Cost Efficient Options and Financing Mechanisms for nearly Zero Energy Renovation of existing Buildings Stock

CERtuS

Southern European countries undergo a severe economic crisis. This hinders the compliance to the latest Energy Efficiency Directive, demanding strict energy efficiency measures for the public sector. Investments required to renovate public buildings and achieve nearly zero energy consumption have long payback times. So the interest of financing entities and ESCOs is small, especially when banks have limited resources. Many of the municipal buildings in Southern Europe require deep renovations to become nZEB and this should not be regarded as a threat but rather as an opportunity for the energy service and the financing sector. The objective of the proposed action is to help stakeholders gain confidence in such investments and initiate the growth of this energy service sector. Municipalities, energy service companies and financing entities in Italy, Greece, Spain and Portugal are involved in this project. The plan is to produce representative deep renovation projects that will act as models for replication. Twelve buildings in four municipalities in each country have been selected. The partners will adapt existing energy service models and procedures and will work out financing schemes suitable for the 12 projects.

Results

1. Twelve deep renovation schemes fully substantiated technically and economically for Messina (Italy), Alimos (Greece), Coimbra (Portugal), Errenteria (Spain). It is expected that deep renovations will yield 75% to 80% energy performance improvement.
2. Energy Service models suitable for each Municipality.
3. Feasible financing schemes.
4. Four workshop in all participant Southern European countries following by four training courses for capacity buildings to triggering the uptake of the nZEB renovations in Municipalities.
5. A web tool to facilitate the preparation pf implementation schemes regarding nZEB renovation in Municipality buildings.

Lesson learned

A. Financial barriers are considered by the stakeholders as the main barrier for nZEB renovations. This fact is worsened by the lack of willingness and political decision and the shortage of public funds. The promulgation of ambitious energy plan, and accompanied by a suitable tax policy, is seen necessary to boost energetic renovation.
B. The lack of knowledge about the retrofitting technologies (especially the innovative ones) and...
the unclear energetic policies has been identified, from the technical point of view as the main barrier. Moreover, this lack of knowledge is supported by the absence of credible data related to savings, maintenance costs or complexity of the installation.

C. Financial unsustainability, subject to market conditions, is mainly due to several factors, as:

1. technological solutions, currently available in the market, are quite expensive if compared to savings with a negative impact on project’s economic and financial sustainability;
2. the cost of interventions with medium and long term payback time;
3. the additional cost of special constructions or systems, compared with conventional, which are required for listed buildings;
4. energy efficiency interventions may improve the ability of Public Authority to identify appropriate maintenance frequency compared with the initial situation with an increase of maintenance annual costs entirely sustained by the ESCO;
5. the relevant VAT paid for the project and, in particular, that part which is not covered by VAT facilities.

Partners and coordinator

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<tr>
<th>Partner</th>
<th>Country</th>
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<tr>
<td>ENEA, Ente per le Nuove Tecnologie, L'energia e l'Ambiente</td>
<td>Italy</td>
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<tr>
<td>Municipality of Messina – Joint Programs Department</td>
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<td>The City Council of Errenteria</td>
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<td>Instituto de Sistemas e Robótica - Universidade de Coimbra</td>
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<td>EuDiti / Energy and Environmental Design LTD</td>
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<td>Italian National Association of Plant Builders</td>
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Contact

ENEA, Ente per le Nuove Tecnologie, L'energia e l'Ambiente
Italy

Contact point

Name: tba

Budget

Overall budget: 1.631.180,00 € (EU contribution: 75,00 %)
In brief

Sector: Buildings

Duration: 01/03/2014 to 31/08/2016

Contract number: IEE/13/906

Website: http://www.certus-project.eu

Tags:
building
financing
renovation

Related projects

- [EPLABEL] A programme to deliver energy certificates for display in public buildings...
- [AVASH] Advanced Ventilation Approaches for Social Housing
- [ENPER EXIST] Applying the EPBD to improve the ENergy PErformance Requirements to...
- [ASIEPI] Assessment and improvement of the EPBD Impact (for new buildings and...
- [BESTFAcade] Best Practice for Double Skin Facades
- [BUILDING ADVENT] Building Advanced Ventilation Technological examples to demonstrate...
- [CEPH] Certified European Passive House Designer
- [CHECK IT OUT!] Check and improve the energy performance of schools and disseminate best...
- [DATAMINE] Collecting data from energy certification to monitor performance...
- [COMMONCENSE] Comfort monitoring for CEN Standard EN15251 linked to EPBD
- [CYBER DISPLAY] Communicate Your Buildings Energy Rating
- [CA EPBD II] Concerted Action supporting transposition and implementation of Directive...
- [CONSTRUCTION21] CONSTRUCTION21- A EUROPEAN GREEN BUILDING EXCHANGE
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- [VENT DISCOURSE] Development of Distance Learning Vocational Training Material for the...
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- [EPI-CREM] Energy Performance Integration in Corporate Public Real Estate Management
- [EPI-SOHO] Energy Performance Integration in Social Housing, a strategic approach for...
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• [E-TOOL] Energy-toolset for improving the energy performance of existing buildings
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• [EULEB] European High Quality and Low Energy Architecture
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• [FINSH] Financial and Support Instruments for Fuel Poverty in Social Housing
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• [HARMONAC] Harmonizing air-conditioning inspection and audit procedures in the...
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• [IMPACT] Improving energy Performance Assessments and Certification schemes by Tests
• [ISEES] Improving the Social Dialogue for Energy Efficient Social Housing
• [ILETE] Initiative for Low Energy Training in Europe
• [INOFIN] Innovative Financing of Social Housing Refurbishment in Enlarged Europe
• [CENSE] Leading the CEN standards on energy performance of buildings to practice....
• [GREENBUILDINGPLUS] Leveraging the GreenBuilding Programme (GBP) to promote energy-efficiency...
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• [ENERGY TROPHY+] Magnify success: Extension of the European Energy Trophy competition to 18...
• [PASSIVE-ON] Marketable Passive Homes for Winter and Summer Comfort
• [IDES-EDU] Master and Post Graduate education and training in multidisciplinary teams...
• [NIRSEPES] New Integrated Renovation Strategy to improve Energy PErformance of Social...
• [NZB2021] NZB2021 'Doors Open Days' – sharing experiences from low energy buildings...
• [FACTOR 4] Programme of actions Factor 4 in existing social housing in Europe
• [COOL ROOFS] Promotion of cool roofs in the EU
• [PEP] Promotion of European Passive Houses
• [NEZER] Promotion of smart and integrated NZEB renovation measures in the European...
• [NORTHPASS] Promotion of the Passive House Concept to the North European Building...
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• [SHARE] Social Housing Action to Reduce Energy Consumption
• [SHELTER] Social Housing organisations and European professionals Linked and acting...
• [STEP-2-SPORT] STEP-by-STEP renovation towards nearly zero energy SPORT buildings
• [SAVE AGE] Strengthening Energy Efficiency Awareness Among Residential Homes for...
• [SENTRO] Sustainable Energy systems in New buildings- market inTROduction of...
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