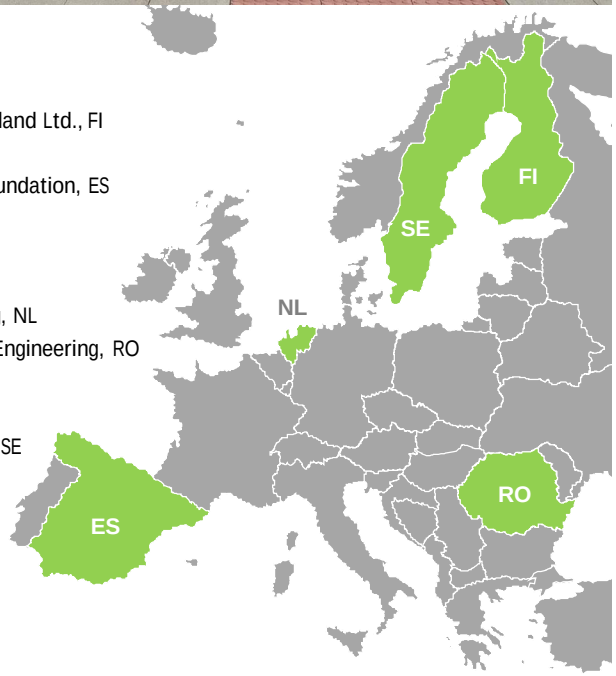
Partners

- VTT Technical Research Centre of Finland Ltd., FI
- Sestao Berri 2010, ES
- Tecnalia Research and Innovation Foundation, ES
- City of Rotterdam, NL
- Municipality of Amersfoort, NL
- Portaal, NL
- W/E Consultants Sustainable Building, NL
- ISPE Institute for Studies and Power Engineering, RO
- Municipality of Timisoara, RO
- City of Stockholm, SE
- IVL Swedish Environmental Institute, SE
- Stadshus AB, SE
- Stockholmshem, SE



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NeZeR

www.nezer-project.eu

Advantages of Nearly Zero-Energy Building Renovation

www.nezer-project.eu

Background for Nearly Zero-Energy Building Renovation

The building sector accounts for 40% of the energy use within EU. There is a great potential to reduce energy use and thereby greenhouse gas emissions and to make the building stock future-proof.

With a more energy efficient building sector a country becomes less dependent on imported energy

Why renovate into Nearly Zero-Energy level (instead of a traditional renovation)?

- To significantly reduce the conventional energy consumption and lifecycle greenhouse gas emissions of buildings.
- To increase the property value and the life time of the building and to ensure the affordability of the living costs on the long term.
- To improve the comfort level.

Co-funded by the Intelligent Energy Europe Programme of the European Union

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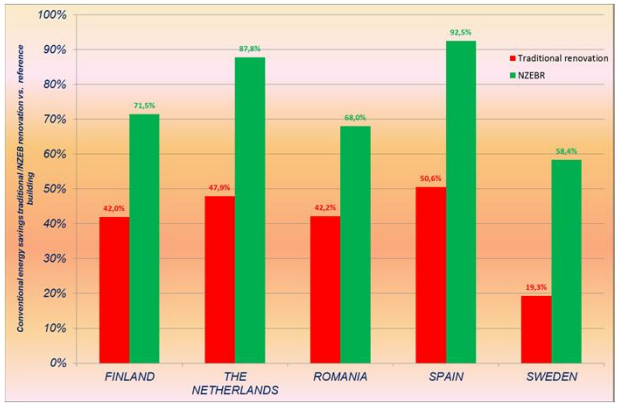
March 2014 - February 2017

Why renovate into Nearly Zero-Energy level?

To significantly reduce the conventional energy consumption of buildings

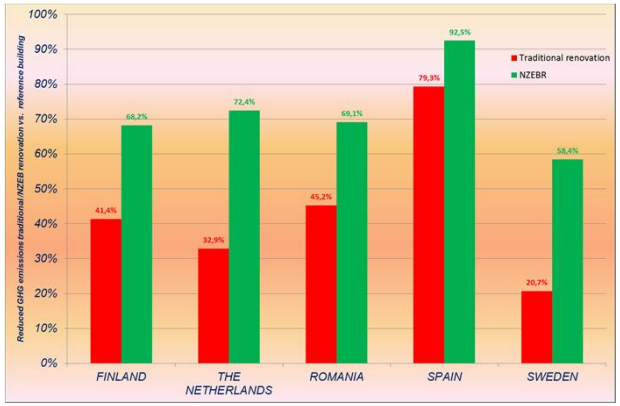
- NeZeR Case Studies estimated the energy saving potential with a Nearly Zero-Energy Building Renovation around 60% - 90% and with a traditional renovation around 20% - 45%



NeZeR Case Studies are presented in NeZeR reports "Report on technical and social feasibility studies" and "Report on environmental and economic advantages of NZEBR compared to traditional renovation".

To significantly reduce the lifecycle green-house gas emissions of buildings

- NeZeR Case Studies estimated the reduction of greenhouse gas emissions with a Nearly Zero-Energy Building Renovation around 60% - 90% and with a traditional renovation around 20% - 50%



According to NeZeR Case Studies the total greenhouse gas emissions (for energy and material) during 30 years of operation are lower after a Nearly Zero-Energy Building Renovation than after a traditional renovation alternative in all partner countries.

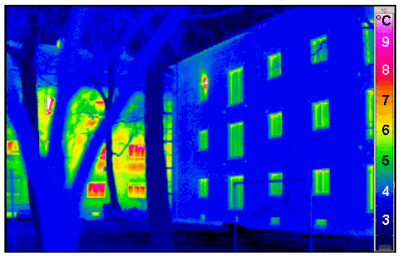
To increase the property value and the life time of the building and to ensure the affordability of the living costs on the long term

- Increase in resale and user values through lower energy costs, better indoor climate and higher energy class

According to the economic assessment of NeZeR Case Studies, Nearly Zero-Energy Building Renovation is not always economically feasible from the owners perspective at present price levels for building renovation and household energy consumption. However, there is good potential for cost reductions in NZEBR by technological and process improvements and when a higher market volume is reached. The revaluation of the building also increases economic profitability.

To improve the comfort level

- Well insulated and airtight construction, minimized thermal bridges and energy-efficient windows reduce the feeling of draft and temperature variation during the day and year, and external noise from surroundings
- A well functioning ventilation system in the home and the property can reduce heating costs, increase the comfort of living by reducing the risk of odors, cold drafts, damp and mold damage and give a possibility to adjust ventilation rates according to the needs.



Improved comfort levels and wider societal and health benefits increase the profitability of Nearly Zero-Energy Building Renovations from a societal perspective.

Please see more information from NeZeR-project reports:

Report on technical and social feasibility studies evaluates and analyses the potential to achieve NZEBR and deploy renewable energy sources in the partner cities for the identified residential typologies and the related social aspects.

Proposal of relevant fiscal incentives and other control instruments for supporting NZEBR presents the current situation of economic incentives in Finland, Sweden, the Netherlands, Romania and Spain to support Nearly Zero-Energy Building Renovation, defines main barriers and proposes new incentives.

Report on environmental and economic advantages of NZEBR compared to traditional renovation presents environmental advantages of NZEBR analysed using Life Cycle Analysis (LCA) methodology and economic advantages of NZEBR analysed using Life Cycle Costing (LCC) and Cost Benefit Analysis (CBA) methodologies.