



Documentation of a project with EU funding

One of the aims of the Streetlight-EPC project is to tackle a major barrier for EPC market development: the access of capital for ESCOs and public authorities (owners of public lighting) for project preparation costs and capital expenditure.

Since Streetlight-EPC focuses on small to mid-sized projects (where the investment levels are significantly below those required for European funding programmes), guidance and assistance towards European funding options and related Technical Assistance Services is provided (as tools for bundling smaller projects into larger one, making them thereby eligible for European funding).

This report shares experience gathered from the NEWLIGHT project. This project consists of the bundling of the streetlight refurbishment measures in 57 municipalities in North-West Croatia. The project has received ELENA funding.

NEWLIGHT (EIB ELENA) project

What is ELENA?

ELENA – European Local Energy Assistance

Run by the EIB, ELENA is funded through the European Commission's Intelligent Energy-Europe programme. ELENA covers up to 90 % of the technical support cost needed to prepare, implement and finance the investment programme. This could include feasibility and market studies, programme structuring, energy audits and tendering procedure preparation. With solid business and technical plans in place, this will also help attract funding from private banks and other sources, including the EIB. So whether it is the retrofitting of public and private buildings, sustainable building, energy-efficient district heating and cooling networks, environmentally-friendly transport etc, ELENA helps local authorities get their projects on the right track. More on ELENA here:

<http://www.eib.org/products/advising/elena/index.htm>

Why bundle projects?

For smaller municipalities and cities, the feasibility of public lighting modernisation projects can be significantly increased if projects are 'bundled' together (aggregated), creating a larger investment opportunity. This can significantly decrease the (specific level of) 'transaction costs and risks' (when standardised methods are used), thereby improving

access to finance. Regions, provinces, and entities (agencies, networks, utilities or counties/regional authorities) serving a larger number of municipalities can play a significant role in the project bundling process.

Zagreb and Krapina-zagorje counties in North-West Croatia played a crucial role in the bundling process for the NEWLIGHT project. REGEA (an energy agency), as final beneficiary, managed the whole project process, but the counties secured 10 % co-financing. Through a combination of ELENA funding and the counties co-financing, 100 % of costs for PDA activities was secured for the end users (cities and municipalities).

Advantages and disadvantages of bundling?

Advantages:

- Ideal business model for energy agencies (as they already operate with a number of local and regional authorities making the aggregation process easier)
- PDA costs can be co-financed (up to 90%)
- Transaction costs are significantly decreased

Disadvantages:

- Risky venture due to a large number of stakeholders – strong management and communication strategy needed
- Costly – project preparation phase - hours needs to be spent in preparing the project
- Long lasting preparation process – from 6 up to 24 months (depending on the size and number of local authorities) needs to be spent on communicating project idea

The first step

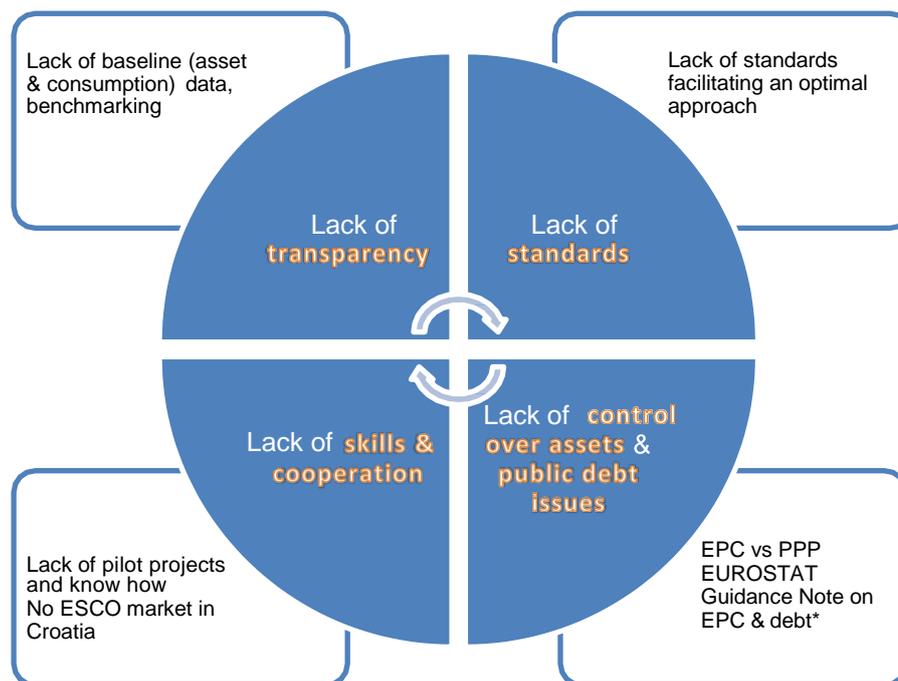
The first step in the bundling process for streetlight refurbishment is to collect basic information on the existing system (targeted infrastructure) showing, for example, the nominal capacity and breakdown of lighting sources, the number of lampposts, annual electricity consumption, annual energy and maintenance and operations costs, ownership of assets, and some other basic features of public lighting. Based on this information, the (economic) investment potential can be analysed and a project proposal can be developed. Issues about calculating the baseline should be addressed in cooperation with territorial and utility organisations. Depending on the number of parties and the size of each individual project, the process can take from 3 to 6 months (to complete a proper baseline survey).

REGEA developed a masterplan of street lighting for two counties with extensive details on existing technologies, savings potential, investment potential and financing possibilities for modernisation costs. In addition, REGEA developed a detailed methodology for streetlight energy audits that assures uniformity of the gathered and analysed data.

Project NEWLIGHT activities

- Phase I: Preparation and execution of joint public procurement for streetlight energy audits (based on REGEA's methodology) – duration 12 months
- Phase II: ESCO (EPC/PPP) documentation preparation – duration 12 months
- Phase III: Preparation and execution of joint public procurement for ESCO services (based on ESCO methodology) – duration 12 months

Key Challenges



- Insufficient baseline data – methodology for energy audits had to be developed
- No ESCO market in Croatia – the presence of a facilitation service is mandatory
- Low energy prices (50 % cheaper than EU average) resulting in long payback periods in ESCO projects – cofunding (subsidies) or equity is needed
- Legal aspects of PPP – lack of projects (good examples) to learn from

NEWLIGHT – Insights & recommendations

- Cooperate on the regional level to ensure availability of skills, technical design capacity, avoid 'reinventing the wheel', reach for economies of scale (lower level of transaction costs as compared to project value)
- Involve regional authorities in the bundling process
- Use standard methods to lower the (perceived) risks of projects and facilitating financing
- Decrease the cost of audits and preparatory studies through territorial cooperation

- Consider smart city aspects in an integrated manner (i.e. Wi-Fi, sensors, electric charging infrastructure). These raise questions on the potential revenue sources to be associated with these additional cost items, and data confidentiality issues (which differ by country).
- Consider various contractual possibilities like ESCO-EPC, operation & maintenance contracts with energy efficiency investment, and leasing (check the EUROSTAT Guideline on ESCO and public debt)
- Ensure independent quality control during investment and operations
- Take the election calendar into account in the investment programme
- Target best performance (not only lowest price) in public procurement
- Introducing new models of contracting in public administration requires time - having reference (pilot) projects can help (PPP, EPC...).
- Finding a solution for financing is not enough to make a project move forward. Municipalities need coaching throughout the process. Facilitation services are crucial.
- Consider including citizens in the project and letting them participate from early on as this can increase citizen acceptance. It is not just about energy savings, but also about comfort and security for the citizens.
- Utilities with a 'traditional mind-set' (focused on selling electricity) have little incentive to helping municipalities save energy unless, for example, the EU Energy Efficiency Directive is transposed in a way that obliged them in this direction. Forward looking utilities are ready to assist the municipalities in order to keep them as clients and since energy efficiency projects can be good business.
- White certificate schemes can play a significant role in some countries.
- A culture of collaboration between the public and private sectors needs to be developed
- Consider using standard information systems (GIS platform or similar)

NEWLIGHT project factsheet

Location	North-West Croatia: Zagreb County and Krapina-Zagorje County
Beneficiary	North-West Croatia Regional Energy Agency (REGEA)
Facility	EIB ELENA
Sector	Street lighting
Total project development services (PDS) cost	790,000 EURO
ELENA contribution (90 %)	711,000 EURO
PDS financed by ELENA	The project development services will support the preparation and implementation of energy efficiency measures in public lighting. The Regional Energy Agency of North-West Croatia (REGEA) will support the investments in two associated counties covering 57 local authorities. The foreseen investments will be implemented mainly through a Design and Build contracting model, Energy Performance Contracting (EPC) and Public Private Partnership (PPP).

Description of ELENA operation	REGEA will support the refurbishment of luminaires in the two counties to increase the energy performance of public lighting owned by local authorities. The energy efficiency measures foreseen include mainly replacing the luminaires through more efficient technologies like LED and installing power regulation systems. Additional necessary works like the reconstruction of light poles and replacement of power cables are also foreseen.
Timeframe	2015 - 2018
Project status	On-going
Basis for investment identification	The investment programme has been prepared on the basis of information provided by the local and regional authorities.
Investment programme description	Energy efficiency street lightning system in the two counties.
Investment to be mobilised	20 million €
Expected results	Energy Efficiency – savings 9.5 GWh/year CO ₂ reductions – savings 2,800 CO ₂ eq t/year
Energy saving potential	60 %
Simple payback period (SPP)	14 years (without subsidies) 11 years including maintenance cost reduction
Leverage factor (minimum 20)	28
Market replication potential	The market replication potential for other regions in Croatia is considered high.
Contact person (beneficiary)	Ivan Pržulj e-mail: newlight@regea.org Tel: 00385 1 3098 315
Project web page/contact person	www.regea.org
NEWLIGHT project video	https://www.youtube.com/watch?v=jwXkssf3aYg