

REDUCING CO₂ EMISSIONS OF PUBLIC LIGHTING



Newsletter 04 | 2018-06 CE452 Dynamic Light

The CE452 Dynamic Light project aims to support communities, towns, cities to better understand and meet the needs and demands of the various stakeholders. For this purpose, a manual on dynamic lighting and social needs has been developed to provide urban planners, architects, lighting designers etc. with a tool for understanding social needs, user demands and aspirations, and how these can be translated into dynamic lighting control strategies.

In addition, the project has developed geodatabases at 6 municipalities with the aim of to show public authorities the functionality of GIS tool with respect to storing information on street lighting system and its energy consumption, to plan retrofits to save energy and improve light quality (planning of public works and investments), to monitor the impact of the investments on street lighting system and to help local authorities to improve its knowledge of the status quo of the lighting system. To encourage the investment in energy-efficient retrofitting of public lighting, the project has analysed various funding sources and developed guidelines for finding a suitable financing model for municipalities.

The current newsletter presents the tools developed to match social needs for public lighting to dynamic lighting technologies as well as tools for improving the energy performance in public lighting infrastructures.

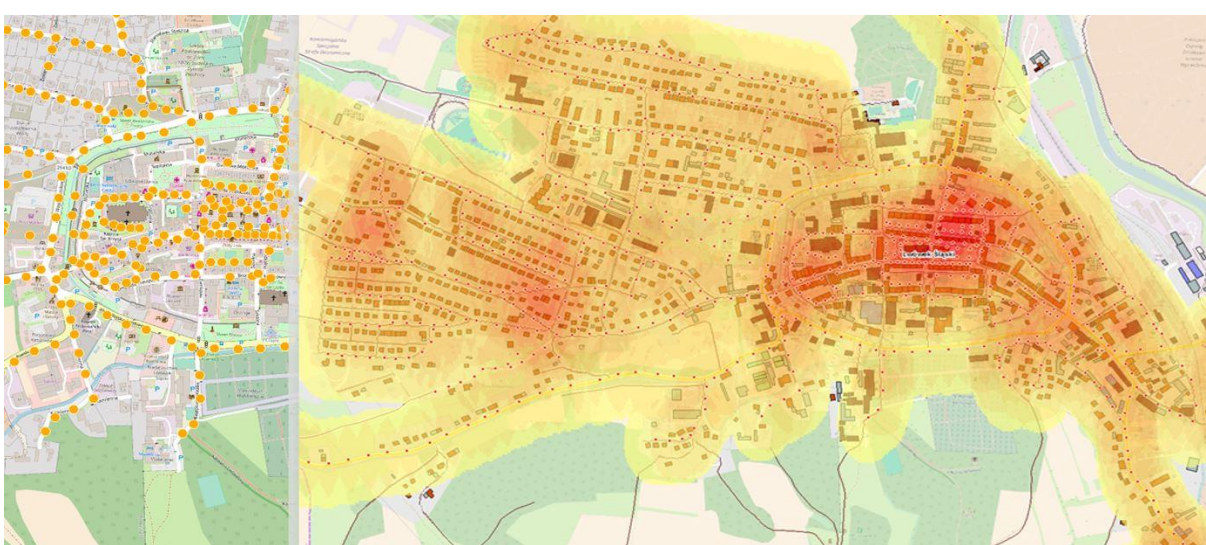
Transnational Training Courses were organized for civil servants of municipalities and regions in the partner countries Italy, Germany, Czech Republic. Course content was adapted to local needs and multiplied as national trainings, that are currently underway in the partner countries. Information on project-related events is also provided.



Exploring energy saving potentials and potentials to reduce light pollution

Joint monitoring tool

Street lights are an essential part of city infrastructure and safety. Local authorities are responsible for providing this public services to residents, which is one of the most important responsibility in terms of energy, maintenance and management costs. In order to generate financial savings for the towns' budgets it is advisable to use a minimum amount of energy to deliver the required lighting for different areas and conditions. GIS-based systems can provide solutions for improved management of street light and significant energy savings. With GIS technology local authorities are able to effectively review the need for retrofits or new street lights, determine which areas were over-lit, decrease light pollution as well as to review scenarios of energy efficient street light investment. Development of a joint monitoring tool as a common framework for measuring energy saving and light pollution reduction potentials had the following objectives: to show functionality of GIS-based databases with respect to storing information on street lighting system and its energy consumption; to detect light pollution in urban environment; to plan retrofits to save energy and improve light quality; to present step by step procedures for geodatabase creation and use.



GIS-based databases for municipalities

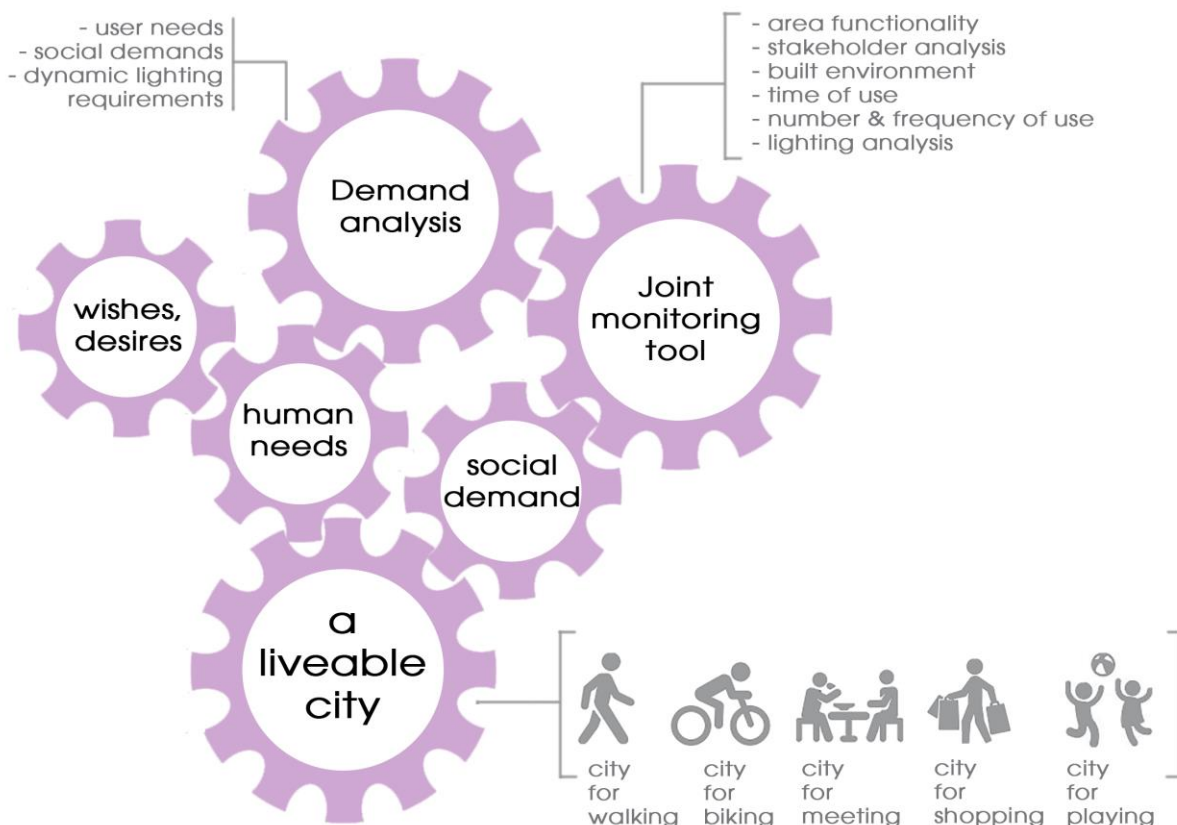
A geographical information system (GIS) allows its users to create, organize and analyze geographical data and to create plans on the exact location of all existing components of a public lighting system. GIS-based databases for municipalities include technical information on lighting infrastructure as well photometric data. The goal was to collect geo-information about poles / luminaires, energy consumption, etc. in involved municipalities / cities and store them in the geodatabase (geo_DB) which can be handle, access, visualize in GIS environment. The following objectives were followed: to show functionality of GIS-based databases with respect to storing information on street lighting system and its energy consumption; to plan retrofits to save energy and improve light quality (planning of public works and investments); to monitor the impact of the investments on street lighting system; to help local authorities to improve its knowledge of the status quo of the lighting system

<https://www.interreg-central.eu/Content.Node/Dynamic-Light/Tools1.html>

Defining social needs and quality demands for dynamic lighting

The CE452 Dynamic Light project aims to support communities, towns, cities to better understand the needs and demands of the various stakeholders and users and help them in developing lighting strategies to meet these varied needs and demands. For this purpose, a manual on dynamic lighting and social needs has been developed. Manual aims at outlining the factors, which are essential for light quality, ecology, energy efficiency and subsequently social sustainability. The underlying objective of this manual is to provide urban planners, architects, lighting designers etc. with a tool for understanding social needs, user demands and aspirations, and how these can be translated into dynamic lighting control strategies.

<https://www.interreg-central.eu/Content.Node/Dynamic-Light/Manual-on-dynamic-lighting-and-social-needs.html>

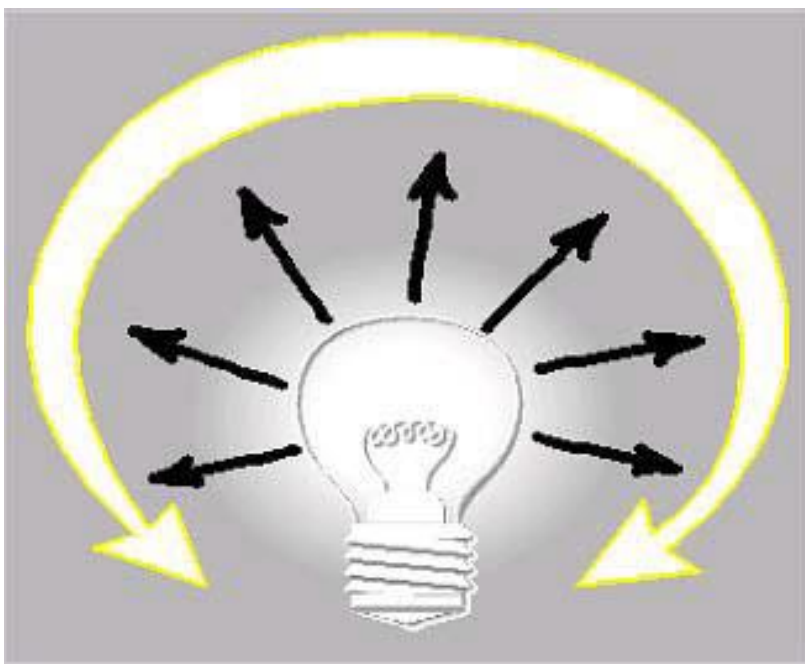


Exploring dynamic lighting technologies to implement dynamic lighting in accordance with social needs

Technical Manual

The purpose of the technical manual is to provide urban planners and designers of public lighting with the concepts and fundamental design principles for the development of appropriate dynamic lighting strategies for public spaces. The manual encompasses fundamental information relating to the principles of public lighting design, luminaire technologies, LED technology. It also describes briefly the prevalent public lighting norms and standards for illumination as well as luminaires. This manual also provides information on the latest lighting control systems along with an overview of the most commonly used systems.

<https://www.interreg-central.eu/Content.Node/Dynamic-Light/Tools1.html>



Transnational Multiplier Training Seminars

Transnational Training Seminars

In the scope of Project CE452 Dynamic Light training seminars were organized to share knowledge on planning and implementing dynamic light solutions for energy efficient urban lighting. The seminars focused on topics related to the use of GIS databases, finding appropriate funding sources, complying with lighting standards and norms.

The seminars were structured in 3 modules:

MODULE I "The power of Geographic Information Systems (GIS) for managing dynamic street lighting data";

MODULE II "Finding a suitable funding source and financing model for energy efficiency upgrading of street lighting infrastructure";

MODULE III "Public lighting standards".

The main objective were to transfer the first results of the dynamic light project to a wide audience and in particular to the European project partners, to the municipal technicians, to the public lighting experts providing an operational summary of integrated tools to develop dynamic public lighting plants.

1st Transnational Training Seminar took place on 23-24 October 2018, Cesena.

2nd Transnational Training Seminar took place on 5-6 November 2018, Berlin.

3rd Transnational Training Seminar took place on 29-30th of November 2018, Pilsen.

<https://www.interreg-central.eu/Content.Node/Dynamic-Light/Trainings.html>



Events

Energy Week 6.-7. June 2018 Brussels

European Sustainable Energy Week (EUSEW) brings together public authorities, private companies, NGOs and consumers to promote initiatives to save energy and move towards renewables for clean, secure and efficient power. This year's edition is dedicated to the clean energy transition.

The Interreg CENTRAL EUROPE join the EUSEW exhibition in Brussels on 6 and 7 June to promote the cooperation achievements in low carbon sector. Meet the CE452 Dynamic Light representative on the 6th of June at the booth of Interreg CENTRAL EUROPE and learn more about the project.

Central and Eastern European Energy Efficiency Forum (C4E) 2018 13-16 June 2018, Serock, Poland

Aleksandra Novikova from the University of Greifswald and Institute of Climate Protection, Energy and Mobility (IKEM) delivered a presentation at the C4E Forum. The presentation offered an overview and analysis of best practice models used to finance the upgrade of the street lighting with a focus on Croatia, the Czech Republic, Hungary, Poland, Slovakia, and Slovenia. The event targets a mix of participants from governments, the public sector, NGOs, civic societies and businesses.

Further information at: <http://c4eforum.net/>

International Energy Policy and Program Evaluation Conference (IEPPEC) 2018 25-27 June 2018, Vienna, Austria

Aleksandra Novikova from the University of Greifswald and Institute of Climate Protection,

Energy and Mobility (IKEM) presented the summary of evaluation of financing models for energy efficiency upgrades of street lighting. Every two years, IEPPEC gathers around 150 policy makers, programme implementers, evaluators, and researchers interested in evaluation issues related to energy efficiency and low carbon policies and programmes. Further information at: <http://www.ieppecc.org>

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