esdb.bg>