

**EIE/05/103/SI.42001805**

## **Deliverable 4.1**

# **Abstract version of Master Plan**

*for innovative energy structures in Zlín Region in Czech Republic, which could be feasible for funding in the Structural Funds Programmes in the period 2007- 2013.*

Elaborated by ENVIROS, November 2007

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## 1. Background

### Regional focus

Master Plan of Zlín region, which is a target region of Energy 4 Cohesion (E4C) project in the Czech Republic is a planning document summarizing and further developing conclusions and recommendations of Regional Energy Plan of Zlín Region, which was finalised in 2004. The Master Plan focuses primarily at identification and implementation of concrete sustainable energy actions that would be eligible for support from EU Structural and Cohesion funds in the period 2007 - 2013. It was developed to support regional administration and local self-government in Zlín Region, as well as institutions like Energy Agency of Zlín Region.

### Targeted towards Structural Fund Support

The cornerstone of the E4C – strategy is to support the implementation of energy pilot actions in the selected region feasible for public financial support, with main focus on **European Structural and Cohesion Funds (SF and CF)** during the funding period from 2007-2013. E4C strives to overcome the various constraints which currently hinder the broader use of Structural Funds for innovative energy actions in less developed and rural regions of Europe.

### Cooperative Approach

In the region all main stakeholders were brought together for a successful and efficient definition of innovative energy actions in the respective region. The E4C actor cycle includes municipalities, households, media, capital provider and financial experts. Within this actor cycle the Czech E4C partner ENVIROS was responsible for the coordination of the different actors, and the preparation of the regional Master Plan. Main focus was put to integrate suggestions and ideas existing in the region rather than exposing priorities from outside.

## 2. Master Plan Structure

Comprehensive investigations were undertaken, starting from an abstract and general view on the regions, leading to concrete innovative energy set-ups, consisting of a range of RE and EE projects. A comprehensive and detailed methodology was used, including 3 main elements:

1. **Target region portrait** – providing summary of general context of the region, current energy situation and potential for renewable energy sources (RES) and energy efficiency (RUE) and elaboration SWOT analysis focused at sustainable energy utilisation and .
2. **Energy Vision of Zlín Region** - based on the investigation of existing energy situation, energy vision for Zlín region has been developed. The global objective of Energy Vision is to provide future sustainable energy supply and improved energy management, which would enable dynamic development of the region. The global objective is based on three specific objectives:
  - Current emissions of pollutants and CO<sub>2</sub> from fuel combustion are reduced and ambient air quality is improved;
  - Energy supply is reliable, available and diversified and use of locally available resources is maximised;
  - Energy production and consumption is effective and well planned and managed.

Priorities are also in order to assist to fulfilment of the global and specific objectives of the Energy Vision:

- Energy savings in public and residential buildings;
  - RES installations in public and commercial sector;
  - Decentralised use of biomass in addition to already existing district heating systems based on biomass;
  - Promotion of low-energy housing;
  - Promotion of energy management and increased access to information on new technologies, economic impacts of energy saving measures and on RES implementation, etc.
3. **Identification of concrete actions or action bundles** – containing and analysing concrete projects eligible for funding from EU funds in the period 2007 – 2013 that would contribute to fulfilment of objectives and goals of the Energy Vision

In this way it is ensured that concrete action potential is highlighted which is imbedded in an overall RE promotion concept for the region.

### 3. Identified Energy Actions / Action Bundles for Zlin Region

<b>Energy Action 1 – Grid connected PV system in the facility of Vodní Zdroje Holešov</b>
Proposal includes development of grid-connected solar PV plant located on the part of industrial property of company Vodní Zdroje Holešov, a.s. in Holešov.
<b>Current state</b>
The Investor intends to develop grid-connected solar PV plant of capacity approx. 100 - 150 kWp in the unused part of its industrial facility. A feasibility study of the project was developed and the investor considers submission of application for support from Structural Funds (OP Entrepreneurship and Innovation).
<b>Technological solution</b>
The technological solution is to install fixed PV system connected to the public grid.
<b>Investors</b>
The main investor is company Vodní Zdroje Holešov, a.s. The investor intend to develop and submit an application for support from Operational Programme Entrepreneurship and Innovation 2007 - 2013. The remaining part of investment will be financed from own sources of the investor.
<b>Benefiting groups</b>
The main beneficiary of the project is the company Vodní Zdroje Holešov, a.s..
<b>Financing</b>
The financing will be provided from internal funds of the company Vodní Zdroje Holešov, a.s. with possible partial contribution of bank loan.  The aim is to obtain approx. 30% investment subsidy from Operational Programme Entrepreneurship and Innovation 2007 – 2013.
<b>Expected investment costs</b>
expected investment costs for 150 kWp facility are 18-19 mill. CZK (0,63 – 0,66 mill. EUR)
<b>Expected implementation time</b>
Year 2007-2008

<p><b>Action Bundle 2 – Energy savings + RES utilisation project bundle in education facilities in the assets of the Zlín Region</b></p>
<p>Proposal includes implementation of energy savings measures and measures for utilization of RES in selected education facilities (mainly secondary schools) which are in the assets of and operated by the Zlín Region.</p>
<p><b>Current state</b></p>
<p>Zlín Region has developed an investment plan for reconstruction, improvement and extension of education facilities and elaborated energy audits of its facilities. The results and recommendations of the energy audits, however, were not or were only partly projected into the investment plan.</p> <p>Currently, the Energy Agency of the Zlín Region reviews the energy audits and their recommendations, and based on their findings, identifies the best projects for implementation of packages of energy savings and RES measures.</p> <p>There are currently pre-identified 4 education facilities for implementation of energy savings projects. Based on the conditions of relevant Call for applications from the Operational Programme Environment it will be further necessary to:</p> <ul style="list-style-type: none"> <li>• decide on bundling of the applications for support –possibly several smaller bundles or individual project applications will be developed.;</li> <li>• select relevant measures to be included in application for support – will depend on concrete conditions of relevant Call for applications from the Operational Programme Environment;</li> <li>• update energy audits of schools which will be a required annex to the subsidy applications;</li> <li>• update identification and evaluation of costs;</li> <li>• find, evaluate and decide for relevant sources of co-financing.</li> </ul>
<p><b>Technological solution</b></p>
<p>The packages of energy savings measures identified in the energy audits of four pre-selected education facilities consist of thermal insulation of the buildings, reconstruction of windows and doors, improvement of efficiency of heating sources and heating systems, energy efficient lighting systems etc. In selected facilities, there was also identified potential for installation of thermal solar systems for hot water heating.</p>
<p><b>Investors</b></p>

The main investor is the Zlín Region.
<b>Benefiting groups</b>
<p>The benefiting groups are:</p> <ul style="list-style-type: none"> <li>• The Zlín Region</li> <li>• Municipalities</li> <li>• Schools and students</li> </ul>
<b>Financing</b>
<p>The financing will be provided by the Zlín Region from the planned investment budget. The consideration of conclusions and recommendations of energy audits will help to invest in more efficient way, reduce investment costs or include more cost effective measures while increasing their value through higher energy savings / production of energy from RES.</p> <p>The significant part of the investment (up to 80-90%) is envisaged to be received as support from Operational Programme Environment 2007-2013.</p>
<b>Expected investment costs</b>
<p>Approx. 60 mill. CZK (2,14 mill. EUR)</p> <p>The expected investment costs will be updated based in finalization of identification of suitable facilities and concrete measures.</p>
<b>Expected implementation time</b>
Year 2008-2010

<p><b>Action Bundle 3 – Energy savings + RES utilisation project bundle in social care facilities in the assets of the Zlín Region</b></p>
<p>Proposal includes implementation of energy saving and RES utilization measures in selected social care facilities (mainly senior homes) which are in the assets of and operated by the Zlín Region.</p>
<p><b>Current state</b></p>
<p>Zlín Region has developed an investment plan for reconstruction, improvement and extension of social care facilities and elaborated energy audits of its facilities. The results and recommendations of the energy audits, however, were not or were only partly projected into the investment plan.</p> <p>Currently, the Energy Agency of the Zlín Region reviews the energy audits and their recommendations, and based on their findings, identifies the best projects for implementation of packages of energy savings and RES measures.</p> <p>There are currently pre-identified 16 social care facilities for implementation of energy savings projects. Based on the conditions of relevant Call for applications from the Operational Programme Environment it will be further necessary to:</p> <ul style="list-style-type: none"> <li>• decide on bundling of the applications for support –possibly several smaller bundles or individual project applications will be developed.;</li> <li>• select relevant measures to be included in application for support – will depend on concrete conditions of relevant Call for applications from the Operational Programme Environment;</li> <li>• update energy audits of schools which will be a required annex to the subsidy applications;</li> <li>• update identification and evaluation of costs;</li> <li>• find, evaluate and decide for relevant sources of co-financing.</li> </ul>
<p><b>Technological solution</b></p>
<p>The packages of energy savings measures identified in the energy audits consist of thermal insulation of the buildings, reconstruction of windows and doors, improvement of efficiency of heating sources and heating systems, energy efficient lighting systems etc. Due to character and utilisation of the facilities throughout the whole year, the social care facilities are in particular suitable for installation of solar thermal systems for hot water heating.</p>
<p><b>Investors</b></p>

The main investor is the Zlín Region.
<b>Benefiting groups</b>
<p>The benefiting groups are:</p> <ul style="list-style-type: none"> <li>• The Zlín Region</li> <li>• Municipalities</li> <li>• Residents and users of the social care facilities</li> </ul>
<b>Financing</b>
<p>The financing will be provided by the Zlín Region from the planned investment budget. The consideration of conclusions and recommendations of energy audits will help to invest in more efficient way, reduce investment costs or include more cost effective measures while increasing their value through higher energy savings / production of energy from RES.</p> <p>The significant part of the investment (up to 80-90%) is envisaged to be received as support from Operational Programme Environment 2007-2013.</p>
<b>Expected investment costs</b>
<p>Expected investment costs will be updated based on identification of concrete facilities. and development of project bundle(s) for application(s) for support.</p>
<b>Expected implementation time</b>
Year 2008-2010

## 4. Conclusion and Outlook

The Master Plan of Zlín region, elaborated within Energy 4 Cohesion project is a planning document summarizing and further developing conclusions and recommendations of Regional Energy Plan of Zlín Region which was finalised in 2004. The Master Plan focuses primarily at identification and implementation of concrete sustainable energy actions that would be eligible for support from EU Structural and Cohesion funds in the period 2007 - 2013. It was developed in order to support regional administration and local self-government in Zlín Region as well as institutions like Energy Agency of Zlín Region, which is responsible for implementation of Regional Energy Plan of Zlín Region as well as for coordination and dissemination of sustainable energy production and utilisation at regional level.

Regional Energy Plan of of Zlín Region was already finalized in 2003-2004, however, implementation of its conclusions and recommendations will be a long-term task. The possibilities for support of concrete sustainable energy actions are significantly extended by elaboration of Operational Programmes facilitating funding from EU Structural and Cohesion Funds, in particular, two key Operational programmes covering also sustainable energy actions:

- Operational Programme Environment – providing support for sustainable energy actions in public sector within its Priority axis 2 and 3.
- Operational Programme Entrepreneurship and innovation – providing support for sustainable energy actions in private sector (small and medium entrepreneurs) within it sub-programme Eko-Energie.

As the development of the Operational Programmes and discussions with the European Commission were not yet finalized at the time of elaboration of the Master Plan, new possibilities and new types of sustainable actions eligible for support may appear in a short period. The Master Plan is, however, an open document and as such should be used and if necessary, updated in order to reflect new situation.

A strong role in support of implementation of actions identified within this Master plan as well as other actions, further updates of this Master Plan, coordination and dissemination is foreseen for Regional Energy Agency of the Zlín Region, which is key regional stakeholder and which has also participated and supported elaboration of this Master Plan.

Several municipalities in Zlín Region have started to voluntarily develop their own Municipal Energy Plans and individual projects or bundles of sustainable projects for submission for support from EU funds. This Master Plan should serve as a tool for decision making in the

field of RES utilisation and energy savings measures incl. investments planning and help the municipalities and other stakeholders to coordinate their activities and set their projects in line with sustainable energy priorities and goals at the regional level.

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*This report was developed by:*

Enviros

Jaroslav Jakubes, Vladimira Henelova

Enviros s.r.o.

Na Rovnosti 1, 130 00

Praha 3, Czech Republic

[jaroslav.jakubes@enviros.cz](mailto:jaroslav.jakubes@enviros.cz), [vladimira.henelova@enviros.cz](mailto:vladimira.henelova@enviros.cz)

[www.enviros.cz](http://www.enviros.cz)

*Coordinator of Energy 4 Cohesion:*

WIP – Renewable Energies

Martha Bißmann

Sylvensteinstr.2

81369 Munich, Germany

Tel: +49 89 720 12 735

[martha.bissmann@wip-munich.de](mailto:martha.bissmann@wip-munich.de)

[www.wip-munich.de](http://www.wip-munich.de)