

Guidance for the commercialization of an “innovative energy saving solution” for public lighting and identification of possible opportunities for further development

This recommendation package was elaborated with a focus on achieving greater market outreach of an innovative energy saving solution in the area of efficient management of public lighting systems.

Keywords: Recommendation, pitch, EMIS, energy efficiency, public lighting, operational management, failure log, risk aversion, decision support, asset database, maintenance services

Aims of this recommendation

The recommendations are dedicated to address improved access to final clients and also propose some innovative business models to support market uptake in key interest areas.

Topic and purpose of this document (provide recommendations on something)

The main purpose of this recommendation package is to support the uptake/commercialization of one of the

company's main products (energy monitoring and management system for public lighting) within the countries of the Danube region, Europe and beyond. The topic of the recommendation package is improving energy efficiency in (public) infrastructure and buildings through innovative monitoring and management solutions.

Ecolnn Danube project and the role of recommendation packages in the project.

Matchmaking and the transfer of knowledge and/or technology is the core principle on which the project is

Quick read

The purpose of the recommendation package is to support the uptake of the innovative product among final consumers (beneficiaries) across the region and help to identify additional applications where the product could be potentially applied. The main focus is improving the market penetration of the product across the Danube region and the European Union.

structured. The recommendation packages are a one of the elements derived from the operation of the virtual lab platform, particularly the matchmaking tool for pairing eco-innovative offers and demands. The recommendation packages are designed to support the uptake of eco-innovations by assisting key stakeholders involved in its development and application with expert guidance and consultation.

Target group of this recommendation

The recommendation package is developed for the specific company in charge of the research, development and commercialization of the proposed eco-innovative solution.

Background to the recommendation package

The company for which the recommendation package is developed participated in the virtual lab with an eco-innovation offer and expressed interest in applying tools and research developed by the project.

Description of the situation that has led to this recommendation report

The company that developed the “innovative energy saving solution” has long-established ties to the national project partner Energy agency of Savinjska, Šaleška and Koroška (KSSENA) and was established by developing commercial solutions to address limitations in acquiring information about energy performance indicators in public buildings. The first generation of the energy accounting software (energy management programme) applied to monitor EnPI's in the City municipality of Velenje was developed to address the issue of non-available data on energy consumption in the form of an energy accounting cloud based software. Continuous innovation led to the 3rd generation of the energy monitoring system in use today. The company recently launched a new product for monitoring and management of public lighting systems, that demonstrates

high level of innovation and positive environmental impact, therefore it was included to the virtual lab technology matchmaking tool as an eco-innovation offer.

Description of the audiences of this report eg. SME, R&D, Innovation idea, Clean tech or any other area that relates to the EcoINN Danube project.

The main audience of this recommendation packages is 1.) the SME directly addressed and 2.) potential (final) consumers of developed products and associated services, which include municipalities, power distribution companies, utility companies and so forth.

Provide a summary of:

- Party / parties

The main beneficiary of the recommendation package is the developer and owner of the eco-innovation, the company. Other addressed parties are mostly related to final costumers, identified by desk research of information available in the public domain.

- Eco-solutions/knowledge/technology

The eco-innovation was generally developed in order to address inefficient use of electrical energy in public lighting systems. Existing PL systems are frequently not only excessive in terms of high energy consumption (HPS, MV lamps, induction ballast systems, etc.), but also lack the functionality to monitor energy use, to monitor failure rates and plan maintenance intervals, among many other issues. Furthermore, EPC/ESC financing mechanism are reasonably frequent in public lighting infrastructure projects, where it is essential for both parties (the client for e.g. the municipality and the ESCO taking over the entirety or majority of capital expenditures related to the investment) to have a stable system allowing the overview of how the systems operate and determining liability in case of failure or disruption.

- Proposed collaboration / proposed partnership and knowledge transfer



Project co-funded by European Union funds (ERDF and IPA)

The recommendation package deals with further uptake of the developed eco-innovative solutions in applications around Europe and beyond and is focused on final consumers (beneficiaries) of the technology (municipalities, public organizations, ESCOs, etc.)

Summary description

Demand side energy efficiency measures are the most effective way to achieve ambitious national and EU targets in terms of capping GHG emission and reducing energy dependency on foreign imports. The developing company has been involved in developing novel solutions in the area of demand side monitoring and management for over 10 years. The “solution” for public buildings is the latest development of the company’s efforts to bring innovative solutions to the market. The purpose of the recommendation package is to support the uptake of the product among final consumers (beneficiaries) across the region and help to identify additional application where the product could be potentially used.

Summary of eco-knowledge, eco-solution or eco-technology featured in recommendation package

- Description

The “solution” is the 3rd generation of EMIS development by the developing company, designed to facilitate energy accounting in various types of organizations. It features comprehensive functionality for monitoring energy use and costs, GHG emissions, water consumption and more.

The “solution” provides its users with supreme ability to carry out energy analysis by observing various metrics and indicators, recusing cost and simplifying the planning/monitoring processes related to implementation of renovation measures (energy consumption reports, financial plans, energy audits, energy certificates, etc.). The

“solution” for public lighting systems expands the functionality of the EMIS system to public lighting infrastructure.

- Product or knowledge description

The “solution” – Public lighting, an expansion to the existing EMIS, is a cloud-based service for management and monitoring public lighting. The service offers the ability to establish and improve:

- energy accounting (consumption, costs, savings, indicators, etc.),
- communication with citizens and their safety (remedying failures in the public lighting network),
- overview of all public lighting equipment (catalogues of manufacturers, lamps, poles, cables, etc.),
- overview and updating of official registers,
- monitoring and management of maintenance processes (failures, work orders and reports, changes in equipment, etc.),
- control over maintenance services (pricelists, reports, attachments to the account),
- planning of new lighting systems, reporting and analysing,
- connections between all actors who manage and maintain public lighting.

- Purpose

- Reduction of energy use in public lighting
- Operational management in near real-time
- Failure management
- Improved planning
- Improved handling of warranty claims



Project co-funded by European Union funds (ERDF and IPA)

- Energy consumption analysis
- etc.
- Sector
 - Energy management, Energy Management Information Systems, automatization, stationary applications.
- Results aimed to be achieved
 - Better visibility of the company within the Danube region
 - Better access to partner organizations
 - Improved market position

Summary of status of knowledge transfer

- Background to the status of the knowledge transfer or the needs of the innovation.

This recommendation package relates to the involvement of the local company in the Ecolnn Danube project, which identified potential benefit to make use of developed solutions and established contacts. The company was willing to provide information about the developed eco-solution to the partnership and engage with their product into the activities related to the Virtual lab. No transfer of knowledge or technology has thus far been realized.

Summary of recommendation(s)

The main recommendations are categorized as follows:

- I. Recommendation on the application of tools
- II. Recommendations on suitable locations/markets
- III. Recommendations on co-financing of product/service application
- IV. Recommendation on product/service marketing
- V. General recommendations

In-depth details / explanations of recommendations

The description of main recommendations is as follows:

- I. Recommendation on the application of tools:
 - Apply the developed web-based platform Virtual lab and included tools to look for potential clients and support
- II. Recommendations on suitable locations/markets
 - Considering that the main market for the company is Slovenia, we suggest expanding the outreach for other markets in the region. Of particular interest are markets, which are still in the phase of developing the market for energy services and are currently carrying out activities related to establishing the framework for facilitating investment in energy demand side (for e.g. municipalities in preparation of SECAPs). Considering the present expertise, the company could also engage in the process of consulting such potential clients in the preparation/transposition of relevant local legislation as part of a comprehensive service.
- III. Recommendations on co-financing of product/service application
 - In-line with achieving the energy saving targets within the EU, there exist several co- financing sources on the local, regional or national level of countries (for e.g. this may include a publicly operated environmental fund, that has a mandate to finance measure into public infrastructure), which could provide a share of funds to clients willing to purchase the product/service from the company. It is essential to identify the types and scope of available incentives across the region and include these in the business case for clients within a specific country. The obtained information would improve market development plans and help to identify most promising markets. Transnational funding sources should also be documented.
- IV. Recommendation on product/service marketing



Project co-funded by European Union funds (ERDF and IPA)

- Present the product at international fairs and Expos with the support of the Ministry on foreign affairs
- Work together with the Energy agency of Savinjska, Šaleška and Koroška region to gain access to contact with new markets in the South-eastern part of Europe
- Acquire national co-financing for promotional activities of the company on international fairs. Public tenders issued by for e.g. SPIRIT Slovenia.

V. General recommendations:

- Offer the product as a service (energy performance contracting). This can be achieved by either partnering with an established companies with experience in the field or to create a subsidiary undertaking, that will be registered for the core business of an ESCO. This will allow for the company to offer the service for providing public lighting to a client municipality, whereby the municipality will only be liable to pay for operating fees agreed beforehand. This would simplify the access to such investments by municipalities with high debt and low credit rating. From the perspective of the client, this would minimize risk of investment and would greatly expand the category of potential clients. In the scenario where the company would create a joint undertaking with and established company in the energy sector, this would reduce the risk of the developing company, secure sufficient capital for financing as well as know-how, experience and properly licenced personnel. Creating a new subsidiary from the ground up would require the further specialization of the company that would include comprehensive engineering, procurement of equipment, permitting and licensing as well as installation and maintenance, which bares high risk and capital requirements.
- Alternatively, the product could be sold/leased to an established ESCO that utilizes third party software for monitoring/managing energy consumption.

About the EcoInn Danube project

The objective of the EcoInn Danube project is to increase the cooperation of innovation actors in the field of eco-innovations with special emphasis on development and application of eco-technologies in the Danube Region.

<http://www.interreg-danube.eu/approved-projects/ecoinn-danube>

Conclusions of recommendations

The developing company is an innovative SME, which has several opportunities to achieve substantial growth on the international market in the following years. The main recommendations consider the market uptake of the eco-innovative product by means of marketing, improved access to key clients and alternative means of offering the product to the final clients.

List of useful links

List of documents supporting the recommendation.

Research results on relevant policies and current developments in the area of low- carbon economy (Territories and low-carbon economy - ESPON Locate), 2018; <https://www.espon.eu/low-carbon-economy>

Guidebook 'How to develop a Sustainable Energy and Climate Action Plan (SECAP)', 2018, Publications Office of the European Union; <https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/guidebook-how-develop-sustainable-energy-and-climate-action-plan-secap>

European Energy Innovation events; <http://www.europeanenergyinnovation.eu/Events>

Expo Dubai 2020, (Participation of Slovenia confirmed by signed Lol) <https://www.expo2020dubai.com/>

Date of recommendation package

February 20th, 2019.

Author

Energy agency of Savinjska, Šaleška and Koroška region, Slovenia



Project co-funded by European Union funds (ERDF and IPA)

About Ecolnn Danube recommendation packages

Recommendations in the context of the Ecolnn Danube project are useful suggestions and proposals on how to bring eco-solutions into commercial value, particularly through forms of knowledge transfer.

Recommendation packages relate to specific eco-solutions, specific problems or specific areas within technology transfer.

Partnership guidance type:

This type of recommendation package aims to aid successful interaction between specific demand and supply side stakeholders. It contains recommendations and information about „how” to establish partnerships related to a specific eco-knowledge bundle or eco-technology.

Pitch type:

This type of recommendation package aims to aid successful knowledge transfer and/or commercialisation for a named stakeholder. It contains recommendations and information about „how” to establish partnerships related to the kind/size/location of potential partners and a specific eco-knowledge or eco-technology.

Events, consultations and interactions type:

This type of recommendation package aims to aid successful eco-knowledge transfer by focusing on a given issue, area or topic related to knowledge transfer.

Quick read

The purpose of the recommendation package is to support the uptake of the innovative product among final consumers (beneficiaries) across the region and help to identify additional applications where the product could be potentially applied. The main focus is improving the market penetration of the product across the Danube region and the European Union.