

FEEDSCHOOLS: Financing environment and energy efficiency development in schools

Sector: Energy

Overall budget: 2 M EUR

Countries involved: IT, CZ, PL, HU, SL, HR, AT

Funding: Interreg Central Europe

Duration: 2017-2020

- Development of useful web-based toolkits which will support local authorities in energy efficiency management in schools
- International methodology for upgrading public buildings into Nearly Zero Energy Buildings
- Innovative financial models for building renovations

Introduction

The target of the EU of reducing by 20% its total emissions within 2020 has activated actions both in private and public sector. At this end, the Energy Efficiency and the Energy Performance of Building Directive set a number of binding measures. In Central Europe large part of the existing building stock was built before 1970 thus its performance is not in line with the required standards. Renovation of buildings emerges as an urgent issue, but while incentives are provided to private investors, public buildings renovation is difficult as Local Authorities face severe limitations of budget. Other barrier is the lack of knowledge of performance/cost characteristics of advanced component and systems for efficient renovation of buildings.

FEEDSCHOOLS aims at providing new solutions to Local Authorities both in technical and financial terms to implement Nearly Zero Energy Building (NZEB) renovation activities in Central European schools.

About the project

Its innovative approach lies in developing a transnational and holistic support toolkit, with two user friendly apps (one for energy efficiency and environmental evaluation and one for financing models) and a web database of innovative best practices for NZEB renovation; open lessons focused to behavioural change in schools, face to face and on-line trainings for Local Authorities/school staff. It will enhance capacities of the Local Authorities to improve their SEAPs, finance interventions, increasing the employment.

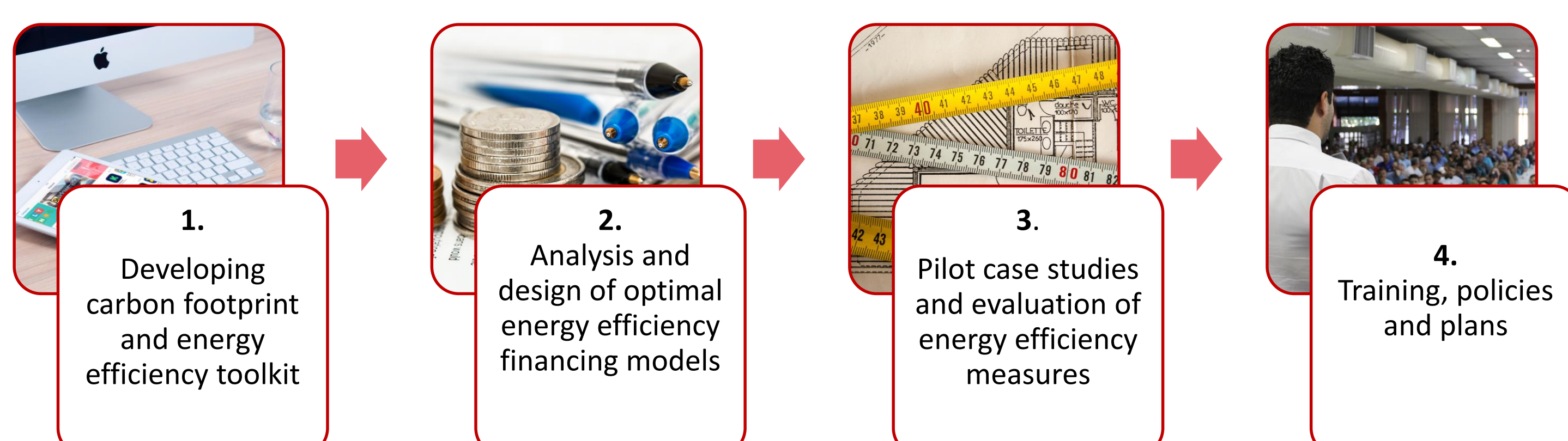
Specific objectives of **FEEDSCHOOLS** project include:

- Developing advanced support tools for implementing energy efficiency renovation plans which will use novel energy saving technologies in public buildings, with emphasis on three aspects: economy, energy saving and environmental performances.
- Capacity building in the public sector, which will be addressed at several levels: technical, financial, planning, administrative and political. Pilot activities and trainings will be the main means to involve Local Authorities .
- Drawing up policy recommendations and integrating Sustainable Energy Action Plans, which will be sketched in the regional conferences and on interactive workshops.

Pilots will be performed in six regions, consisting in at least 48 energy audits reviewed by an international technical team. Preliminary plans for NZEB renovation of existing schools will be drafted and will be reference models for the region, increasing the replicability of the project activities. The transnational and multidisciplinary expertise of the partnership will be a fundamental asset to consolidate the knowledge of local energy managers, Local Authorities/school technicians and to put it into action.

Implementation methods

The project contains of four steps – as visualized in the figure below. In the first step, the carbon footprint of schools is calculated and energy efficiency toolkit is build. The second stage applies to analysis and design of optimal energy efficiency financing models. The third step will study pilot cases and evaluate energy efficiency measures. The last part of the project is associated with training, policies and plans.



In the first step, an innovative web based toolkit is set up. It will consist of:

- a database on novel energy efficiency technologies and good practices for retrofitting existing buildings and in particular schools, and convert them to NZEB;
- an energy and resource efficiency application (App) for calculating energy profile and carbon footprint based on simplified Life Cycle Assessment (LCA);
- financial App.

The toolkit will simplify the energy audit process allowing significant economic and time savings while choosing the more advantageous renovation option, also taking into account carbon footprint of renovation activities. The technical content of the App, will be divided in three sections according to 3 different school infrastructures: classrooms, sports halls, canteens.

The second step of **FEEDSCHOOLS** is aimed at increasing inflow of private (non-public) funds, sharing knowledge on successful financing mechanisms that will allow public bodies to afford costs of NZEB renovation of public buildings. The starting point for this step will be the territorial analysis which will describe how European directives have been adopted in different regions; will identify regional/national barriers inhibiting the systematic NZEB renovation of public buildings and will evaluate the accounting issues. The financing scheme App will allow to select for each partnership region the most suitable financing schemes for school buildings.

At the third step, the innovative approach and the complete toolkit (two Apps and database) will be tested and evaluated. Three pilots will be developed, one for each school infrastructure, characterized by different energy profiles according to intended use: classrooms, sports halls and canteens. They will be performed horizontally in 6 countries (IT, PL, SI, HR, HU, CZ) using a common protocol. The pilots will be followed by related schools renovation plans, drawn up in collaboration with local municipality technical departments.

The fourth step concerns training of city energy managers, Local authorities and technicians and developing joint policy recommendations and action plans. The preparatory phase will outline the training needs and will define the training package. Afterwards, the e-learning curricula will be developed and implemented in ENEA e-learning platform, which will assure availability of the course after the project's end. E-learning will be targeted to Local Authorities , school managers, technicians , consultants, teachers and students.

Expected results

FEEDSCHOOLS project pursues improvement of public sector capacities by:

- developing a transnational and holistic support toolkit
- a web database of innovative best practices for nZEB renovation
- on-line trainings

All this instruments will be available for wide range of interested receivers on an unique, integrated web-platform.

Despite several projects focused on energy efficiency of public buildings and in particular on schools, no one faced in an integrated way environmental, financial and technical aspects. The innovativeness of **FEEDSCHOOLS** stands on integrating these aspects in a holistic and user friendly approach addressing capacity building of Local Authorities by providing new tools and methods.



Acknowledgements



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Partners



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