

# Beyond Energy Action Strategies



## D.3.1.c – Business Plan - Promotion of EE and RES solutions in Zemgale region, Latvia

**Title of the project: Promotion of EE and RES solutions**  
**Location: Zemgale region, Latvia**



**Submission date: August 2015**



Co-funded by the Intelligent Energy Europe  
Programme of the European Union

*The sole responsibility for the content of this material lies with  
the authors. It does not necessarily reflect the opinion of the European Union.  
Neither the EASME nor the European Commission are responsible for any use that  
may be made of the information contained therein.*

## Contents

1	Summary of the Project/Project at a Glance.....	3
2	Details of the Proposed Project.....	3
3	Internal aspects .....	4
4	External environment.....	5
5	Market Potential .....	5
6	Risk analysis.....	6
7	Financial Analysis.....	6
7.1	Cost.....	6
7.2	Income.....	6
7.3	Feasibility assessment.....	6
7.4	Sensitivity analysis.....	6
8	Implementation roadmap .....	7
9	Conclusion .....	8

## 1 Summary of the Project/Project at a Glance

Step by step EE and RES solutions are taking bigger and bigger part in energy market in Latvia. In public lighting, for instance in the latest survey on public lighting in 2009 for the SEAP purposes showed that majority of used lamps in Zemgale region in public lighting sector were efficient ones - 60 % of bulbs were sodium and 1 % were LED. In recent years renovation of public lighting has taken place in many municipalities of Zemgale region – new sodium/LED lamps were installed, lighting poles replaced. But there is still big potential of energy saving in public lighting sector in Zemgale region as 39 % of lamps in public lighting sector are mercury and incandescent.

The second major technology planned to be promoted under this project action is different renewable technologies, such as solar technologies - especially the solar collectors for the buildings with high water consumption in summer as hospitals, hotels, kindergartens swimming pools etc. Samples of such technologies exist in Latvia and Zemgale region, but they are rare pilot projects, although Latvia receives as much sunlight as North Germany, which is one of the front runners in use of solar technologies.

## 2 Details of the Proposed Project

### Objectives:

To increase the use of EE and RES technologies in public lighting and other areas. At least 1-2 or more projects using EE and RES technologies reducing CO2 and the associated emissions in public lighting or other areas.

### Expected results

Increased amount of saved GHG emissions, increased number of locations where EE and RES technologies have been used.

ZREA will focus on 5 municipalities, which are ZREA members: Jelgava city, Jekabpils city, Ozolnieki county, Bauska county and Auce county. Municipalities are bodies operating in certain territories and are responsible for their territory and infrastructure development – locally, they are decision makers to deploy EE and RES technologies in their administration or institutions to achieve the set objectives in SEAPs and serve as sample to the other public.

### Activities:

- At least 3 workgroup meetings of involved stakeholders in order to decide on projects in EE and RES technologies in public lighting and other areas, promote the idea and decide - which municipality would be interested to install EE/ RES technology and where it would be the most feasible to do it.
- Collaboration of ZREA and the involved municipality in implementation of the chosen technology and project and decide on project installing some EE or RES technology.
- Dissemination of the good practices -presentation of the solar collector to the public
- Preparation of the procurement documentation for technical design technical design for RES powered pedestrian crossings in remote places
- Installation of RES powered pedestrian crossing(s) - public lighting

- Seminars on the newest EE and RES technologies and national / EU support programmes for EE and RES technologies, if such are announced, presentations of the implemented EE/RES technologies - in ZREA member municipalities and other partners' premises. Informative campaign in the form of seminars combined with demonstrations of technologies, where appropriate.
- Consultations in preparation of project applications for national calls, assistance in preparation of procurement documentation or project applications.

### 3 Internal aspects

#### The Strengths

- Use of local resources - by using local resources it is possible to safeguard some local jobs, get cheaper energy due to no transportation, produce energy for self-consumption.
- Possibility to cover part of self-consumption - becoming more energy independent and self-sufficient - by increase in energy production from local RES Latvia will become less dependent on imported fuels.
- Strengthening the local economy - the energy will be local, will not have to be imported. Increasing share of renewables in energy mix and for self consumption will create new local jobs in technology provision, construction, operation and maintenance of these facilities, most of this work could be done by local companies.
- Clean energy - Municipality specialists, people in general favour the idea of clean energy therefore choosing clean energies where it is possible, even if they are more expensive. This idea has to be strengthened to add volume.

#### Weaknesses

- Insufficient knowledge in the newest and proven EE and RES technologies - Municipality specialists lack knowledge on the full range of the available EE and RES technologies in public lighting and other areas, there is quite high level of scepticism as these are quite new technologies in the market. Sometimes there is unwillingness to understand and to hear some information.
- Complexity of the installation due to lack of knowledge and experience - in majority of municipalities and private partners new EE and RES technologies such as LED in lighting and solar technologies are quite new, they do not have sufficient experience in installation of them or elaboration of technical requirements for procurement.

## 4 External environment

### The threats

- low purchase capacity - Due to relatively high initial investment cost of the EE and RES technologies, such as LED lamps or solar collectors, other, in comparison with the conventional technologies, they are considered as luxury commodity. Even if exploitation of LED lamps, solar collectors or similar technologies is cheaper, the start capital/ necessary investment is quite high both for private persons and for companies and municipalities. Due to novelty of these technologies and their high price, companies and municipalities are still reluctant to purchase and use them to wide extent.

### Opportunities

- To disseminate further the knowledge, green thinking and experience in the region and beyond - With successful implementation of the BEAST action and increasing the share of EE/RES technologies it would be possible to disseminate this knowledge and the positive experience.
- National and /or EU funding – Co-financing from national and/or EU programmes could cover the extra costs for the LED, solar and other technologies making them more available for the municipalities, private persons and citizens.
- By proper planning the new EE and RES technologies can be as cost effective as the conventional - for instance solar technologies can be applied to hospitals, elderly homes, spas and swimming pools etc. where there is big volumes of hot water consumption also in the sunny part of the year. Solar technologies can be also combined with earth heat pumps etc. By proper dimming of LED lights the energy consumption can be reduced even more, providing cost effective solutions for the public lighting.

## 5 Market Potential

In line with Latvia long term strategy in energy –by 2030 and the other relevant planning documents, the indicative targets in energy are:

- 50% of RES share in the energy gross end-consumption by 2030
- by 2030 the average heating consumption is reduced per 50%.

So demand would be more policy driven rather than market driven, and in this energy policy context EE and RES technologies will have a significant market potential.

The possible threat is the relatively low purchase capacity of municipalities where means are usually sufficient mostly for priorities.

So significant opportunity could be provided by national and/or EU support programmes, co-financing that could cover the extra costs for the new technologies and provide extra motivation.

## 6 Risk analysis

The main risk would be low purchase capacity - due to relatively high initial investment cost of the EE and RES technologies, if no support is provided by national and/or EU support programmes, the motivation to use EE/RES technologies might be insufficient due to their high price and municipalities might choose another conventional/carbon technology instead.

## 7 Financial Analysis

### 7.1 Cost

Within BEAST project planned time frame for implementation of this activity/project is 3 years from 2014 to 2017. Estimated costs for planned workgroup meetings (at least 2) informative campaign and the following activities : 1124 EUR.

The costs for installation of sun collectors in Ozolnieki municipality 18 000 EUR

The costs for elaboration of technical design for RES powered pedestrian crossings in remote places (public lighting) and for installation of RES powered pedestrian crossing(s) 5000 EUR.

Total: 24 124 EUR

### 7.2 Income

It is expected to cover some part of energy self consumption for preparation of the hot water etc. The benefit will be for municipalities owning the solar collectors or RES fuelled pedestrian crossing.

### 7.3 Feasibility assessment

The installation of EE/RES technologies such as solar collectors, solar fuelled pedestrian crossings would be more political decision because of green thinking and will to eliminate climate change rather than feasible due to their high cost in comparison to conventional technologies.

### 7.4 Sensitivity analysis

The main parameters influencing the economy of the installed units are the costs of designing, devices and installation which vary depending on the price level on the market, the number of bidders etc.

The other parameter – whether there is support available from the state EU programmes

The third - operational and maintenance costs

## 7.5 Social benefits and Public support

The social benefits from implemented EE and RES technologies will be reduced CO2 levels and the associated emissions thus contributing to the elimination of the climate change and achievement of the objectives undertaken in line with EU energy policy and Covenant of Mayors /SEAP requirements.

Benefits include use of local resources - strengthening the local economy and possibility to cover part of energy self-consumption.

Public support - national and/or EU support programmes, for extra motivation to use EE/RES technologies would be very necessary. As the new planning period is recently started new programmes in this area have not been announced so far, but in line with energy policy and the national Development plan such support should be provided in 2016-2017.

## 8 Implementation roadmap

	2014		2015		2016		2017
	1st half	2nd half	1st half	2nd half	1st half	2nd half	1st half
Work group meetings , information and decisions on the possible EE and RES solutions to be used in Zemgale municipalities	x	x	x	x	x	x	
Implementation of the decision -preparation of the procurement for design and installation of the solar collectors in Ozolnieki county, Ozolnieki municipality in collaboration with ZREA.							
Dissemination of the good practices - presentation of the solar collector to the public							
Preparation of the procurement documentation for technical design technical design for RES powered pedestrian crossings in remote places							
Installation of RES powered pedestrian crossing(s) - public lighting							

## 9 Conclusion

New pilot projects using EE and RES technologies, for instance installation of sun collectors, RES powered pedestrian crossings in public lighting will build more trust in them and will fulfil the role of municipalities as drivers of development and will help them to market them as green municipalities with clean air, attractive for the possible residents to choose this place and environment for living. It will help municipalities to achieve the objectives set in SEAPs and the EU and national energy policy eliminating the climate change.