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## Position Paper – ROMANIA

*(WP2 – EXPERIENCE AND VIABILITY OF NZE REFURBISHMENT  
PROJECTS*

*D2.7, Position Paper)*

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## THE EU INITIATIVE NEARLY ZERO ENERGY HOTELS (neZEH)

neZEH's scope is to accelerate the rate of refurbishment of existing hotels into Nearly Zero Energy Buildings (nZEB), providing technical advice to hoteliers for nZEB renovations, demonstrating the sustainability of such projects, challenging further large scale renovations through capacity building activities, showcasing best practices and promoting the front runners. The project covers seven (7) EU countries: Greece, Spain, Italy, Sweden, Romania, Croatia, France and has a wide EU level impact.

The expected results are:

- An integrated set of decision support tools to assist hoteliers in identifying appropriate solutions and designing feasible and sustainable nZEB projects;
- A dynamic communication channel between the building sector and the hotels industry, which will enable the exchanging between demand and supply side and the endorsement of the nZEB concept;
- Demonstration pilot projects in 7 countries to act as "living" examples; aiming to increase the rate of nZE renovation projects in the participating countries
- Practical training, informational materials and capacity building activities to support nationally the implementation and uptake of nZEB projects;
- Integrated communication campaigns to increase awareness for the NZEB benefits, to promote front runners and to foster replication; challenging much more SMEs to invest in refurbishment projects in order to achieve nZE levels.

In the long term, the project will assist the European hospitality sector to reduce operational costs, to improve their image and products and thus to enhance their competitiveness; contributing in parallel to the EU efforts for the reduction of GHGs.

neZEH started at May 2013 and will end at April 2016 and is co-financed by the Intelligent Energy Europe (IEE) programme.

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Technical University of Crete, Renewable and Sustainable Energy Systems Lab (ENV/TUC) <i>Project Coordinator</i>	Greece
World Tourism Organization (UNWTO)	EU/Int.
Network of European Regions for a Sustainable and Competitive Tourism (NECSTouR)	EU
Federation of European Heating, Ventilation and Air-conditioning Associations (REHVA)	EU
Agency of Braşov for Energy Management and Environment Protection (ABMEE)	Romania
Creara Consultores S.L. (CREARA)	Spain
ENERGIES 2050 (ENERGIES 2050)	France
Energy Institute Hrvoje Požar (EIHP)	Croatia
Istituto Superiore sui Sistemi Territoriali per l'Innovazione (SITI)	Italy
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## 1. INTRODUCTION

The NEZEH's main objective is to accelerate the rate of refurbishment of existing buildings into Nearly Zero Energy Buildings (nZEB), focusing to the hotels sector (SME hotels), which represent 90% of the hotel sector at European level.

The neZEH project is cofounded through the Intelligent Energy Europe Programme (2013-2016), proposed and implemented by a consortium of 10 partners from 7 European countries (Croatia, France, Greece, Italy, Romania, Spain and Sweden), including 2 European associations and a specialised UN agency.

Sixteen hotels from the 7 consortium countries committed to become nearly zero energy hotels through the neZEH project. These hotels are proving their commitment by implementing the most innovative solutions that allow them to become minimum energy use hotels, becoming examples for the EU hotel industry.

This document was compiled from information gathered from representatives of the hotels sector, from relevant actors in the buildings field, from construction specialists and from national authorities involved in defining the legal frame for the Romanian nZEB strategy.

Several local and national actions were carried out in the consultation and promotion process of the project. National level specialists in the fields of energy efficiency and constructions attended these events.

At local level:

- Representatives of 8 hotels were interviewed in the process of selection and data gathering for energy pre-audits. The nearly zero energy hotels was explained and promoted as well as the necessary stages to achieve this standard in the future.
- We worked closely with the National Association of Tourism Agencies Romania - ANAT - Centre Region - <http://www.anat.ro/despre-anat/consilii-regionale>

At national level:

- URBAN-INCERC Bucharest - <http://incd.ro/>
- Institute for Studies and Power Engineering - <http://www.ispe.ro/>
- Ministry of Regional Development and Public Administration - MDRAP - Constructions Department - <http://www.mdrap.gov.ro/>
- Buildings Performance Institute Europe - BPIE - [www.bpie.eu](http://www.bpie.eu)
- Installation Engineers Association in Romania - AIIR - <http://www.aiiro.ro/>
- Technical University of Cluj Napoca - <http://www.utcluj.ro/>

*This material is based on the EU position paper available on the neZEH website provided by project partners European Federation of Associations of Heating, Ventilation and Air Conditioning (REHVA) and the World Tourism Organization (UNWTO).*

## 2. RATIONALE

**2.1 The tourism industry in Romania** contributes to the national economy by almost 2 % of GDP, but growth potential is currently assessed at over 6% of GDP.

Tourist reception facilities increased steadily in the last 5 years in Brasov<sup>1</sup> region starting from 16.742 beds (in 2010) to 28.616 (2015), an increase of 24%. Nationally, the increase is about 20 %, which demonstrates the dynamic development of the hotel industry.

**2.2 Buildings consume 40 % of all energy and emit 36 % of greenhouse gas emissions in the EU**, so that the construction sector is a priority policy of the EU on energy efficiency. Two directives addressing energy efficiency in buildings: the Directive on Energy Performance of Buildings (EPBD recast)<sup>2</sup> and the Energy Efficiency Directive (EED)<sup>3</sup>, that is to be implemented by each EU member state. The long term goal is to transform the European building stock in nZEB buildings by retrofitting existing buildings and building new ones using nZEB solutions. Although not fully defined in the final agreement this is in harmony with the priorities of the COP21<sup>4</sup>, event in which certain sections of the neZEH project were organized and in which project partners attended various sessions.

**2.3 Defining an acceptable definition for nearly zero energy hotel (neZEH)** also helped identifying the needs for reaching neZEH at national level and ensured that the required technical assistance for identifying the best works for deep retrofitting of buildings and provided best practices for other hotels and decision makers.

This approach can lead to a reduction of energy use by up to 70%, as well as a reduction of operational cost in amount of up to 60%.

Because of the specificities of the hospitality sector – corroborated with the buildings sector challenges – taking into account that the total energy use incorporates hosting and non-hosting facilities the neZEH project approached this split of functions and proposed policies for the specific hosting part at EU level, based on national nZEB policies.

To be able to come up with a set of recommendations for the EU level, the neZEH consortium prepared 7 Position Papers in each of the partner countries to promote policies and appropriate support mechanisms at national and regional level. The 7 national Position Papers are based on expert opinions of the 7 partner countries on the current situation, the specific needs of SME hotels for reaching nZEB status and recommendations for addressing barriers.

**2.4 The neZEH position paper** aims at approaching tourism and energy use in tourist facilities in a way that serves EU level decision makers. This document offers information on the current status of SME accommodation facilities in terms of energy efficiency for buildings mentioned in EPBD and EED. It also identifies the provisions or lack of provisions on support for energy efficiency measures in hotels, based on the research made by each partner of the neZEH consortium. 3 pilot projects were implemented in the frame of neZEH in Romania. These projects

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1 UNWTO Tourism highlights, 2015 edition

2 Directiva 2010/31/EU

3 Directiva 2012/27/EU

4 <http://unfccc.int/resource/docs/2015/cop21/eng/109.pdf>

revealed the necessary level of investment and the actions needed to reach the neZEH status. Finally, this offers decision makers a view on the challenges and identified gaps in legal frame and proposes a set of policies and measures needed.

### 3. NATIONAL POLICIES FOR SUPPORTING THE RETROFITTING PROCESS OF EXISTING HOTELS IN nZEB

There is no national policy to offer wide range support for hotels to renovate using nZEB solutions. The hospitality sector is subject to the regulations of two ministries:

- MDRAP<sup>5</sup> (constructions dept.) is the regulatory authority for most of the buildings sector
- The National Authority for Tourism, part of the Ministry of Economy, is the regulatory authority for the tourism sector and has a role in the classification of tourism structures (that offer accommodation and public food services), tourism licences and authorisations.

According to Law 372/2005<sup>6</sup> - republished, Hotels and Restaurants represent a specific building category:

*“Art.6 (1) The minimum energy performance requirements are defined in the methodology and are applied differently for specific building categories, both for new buildings and for existing buildings, as follows:*

.....

*f) Hotels and restaurants;”*

There is a coherent policy mix targeting energy efficiency in buildings, set by the recast EPDB 2010/30/UE transposed into the national legislation by Law 372/2005, republished (15 may 2013), on the “Methodology for calculating the energy performance of buildings” which sets the minimum requirements for energy performance for all existing building types.

For the nearly zero energy buildings (nZEB) the requirements are:

- After 31.12.2018 – public authorities that operate in a new building will ensure that it falls into the category of nZEB,
- After 31.12.2020 – all new buildings must be nZEB

Minimum requirements to improve the energy performance of existing buildings undergoing major refurbishment were prepared within the application of cost-optimal methodology – extended to most of the building categories, but there is no specific mention of the hospitality sector. Building types for which technical estimates and analyses were made, for 2018-2020-2050 (baseline 2010), are: new Office buildings, new Education buildings, new Health buildings, new Blocks of flats and new Single family housing.

The hotels do not fit in any of the categories mentioned as a level of comfort must be assured, dependent of the customer’s behavior. To achieve this intelligent lighting, HVAC – managed through a BMS (Building Management System) should be installed, in order to ensure a certain

<sup>5</sup> Ministerul Dezvoltării Regionale și al Administrației Publice /Ministry of Regional Development and Public Administration

<sup>6</sup> Legea 372 / 13.12.2005 privind performanța energetică a clădirilor – republicată și completată în 2013

comfort level with a minimum direct intervention by the guest.

In the national “Plan for increasing the number of nearly zero energy buildings (NEZEB) Romania”<sup>7</sup> there are no technical analysis and development scenarios for the hotel sector in order to foster a change towards nZEB standards. In 2010, this sector represented only 8% of the non-residential buildings.

There are several ongoing projects for providing technical support for the various actors involved in increasing the energy performance of buildings for the increase of the sustainability of the constructions sector in Romania:

- “*BUILD UP Skills QualiShell*”<sup>8</sup>
- “*Cluster PRO-nZEB*”<sup>9</sup> - *Cluster for promoting nearly zero energy buildings in Romania*
- “*Califică-te! Da-ți o șansă la o viață mai bună!*”<sup>10</sup> / “*Qualify! Give yourself a chance at a better life!*”
- “*PROEFICIEN*”<sup>11</sup> - *Professional Qualifications for Energy Efficiency*
- “*NeZeR*”<sup>12</sup> - *Promotion of smart and integrated NZEB renovation measures in the European Renovation market*
- “*RePublic\_ZEB*” - *Refurbishment of the Public Building Stock Towards nZEB*<sup>13</sup>

During the interviews, hotels representatives declared that they implemented various energy efficiency measures with own funds and did not have information on financial instruments that they could use for implementing innovative solution that would ensure comfort with less energy use.

**Through the “Regional Operational Programme 2014 – 2020”** the following measures for SMEs (the majority of hotels are SMEs) will be financed:

#### Priority Axis 2 – Improving the competitiveness of SMEs / 700 million euro

Measure type:

- Building/refurbishment and developing production space/SME services, including the purchase of installations, equipment (incl. IT systems), machinery, including new technologies.
- Creation / modernization / expansion incubators / business accelerators, including the development of related services.

#### Priority Axis 7 - Diversification of local economies through sustainable tourism development/95 million euros

Measure type:

- Exploitation of the balneary tourism potential – exploitation of local tourism potential

<sup>7</sup> Ministerul Dezvoltării Regionale și Administrației Publice, Direcția Generală Dezvoltare Regională și Infrastructură, Direcția Tehnică - [infoprod\\_constructii@mdrap.ro](mailto:infoprod_constructii@mdrap.ro), Octombrie 2013

<sup>8</sup> “Schemă națională de calificare pentru forța de muncă din construcții pentru realizarea de anvelope de înaltă performanță ale clădirilor” / “*National Qualification Scheme for Construction Workers to Ensure High Performance Building Envelopes*”, cofinanțare: Programul Energie Inteligentă Europa al Uniunii Europene (IEE/12/BW1/344/S12.659731, 2013-2015), <http://www.iee-robust.ro/qualishell/>

<sup>9</sup> Cofinanțare: Programul Sectorial Operațional Creșterea Competitivității Economice

<sup>10</sup> Cofinanțare: Programul Sectorial Operațional Acces și Participare la Formare Profesională Continuă (164/2.3/S/137877)

<sup>11</sup> Cofinanțare: Programul Operațional Sectorial Dezvoltarea Resurselor Umane 2007-2013

<sup>12</sup> Cofinanțare: Programul Energie Inteligentă Europa al Uniunii Europene (IEE-13/763/S12.674877, 2014-2017)

<sup>13</sup> Cofinanțare: Programul Energie Inteligentă Europa al Uniunii Europene (IEE/13/886/S12.674899, 2014-2017)

- Public recreational tourism infrastructure.

As a final conclusion, there is no experience in major renovations on the principle of minimum energy consumption in the hospitality sector, only measures that are tried and tested in the market are implemented (magnetic cards, efficient LED lighting, lighting sensors etc.). A contribution may be brought by the ESCO's involvement, by both assuming the energy performance and providing the financial solutions.

## 4. COMMON CHARACTERISTICS OF SME HOTELS

**Within the existing policy measures and available financial support mechanisms there are no measures that directly apply to the hospitality sector and especially for facilities that could become hotels with low energy use, neZEHs.**

Following the meetings with hotels representatives, via direct interviews or in meetings organized at the national level in the frame of neZEH, there is a clear sense that the hotels do not have specialized, unbiased information on the nearly zero energy buildings concept - nZEB.

The mandatory criteria on the classification of tourist facilities in hotels, apartment hotels and motels, not included energy performance indicators of the accommodation and equipment used.

The hotel sector regulations refer to the necessary facilities and not to the quality of the equipment and technologies to be implemented for a transition towards neZEH. The hoteliers find out about different solutions from various equipment suppliers, without the benefit of credible neutral support.

***The main technological and non-technological barriers of implementing energy refurbishment measures in hotels are:***

- Lack of information (neutral, credible, verified and monitored) on existing products and technologies applicable to the hotel industry as a neutral, credible information, technical monitored and verified.
- Lack of funds for implementing high end technologies required in the process of retrofitting, based on minimum energy use and the requirements of the hospitality sector.
- Lack of trained personnel<sup>14</sup> in the use and application of the use-effectiveness of energy as a daily practice.
- Another challenge is the lack of qualified personnel and the lack of information on nearly zero energy hotels, for which the following steps are necessary:
  - Continuous monitoring of consumption (zones, utilities)
  - Occupancy planning (zones, period)
  - Specialised and informed personnel - Eco-Label
  - Communication and dissemination to guests- Eco-Label

<sup>14</sup> Horia Petran, INCD Urban Incerc București, Workshop Braşov, 28.05.2014.

***Additional solutions that exist today in Romania to support the hospitality industry are:***

- BERD BAS (Business Advisory Services) Romania dedicated to SME, for Technical consultancy; Audits and energy balances;
- Financial solutions along with assuming the energy performance provided by ESCO's

***The general concern of hoteliers is to reduce energy costs, especially with heating bills, in a market with continuously growth of energy prices. These resources could be used for improving other aspects of the accommodation or lowering room prices.***

## **5. POLICY RECOMMENDATIONS FOR REGIONAL AND NATIONAL POLICY MAKERS**

1. Inclusion in the national definition of nZEB of the values and targets for the hospitality sector.
2. Support through financial instruments for the transformation of the SME hotels in nearly zero energy buildings, for both building energy auditing and the implementation of measures that can lead to neZEH hotel.
3. Neutral and credible information on available technologies, minimum acceptable performance for various specialized equipment necessary to achieve a standard hotel neZEH.
4. The introduction in the classification process for hotels, in addition to the necessary equipment, of the new indicators on energy consumption norms, the minimum acceptable performance for each device and equipment used / installed in accommodation spaces.

## neZEH TEAM



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