National and EU level position papers

(WP2 MANAGEMENT – D2.7, working paper)

Issued by REHVA, Created 20-Sept-14, Last update 14-Oct-14

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

Contract N°: IEE/12/829/SI2.644758

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 competiveness; 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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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
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CONTENTS

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).

The neZEH project'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). As one of the activities implemented to reach this goal, national position papers have been drafted in each of the 7 countries represented in the neZEH project, in order to foster the development of favourable national / regional supporting mechanisms. Based on the main common characteristics and policy needs an EU level position paper was also elaborated targeting EU level policy makers.

1.1. COMMON CHARACTERISTICS OF THE HOSPITALITY SECTOR AND THEIR SPECIFIC NEEDS IN THE NEZEH COUNTRIES

The situation of the hospitality sector has special characteristic in each neZEH countries, however there are common features, which have to be taken into account while developing targeted policies.

- Tourism is an important economic sector in all neZEH countries targeted by sectorial support policies.
- A high ratio of SME's (especially micro and small sized family business) is characteristic for the sector. Small businesses don't have in-house capacities and knowledge to plan and implement energy efficiency actions. They typically don't have access neither to private loans in the recent financial environment.
- Lack of technical knowledge about and awareness of buildings energy efficiency issues. Small hotels don't have skilled technical personal in charge for technical building maintenance or deal with energy management issues.
- The highest priority of hotel owners is to learn about and invest in marketing according to their basic economic interest. However in the majority of the neZEH countries the significant decrease of operational costs through energy refurbishments is an economic argument for the hotel owners.
- Hotels don't have capacity to get familiar with available support policies and don't know how to use available existing support schemes. They lack knowledge about how to plan and implement energy efficiency investments.
- Mistrust of hoteliers in the economical convenience of investing in energy retrofit and in private energy consultancy companies. There's a clear need for proven and public or certified technical assistance and independent assessment of the applicable technical solutions and project design services.

- There are existing rating and certification schemes for hotels (), which measure resource efficiency and sustainability and go beyond buildings energy performance. Being certified as a green hotel means a holistic approach of how to operate a hotel sustainable way and is also an effective marketing measure on the same time, which brings competitive advantage for the certified hotels. The additional, not buildings energy performance related criteria have to be taken into account when trying to define an nZEH in practice and while selling the idea of becoming and NZEB to hoteliers.

1.2. COMMON FEATURES OF NATIONAL POLICIES SUPPORTING THE IMPROVEMENT OF HOTELS ENERGY PERFORMANCE

- Lack of national NZEB criteria for hotels and refurbished buildings. Hotels are not considered as a separate building type in the majority of the countries. Existing criteria usually focus on newly build buildings and not refurbishment. Specific criteria have to be defied for refurbishment and the building type of hotels.

- National refurbishment roadmaps and Action plans on increasing the number of NZEB are delayed or lack concrete policy measures and ambition in all partner countries except France.

- In decentralised countries with existing support policies for buildings energy refurbishment there's a need for better coordination between the measures and programmes in place at different authority levels (local, regional and national/federal).

- Tourism is an important economic sector in many neZEH partner countries often with support policies in place also for infrastructural investments. However these policies are not coordinated with the new and upcoming national policies related to nZEB and the refurbishment of the existing building stock.

2. EU LEVEL POLICY RECOMMENDATIONS

2.1. IMPROVED EU AND NATIONAL / REGIONAL POLICIES

There is a need for exact clarification of the EU level NZEB definition in order to enable Member States the correct transposition to the national and regional legislative and normative system. The definition should include different NZEB criteria for refurbished buildings and consider the building type of hotels separately.

There's a need for tailored energy efficiency policies for hotel building and financial incentives are required to help the hospitability sector get started and begin accomplishing nZEB goals. Tailored financial support schemes and incentives have to be provided in order to help SME hotels to overcome the high initial investment costs of ambitious NZEB renovations.

Better harmonisation and coordination are required among existing tourism sector and buildings energy efficiency policies as a prerequisite to ensure the exploitation of synergies. E.g. in countries with existing funding schemes for infrastructural development in the tourism sector special incentives should be developed in order to promote ambitious energy efficient refurbishment.

Better coordination is needed between the different policy levels (national, regional and sub-regional support schemes) and authorities in charge for the implementation of related support policies in order to achieve ambitious targets. These policies could also group the different needs and capabilities of the market segmentation of the hotels in order to maximise its effectiveness (i.e. size, geographical position, seasonality, eco-friendly etc).

An additional requirement, for several actors the first one, is the facilitation of the set-up of regional and local financial schemes (e.g. revolving funds, guaranteed or supported loan programmes, EPC schemes), which are able to mobilize private financing is a key to ensure the high financial resources necessary for the investments. The new programming period of EU Sectorial Operational programmes (2014-2020) is a huge opportunity to achieve large scale improvements at European level.

2.2. CREDIBLE AND INDEPENDENT TECHNICAL ASSISTANCE

Hotels need reliable technical assistance and financial incentives to design the hotel refurbishment and plan it financially. E.g. the set-up of "one-stop-shop" consultancy services or energy help desks for the non-residential building sector would be beneficial, in order to guide hotel owners through the whole renovation process. They should provide independent, credible and evidence-based information on the available technical solutions; have knowledge about the available public and private financial support schemes as well as expertise in the design of hotel refurbishment projects.

To keep standards, especially eco-friendly and close to the EU Directives, are required well trained and certified technicians capable to implement Energy Efficiency works and to install high end energy efficiency infrastructure in the hotels.

For SME hotels for the hotels with less financial capacity individual deep renovation roadmaps can be elaborated to achieve the NZEB status in a certain time frame. The roadmaps should specify the individual cost-optimal renovation steps, plan their logical timeline and consider the financial feasibility on the same time.

2.3. AWARENESS RAISING AND CAPACITY BUILDING

Tailored awareness raising campaigns targeting the hospitality sector can help to convince hotel owners about the economic viability of becoming an nZEH. Synergies with the existing engagement of hotels in different green hotel certification schemes have to be exploited in order to promote buildings energy efficiency effectively among hoteliers.

Hotel managers and the hotel personnel need to be trained on basic technical knowledge related to energy efficiency as well as on the economic and environmental advantages of investing in ambitious refurbishment projects. Hotel owners have to gain a general understanding about sustainable buildings and the available public support schemes for them. Public support schemes for capacity building can facilitate the learning process.

The buildings energy performance criteria should be included in the existing national and international quality and/or sustainability classification schemes for hotels to ensure and promote the marketing value of ambitious energy refurbishments for hotels.

3. CROATIA

3.1. INTRODUCTION

This document is based on discussions that took place since the beginning of the project with various stakeholders involved in the subject (hotel owners and managers, supporting institutions, policy makers, financial institutions, professionals of the building sector and engineers). These discussions took place on various occasions, either official or informal, such as:

- Meetings with stakeholders:
  - Ministry of Tourism (May, 2013)
  - Association of Small and Family Hotels (November, 2013)
  - European Bank for Reconstruction and Development (December 2013)
- Phone calls and bilateral meetings with:
  - Hotel owners and managers
  - Ministry of Construction and Physical planning
  - Association of Employers in Croatian Hospitality
  - Financial institutions
  - Public

In addition to the previously stated, the position paper is also based on several documents, relevant for analyzing the situation of buildings, specifically tertiary sector in Croatia and for identifying potential improvements, supporting mechanisms and overall goals.

- Third National Energy Efficiency Action Plan, 2014 - 2016 - available at: http://cei.hr/upload/2014/07/3_napenu_usvojen_53d8c6525e957.pdf
- Draft of Program for energy renovation of commercial non-residential buildings for the period 2014 - 2020th with detailed Plan for energy renewal of commercial non-residential buildings for the period 2014 – 2016 - available at: http://www.mgipu.hr/doc//Propisi/Program_EO_KZ_2014-2020.pdf
- Draft of The report referred to in Article 5 (2) of Directive 2010/31/EC and Article 6 of Regulation (EU) 244/2012 of 16.1.2012: The minimum requirements on the energy performance of buildings - hotels and restaurants for continental and coastal Croatia, for the period up to 1970, 1971 -2005., After 2006, and nearly zero energy buildings.

3.2. EXISTING NATIONAL AND REGIONAL POLICIES ON NZEB AND ENERGY REFURBISHMENT OF HOTELS

Some forms of increasing energy efficiency in buildings have been implemented since 1970, with the first demands in increasing thermal insulation. Today, the recast EPDB 2010/30/EU Directive has been transposed into the national legislation by Construction Act, latest version from 2013, which sets the framework for minimum requirements for energy performance for all existing buildings, including nearly zero energy buildings (nZEB). For nZEB:

- 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;

The Technical Regulation on Rational Use of Energy and Thermal Protection in Buildings (Official Gazette 97/14 – link http://narodne-novine.nn.hr/clanci/sluzbeni/dodatni/432850.pdf) gives technical requirements for new buildings and includes thermal insulation, HVAC systems, lighting, DHW systems and renewable share. From 2015, the new buildings must have analysis of alternative energy systems.

The Third National Energy Efficiency Action Plan emphasizes the need to increase the number of nZEB's. For that reason National Plan to increase the number of nearly zero-energy buildings is being developed to give the strict set of guidelines and implementation steps.

Cost optimal analysis for renovation of buildings has been developed for Croatia. Separate calculations and values have been given for geographical location (continental and costal Croatia) and different building types:

- Family houses
- Apartment buildings
- Office buildings
- Education buildings
- Hotels and restaurants
- Retail and wholesale buildings
- Hospitals
- Sports halls

In the addition to building types and geographical location, separate values have been calculated for 3 different time periods (buildings constructed in the period before 1970, between 1971 and 2005, after 2006) and for nearly zero energy buildings (nZEB). As this documents are for now only drafted, basic values can be given. According to calculations nZEB hotels will be buildings with primary energy consumption lower than 70 to 90 kWh/m2. The exact limits will be known in the beginning of 2015, after they are confirmed by Ministry of Construction and Physical planning and European Commission.

After confirmation of nZEB primary energy consumptions the National Plan to increase the number of nearly zero-energy buildings will be finished. And as stated, only then the implementation steps, financial framework, goals, stakeholders, marketing activities can be defined.

3.3. SPECIAL CHARACTERISTICS AND NEEDS OF THE LOCAL HOSPITALITY SECTOR AND THE HOTEL BUILDINGS

In the majority of cases hotel owners are owners of buildings. This fact facilitates the refurbishments, as it is in the interest of hotel owners to invest in their property.

On the other hand, energy prices are lower than in most EU countries (http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Electricity_and_natural_gas_price_statistics) that leads to marginal profitability and equity is invested in other projects (apart from energy efficiency and renewables).

Most of the hotels in Croatia are owned by medium or big enterprises and minority is reserved for small, mostly family hotels. Medium or big enterprises have specialized employees responsible for energy related questions. Their policy is mixture of cost optimal investments and refurbishments and the level of accommodation. Small hotels are here in predicament as they do not have the needed expertise, access to financing schemes and know-how. This is why it is crucial to provide support for small hotels in the near future.

Hotels in Croatia mostly close during winter period as it is not profitable to stay opened during the whole year. There are exceptions, mostly urban hotels in big cities. Small hotel owners emphasize the high energy costs in winter mounts and are hoping to find the solution for them to stay open the whole year.

Overall, hotels in Croatia can be split in two categories. New hotels built in last 8 years that have high energy efficiency, and many of them have renewable energy sources on site. Older hotels are in the need of overall refurbishments that will include energy systems, building envelope and possibility of renewables.

3.4. POLICY RECOMMENDATIONS FOR REGIONAL AND NATIONAL POLICY MAKERS

The general conclusion can be that all project steps can be improved and facilitated to steamroll major refurbishments.

- Legal paperwork

  In most of the cases delays in time table can be traced to slow reactions of public administration. Some steps have been made to simplify the process – building permit is no longer needed foe simple constructions, like thermal insulation. National Plan to increase the number of nearly zero-energy buildings has to determine strict guidelines and time schedules with responsibilities.

- Energy Performance Contract

  The Energy Performance Contract is an interesting tool to overcome the financial and technical barrier when implementing profitable energy efficiency measures. However, there is the lack of trust on the market and owners tend to implement measures themselves or not to implement at all.

- Project designing

  In the majority of cases owners tend to give up on investments at the project design step. Projects are needed to get the requested funding and some do not have the required equity for project design. The problem is being solved with subsidies (around 40%) form Environmental protection and Energy Efficiency Fond. All stakeholders tend to agree that this could be the solution.

  In the technical part of project designing strict guidelines have to be adopted so it can be easier to evaluate the projects.

- Financial mechanisms

  To get to the nZEB status major refurbishment is needed that cannot have reasonable profitability. Main reasons are that energy costs are comparatively low, investment costs and interest rates are high and there is no additional incentive. National Plan to increase the number of nearly zero-energy buildings has to take this into account and find the way to either with grants (subsidies) from Environmental protection and Energy Efficiency Fond, or lower future property tax, or lower municipal contributions or combination.

4. FRANCE

4.1. INTRODUCTION

With the aim to push for specific measures which will enable SME hotels to plan a neZEH project in France, a Position Paper has been drafted by ENERGIES 2050 (Regional Leader - France).

This document is based on exchanges and discussions that took place since the beginning of the project with various stakeholders involved in the subject (hotels, supporting institutions, policy makers, professionals of the building sector and energy efficiency stakeholders). These discussions took place on various occasions, either official or informal, such as:

- **Conferences** :
    - Symposium « Entrepreneurs d'avenir » – Nice – May 2013
    - "Innovative City", Business meeting organized by the Chamber of commerce and Industry of the Alpes-Maritimes department (06) as a side-event of the conference – Nice - June 2013
    - Club Business 06 - Cagnes-sur-Mer – November 2013
    - AGECOTEL Hotel Fair – Nice - February 2014
    - Forum on Sustainable Buildings – Marseille – February 2014
    - Regional Consultation on Tourism – Gréoux-les-Bains – February 2014
    - neZEH Launch event – Sanary - April 2014
    - CODA Strategies conference "Which energy efficiency services for the transition?" – Paris – July 2014
    - Conference and round-table on the neZEH project during a regional event on Sustainable Development – Forcalquier – September 2014

- **Meetings with institutional stakeholders such as :**
    - Regional Tourism Committee of Côte d'Azur (February 5th, 2014)
    - Council of the Alpes-Maritimes Department, with the Presence of the Chamber of Commerce and Industry of Nice Côte d'Azur (February 11th, 2014)
    - Council of the Alpes de Haute-Provence Department, with the Presence of the Chamber of Commerce and Industry of Alpes de Haute Provence (March 6th, 2014)
    - City of Nice (April 4th, 2015)

- **Phone calls and bilateral meetings with :**
    - Hotels
    - Hotel associations
    - Tourism committees and agencies
    - Tourism internet portals (such as "Voyageons autrement" and "GGPLWS")
    - Technicians of local institutions (Council of the Var Department, Council of the Bouches-du-Rhône Department, Council of the Haute-Alpes Department, Regional Council of Provence-Alpes-Côte d'Azur - PACA)
    - Regional and local Chambers of Commerce and Industry (Marseille-PACA, Var, Alpes de Haute-Provence, Alpes-Maritimes,…)

The following position paper is also based on several documents, relevant for analysing the situation of the hotel industry in France and for identifying potential improvements to be made regarding the National and regional supporting mechanisms. Without being exhaustive, we can quote:

- *National Plan for Increasing the number of nearly zero-energy buildings (nZEB) in France*, 2013 - available at : http://ec.europa.eu/energy/efficiency/buildings/implementation_en.htm
- *La rénovation thermique des bâtiments en France : enjeux et stratégie*, ENERTECH, 2012, available at http://www.enertech.fr/pdf/48/enjeux-de-la-renovation-thermique-des-batiments-en-france_v0.pdf
- *The Travel & Tourism Competitiveness Report 2013,* World Economic Forum, 2013, available at : http://reports.weforum.org/travel-and-tourism-competitiveness-report-2013/
- *Le tourisme, « Filière d'avenir »*, NOGUE Report, National Tourism Council, 2013, available at : http://travail-emploi.gouv.fr/IMG/pdf/Rapport_NOGUE_-_Le_Tourisme_filiere_d_avenir.pdf
- *Les Français et « le tourisme responsable »,* Harris Interactive pour Voyages-sncf.com, *2012, available at* : http://www.harrisinteractive.fr/news/2012/cp_hifr_vsncf_26102012.pdf

4.2. EXISTING NATIONAL AND REGIONAL POLICIES ON NZEB AND ENERGY REFURBISHMENT OF HOTELS

The different policies and financial mechanisms available in France related to energy efficiency in existing hotels are listed hereafter. It must be noted that this list reflects the situation on the time the document was elaborated, and that it will surely evolve over time.

4.2.1. NATIONAL PLAN FOR INCREASING THE NUMBER OF NEARLY ZERO-ENERGY BUILDINGS (NZEB) IN FRANCE

- **Actions for the generalization of BBC standards for existing buildings:** The overall objective of this regulation is to ensure a significant improvement of the energy performance of an existing building.

- **Coefficient bonus of land tenure:** In the context of existing buildings, this provision allows the opportunity to get a bonus to their land tenure coefficient to the extent that they make their building energy efficient.

- The label **BBC Renovation 2009** (Low Energy Consumption Building Renovation 2009) which corresponds to consumption 40% below the baseline of "global" thermal regulation existing buildings.

- **EPC, The Energy Performance Certificate:** The EPC is a document of information, awareness and incentives, which provides information on the energy performance of a home or building, assessing its energy consumption and its environmental impact in terms of greenhouse gas emissions.

- **PREBAT** (program of research and experimentation in the energy building): PREBAT is the national platform for coordination and promotion of research on energy in the building sector.

Source : *http://ec.europa.eu/energy/efficiency/buildings/implementation_en.htm*

4.2.2. OTHERS EXISTING MEASURES FOR ENERGY EFFICIENCY AND RENOVATION IN THE HOTEL SECTOR AT NATIONAL LEVEL (NOT SPECIFIED IN THE NATIONAL ACTION PLAN)

Some measures and policies have not been identified in the French National action plan for disseminating nZEB but also contribute to the objectives of energy efficiency and can be applied to the hotel sector:

- Certificates for energy savings – "White certificates"
- Participative Loan for Hotel Renovation (PPRH)
- Eco-energy loan to improve energy efficiency (PEE)
- Decision-making aids (with financial support)

4.2.3. OTHERS EXISTING MEASURES FOR ENERGY EFFICIENCY AND RENOVATION IN THE HOTEL SECTOR AT LOCAL LEVEL

In France, there are currently three levels of local authorities which can, according to the cases, propose aids to implement energy efficiency measures. There is no specific legislation regarding aids proposed by local authorities, it is a voluntary support.

4.3. SPECIAL CHARACTERISTICS AND NEEDS OF THE LOCAL HOSPITALITY SECTOR AND THE HOTEL BUILDINGS

GENERAL CHARACTERISTICS OF THE HOSPITALITY IN FRANCE

- A large representation of small sized and independent hotels: In France, the hotel sector represents 36 000 companies[1] with an important representation of small sized companies (in the hotel sector, the average number of employees is 4,2 by company ; 40% of the companies in the restoration and hotel sector are family businesses[2]).

- Competitiveness, innovation and quality -three imperatives of the hotel sector: As it is the case on the international level, competitiveness is a major issue for the hotel sector in France. The hotel sector is also confronted with the need for permanent innovation, notably with the growing use of new technologies such as the internet. In 2012, 66% of the

[1] NOGUE Report, *Le tourisme, « Filière d'avenir »*, National Tourism Council, 2013, available at : http://travail-emploi.gouv.fr/IMG/pdf/Rapport_NOGUE_-_Le_Tourisme_filiere_d_avenir.pdf
[2] Ibid.

French used internet to book a trip (hotel, transport,…[3]). In this context, Booking organizations have become almost compulsory for hotels. Moreover, there is a growing demand for certified quality in the Hotel sector in France, illustrated with a numerous number of labels and quality certificates.

- A sector facing various regulatory obligations: The Hotel sector in France has been recently facing important regulatory obligations, concerning fire security and accessibility (the 2006, July 24th law on fire security and the 2005, February 11th law on accessibility)

IMPLICATIONS FOR IMPLEMENTING ENERGY EFFICIENCY MEASURES IN THE HOTEL SECTOR IN FRANCE

According to the situation -previously presented- of the hotel sector in France, there are several implications when willing to implement energy efficiency measures, which are both positive and negative:

Positive implications	Negative implications
Energy efficiency can contribute to the hotel's competitiveness by reducing operating costs Energy efficiency is a sign of quality (and notably environmental quality) which is aimed in many quality labels and certificates, and which is a growing preference from clients	Small and medium sized as well as independent hotels are facing important financial issues (Internet booking organization fees, renovation and other costly measures to adapt to fire security and accessibility regulations,…) which leaves less financial capacity for investing in energy efficiency measures Small and medium sized as well as independent hotels have none or only very few employees, meaning no employee can be specifically dedicated to handling environmental or energy issues, which generally require technical or special qualifications

[3] NOGUE Report, *Le tourisme, « Filière d'avenir »*, National Tourism Council, 2013, available at : http://travail-emploi.gouv.fr/IMG/pdf/Rapport_NOGUE_-_Le_Tourisme_filiere_d_avenir.pdf

4.4. POLICY RECOMMENDATIONS FOR REGIONAL AND NATIONAL POLICY MAKERS

4.4.1. IMPROVING THE VISIBILITY, COHERENCE AND ACCESSIBILITY OF AVAILABLE MECHANISMS

The list of national and regional support mechanisms for energy efficiency that can apply to the hotel sector (Part 2) even if it is probably not an exhaustive one, shows a significant number of mechanisms as well as numerous stakeholders in charge of those (Public Bank of Investment, National Agency for Environment and Energy Management, Local authorities, etc.).

Even though this diversity can be an asset, it can also contribute to a lack of visibility and therefore make it difficult for hoteliers to engage on the path of energy efficiency. This issue is even more important considering the lack of spare time hoteliers have, mostly for the independent and small-medium sized hotels which are the most relevant targets for these support mechanisms.

Moreover, there is a general lack of coherence between the different mechanisms available, and notably regarding aids and support proposed by local authorities. Indeed, on a same territory, there can be up to four levels of local authorities, which can each potentially propose a financial, a technical or a communication support. Once again, this can be a real asset and improve financial capacity of hoteliers to invest in energy efficiency measures, but this can also lead to negative situations.

Indeed, as there is often no coordination among local authorities regarding their support mechanisms on energy efficiency, they are potentially all financing the same type of support (for example: mainly financing energy audits but not investments). There is therefore a real opportunity to look for coordination and complementarities between aids proposed by different levels of local authorities and more generally between the numerous stakeholders concerned.

Another issue raised by the multiplicity of support mechanisms and stakeholders is that they all have their own criteria and administrative procedures. As a result, if a hotelier wishes to mobilize all available mechanisms, he will have to fill in as many administrative forms.

Moreover, there is the possibility that even though his project meets the requirements of one stakeholder, it might not meet those of the others.

To this issue must be added the one of constancy of mechanisms over time. Indeed, according to the mandates, strategies and/or programmes of the different concerned stakeholders, availability and conditions of support mechanisms can evolve over time. In this context, it is very difficult for a hotelier to keep informed and updated on the support he will be able to mobilize at the moment he will decide to refurbish his hotel.

➔ **As a response to the apparent need for improving visibility, coherence and accessibility of available support mechanisms, suggestions are :**

- **To propose a "One-stop shop"** regrouping all information regarding policies and available support mechanisms for energy efficiency in the Hotel sector. A similar service already exists for citizens who wish to renovate their housing ("*Espace Info Energie*"). It is a national service which is made available at the local level.

- **To coordinate available mechanisms** between the national level and the different levels of local authorities. The goal is for these support schemes to be complementary and therefore to cover a wide range of measures (diagnosis, feasibility studies, investments, etc.). This coordination could notably be implemented through **pluri-annual programmes** in which each stakeholder/institution would engage to provide financial and/or technical support on a defined period of time, therefore addressing the issue of constancy.

- **To have a unique administrative procedure** (administrative form, procedure and criteria) for the different support mechanisms. The idea would be for hoteliers to submit only one form. The solicited stakeholders/institutions would then each bring a financial and/or technical support according to a relevant distribution.

4.4.2. IMPROVING THE RELEVANCE OF AVAILABLE MECHANISMS

The exchanges and discussions with the various stakeholders concerned by the issue of energy performance in the hotel sector have pointed out certain dysfunctions regarding some of the existing support mechanisms, such as:

- *Participative Loan for Hotel Renovation (PPRH)*
  According to the experience of some interviewed stakeholders, the PPRH is not a relevant tool because banks are often reluctant to get engaged in such mechanisms. Indeed, this loan proposed by the Public Investment Bank (BPI) requires that a similar amount is loaned by another bank. Yet, it appears that private banks do not want to get engaged in such loans with ties to public banks.

- *Energy Performance Contract*
  The Energy Performance Contract appears as an interesting tool to overcome the financial barrier when implementing energy efficiency measures. However, an issue needs to be addressed when implemented these types of mechanisms: the responsibility for the effectiveness of the implemented measures. Indeed, since the user of the building is usually not the one investing, he has no incitation to adopt an adapted behaviour, which can reduce the energy savings made. As an example, if the user decides to heat to 23°C instead of 19°C, this can lead to a surplus of 50% of the energy consumption.

- *Aids for specific investments*
  Some of the support mechanisms available are dedicated to specific investments (such as roof isolation or double-glazing). This brings up a question regarding the relevance of

implementing an overall renovation of a building or only implementing specific measures one at a time on an extended period. Even though this last solution may seem relevant, notably to overcome potential financial barriers, it appears to be more costly on the long term (due to the multiple interventions of various companies) and requires inevitable technical considerations.

For example, some measures require other mechanisms to be implemented as well (isolating the building requires for a ventilation system to be installed; improving the thermal performance of a building requires to readjust the heating system; etc.).

➔ **In order to ensure the relevance of proposed support mechanisms, it seems necessary to organize a national consultation process in order to discuss, in detail, with all relevant stakeholders (institutions, banks, hotel sector as well as professionals of the building and energy efficiency sectors) how these mechanisms can be improved and adapted to the hotel sector. This has to be led by National authority to be relevant and well received by local stakeholders.**

4.4.3. PROPOSING NEW MECHANISMS ADAPTED TO THE HOTEL SECTOR

According to the situation that was previously presented, it appears necessary to propose new mechanisms specifically dedicated to hotels in order to support them in improving the energy performance of their buildings, such as:

➔ **A support mechanism for an overall renovation of hotels**, taking into account both compulsory regulations (fire security and accessibility) as well as ambitious measures for improving the hotels' energy performance. The financial support could be composed of both a grant and a loan (with advantageous interest rate).

➔ **A technical support provided to hoteliers** to accompany them throughout the energy efficiency process (identifying available aids/support mechanisms, filling out the administrative forms, monitoring the work of engaged companies, etc.). Indeed, one of the barriers identified is the lack of technical knowledge among the hotel staff. Moreover, some of the hotels interviewed expressed their lack of trust in private energy efficiency/renovation companies. An official technical support would enable more hoteliers to better engage on the path of energy excellence.

5. GREECE

5.1. INTRODUCTION

neZEH aims to accelerate the rate of refurbishment of existing buildings into Nearly Zero Energy Buildings (nZEB), focusing to the hotels sector (SME hotels).

Amongst the activities undertaken by the neZEH consortium for that scope is to assess -with the support of the national hotels associations, financial institutions and policy makers- the national action plan for increasing the number of nZEBs and more specifically nZEHs, and to draft policy recommendations, reflecting the opinion and specific needs of SME hotel owners on what can be the appropriate regulatory framework, financing tools and other supporting measures to support this kind of investments.

At the time of developing this draft Position Paper, the National Action Plan for increasing the number of nZEB as well as the national nZEB definitions criteria has not yet been published. Also potential funding opportunities or supporting mechanisms in the frame of the National Strategic Reference Framework (NSRF) of the new programming period 2014-2020, have not been announced. Therefore, this position paper paper presents an initial assessment of the current framework and will be updated in the second half of the project using the experience gained through the elaboration of refurbishment plans for the pilot hotels and the upcoming national policy measures.

This document was compiled by TUC with the consultation of key stakeholders, through:

- **bilateral meetings with key stakeholders, representatives of the:**
  - Hotels Association of Rethymno
  - Association of Greek Historic Hotels
  - Centre for Renewable Energy Sources and Saving (CRES)
  - Technical Chamber of Greece/Western Crete, state advisor representing all engineers and architects in Greece (TEE)
  - Network of Aegean Islands for Sustainability
  - Cooperative Bank of Chania
  - Building professionals and EE technologies providers
- **interviews with hotel owners, representatives of**:
  - Grecotel, the leading, largest hotel chain in Greece with 30 luxury hotels & resorts
  - Costa Navarino group, including 2 luxury resorts and a developing company of luxury mixed-use resorts
  - 4 hotels based in Crete
- **exchanges in the frame of industry conferences and relevant events.**
  - Hospitality now 2014, Athens, 08/05/2014

- Energy Efficiency 2014, Athens, 24/06/2014
- Sustainable Energy Priorities in view of the Greek Presidency of the European Council, Athens, 24/01/2014
- AIVC 2013, Athens, 25/09/2013
- neZEH Launch event, Rethymnon, 23/05/2013

Furthermore, an analysis of the tourism industry reports elaborated by tourism stakeholders, the current legal and financial framework and the foreseen priorities and measures of the Sectorial Operational Programmes (2014-2020) was performed. Some of the sources:

- Second National Action Plan for Energy Efficiency, Ministry of Environment Energy and Climate Change
- Greek Tourism: Facts and Figures, 2014 edition, Association of Greek Tourism Enterprises (SETE)
- Greek Tourism 2020, Association of Greek Tourism Enterprises (SETE)
- Tourism in the Greek economy, Foundation for Economic & Industrial Research (IOBE)
- National Strategic Reference Framework (NSRF), New programming period for Cohesion Policy 2014-2020, Ministry of Regional Development and Competitiveness
- Sectorial Analysis of Hotel Enterprises, 2012, ICAP Group
- Research Institute of Tourism
- Federation of Greek hoteliers.

5.2. EXISTING NATIONAL AND REGIONAL POLICIES ON NZEB AND ENERGY REFURBISHMENT OF HOTELS

The EPBD recast, Article 9, foresees that MS shall submit a National plan for increasing the number of nearly zero-energy buildings, while the EED stipulates that by April 2014 all MS shall submit their Building Renovation Strategy, as part of their National Energy Efficiency Action Plan. So far, Greece has not submitted any of these two, and the subject of nZEB only begins to be approached in the Second National Action Plan for Energy Efficiency. The foundations for the transition towards low energy consumption buildings have been set with the following laws:

- Law 3661/2008 on the energy efficiency of buildings
- Law 3851/2010 on the acceleration of the development of Renewable Energy Sources and climate change
- Law 3855/2010 on the improvement of the energy end-use efficiency
- Law 4122/2013 on energy efficient buildings (harmonization with the EU Directive 2010/31/EU)

According to the Second National Action Plan for Energy Efficiency, the transition has begun with the following two legislative provisions:

- **On energy efficiency:** The new Regulation on the energy performance of buildings (KENAK) sets two key requirements:
  - i) submission of a study on the Energy Performance of Buildings for issue of a building permit,
  - ii) performance of Energy Inspections to Buildings, Boilers, Heating and Air Conditioning Systems, which are expected to contribute significantly in the direction of energy efficient buildings.
- **On use of RES:** Law 3851/2010 requires:
  - i) Buildings applying for building permit after 1.1.2011 are required to cover at least 60% of their needs for domestic hot water on an annual basis with solar thermal systems. This does not apply when demand for domestic hot water is covered by other RES systems or electricity and heat cogeneration, district or block heating systems, and appropriate efficiency heat pumps.
  - ii) No later than 31.12.2019, all new buildings should cover their entire primary energy consumption with RES, electricity and heat cogeneration, district or block heating systems, and appropriate efficiency heat pumps. For new public buildings, this obligation enters into force no later than 31.12.2014.

The national policy on buildings does not, currently, consider hotels as a separate building type and targeted measures for hotel buildings are not available at the moment. The policy measures described below, target the overall energy efficiency in buildings; even though not directly linked with nZEB or energy refurbishment of hotels, they can be helpful to move towards that direction and can support hotel owners in proceeding with energy upgrades in their hotels.
More details for measures and incentives of financial kind can be found in the neZEH information papers on financial tools and funding opportunities for large scale refurbishment projects in the hotels sector-D2.6 (neZEH, 2013).

5.3. SECOND NATIONAL ACTION PLAN FOR ENERGY EFFICIENCY

The Second National Action Plan for Energy Efficiency foresees some policy measures as follows:

5.3.1. TAX INCENTIVES

Tax legislation provides some tax incentives when implementing energy efficiency interventions. Specifically, Law 3842/2010 provides for a 10% tax deduction of expenditure for building upgrade interventions following energy inspection. The amount of expenditure, based on which the deduction is determined may not exceed 6,000 €.

5.3.2. ENERGY EFFICIENCY OF BUILDINGS REGULATIONS

The regulation on the energy performance of buildings (KENAK) introduces an integrated energy design to improve the energy efficiency of buildings, energy savings and environmental protection through specific actions:

- Preparation of a study on the Energy Performance of Buildings
- Establishing of minimum requirements for energy efficiency in buildings
- Energy Rating of Buildings (Energy Performance Certificate)

The study on the Energy Performance of Buildings is prepared for every new or existing building, which undergoes a complete renovation and is based on:

a) covering the requirement to meet minimum standards on the design, envelope and electromechanical installations of buildings and
b) its comparison with the reference building, to issue an Energy Performance Certificate.

The Energy Performance Certificate is mandatory and it is required in case of purchase, sale and lease of buildings; it includes, among others, the results of the evaluation by the energy inspector and recommendations for improving the energy efficiency of the building.

5.3.3. ENERGY UPGRADING OF EXISTING BUILDINGS THROUGH EPCS

Law 3855/2010 sets the legislative framework of Energy Performance Contracts (EPCs) and a subsequent Ministerial Decision establishes an Energy Service Companies Record and provides for the mandatory entry in such record of the details of Energy Performance Contracts. It further stipulates pilot EPC implementation projects in public buildings and dwellings. The market of EPC is not yet mature in Greece and more incentives are required for the market to expand.

5.3.4. INSTALLATION OF SMART METERS

Law 3855/2010 stipulates that energy suppliers must provide end users with individual meters indicating their actual energy consumption and additional information about saving energy. A project by the Public Power Company is being implemented, where smart meters will be installed in consumer's premises, among which are large commercial consumers.

5.3.5. PROMOTION OF HIGH-EFFICIENCY COGENERATION OF HEAT AND POWER (CHP) AND DISTRICT HEATING

Law 3851/2010 streamlined the approval process of licences for production, installation and operation of cogeneration systems, whereas financial incentives were given by means of a subsidy for electricity produced by high-efficiency cogeneration of heat and power plants. A Ministerial Decision of 2010 contribute to the development of district heating networks, as only cogeneration plants demonstrated as high-efficiency have the right to issue a Certificate.

5.3.6. BUILDING THE FUTURE PROGRAMME

Aiming at both residential and commercial buildings, this call's objective is the energy upgrade of the Greek building stock. It is a partnership between the public sector, construction industry and citizens. The initiative is based on voluntary agreements between public and private sector, under which the parties involved in the implementation of interventions (manufacturers and product suppliers, installers, service providers) are required to provide great and real discounts to citizens. It includes five interventions in commercial buildings

- Installing of integrated high-specification facades, i.e. frames, glass panes, shading systems
- Installing insulation

- Replacing heating-cooling-air conditioning system with high performance systems
- Replacing artificial lighting system
- Replacing or installing advanced energy audit systems

5.3.7. Compulsory installation of central solar thermal systems in buildings of the tertiary sector

Law 3851/2010 provides for the use of solar thermal systems to cover part of the needs in hot water (at least 60%), for a building permit to be issued.

5.4. INVESTMENT INCENTIVES LAW

The Investment Incentives Law, 4146/2013, is a basic policy instrument to promote economic development through supporting schemes for investments, which improve entrepreneurship, technological development, competitiveness of businesses, regional coherence and promote the green economy, efficient operation of available facilities and use of the country's human resource.

Supported actions related to the hotels sector are investments concerning the:

a) establishment, expansion and modernization of integrated form hotel units that belong or being upgraded to at least 3 stars category.
b) special touristic infrastructure (Convention centres, thalassotherapy centres, ski centres)
c) organised receptors of touristic activities and complex tourist resorts

Incentives could be tax relief, subsidy, leasing subsidy and Soft Loans by ETEAN (National Fund for Entrepreneurship and Development).

5.5. ETEAN (NATIONAL FUND FOR ENTREPRENEURSHIP AND DEVELOPMENT)

ETEAN is a public funding instrument, providing soft loans through collaborating banks. Two of its funds specifically target touristic enterprises.

- Loan Fund-Action E: Theme tourism, desalination, waste management, green infrastructure, green applications, RES
- Entrepreneurship Fund - Insular Touristic Entrepreneurship

The first addresses to micro, small and medium size enterprises and supports actions such as: investments for energy saving, installation of RES systems for hotels, applications of schemes/ installation of energy saving systems.

The second fund addresses to very small and small enterprises of insular areas and supports the following: creation, configuration and renovation of buildings, facilities and surroundings, machinery and equipment, certification of quality assurance systems and promotion – visibility.

5.6. STRUCTURAL FUNDS

Under the new NSRF -expected to be announced soon- energy efficiency and renewable energy systems in enterprises is promoted, giving particular focus in buildings that have high or particular energy consumptions, such as hotel. Incentives will concern energy efficiency improvement interventions, through efficient HVAC, DHW systems as well as energy saving technologies. Priority will be given to heat pumps, use of solar energy for water heating, replacement of windows and doors and building insulation. Interventions to create “Green Hotels”, that can be certified, will be promoted. Other eligible actions are: installation of smart meters and energy management software, energy consultant, programs if energy control and integrated energy management systems based on ISO 50001. At the moment not specific incentive is nZEB status is announced.

5.7. URBAN INCENTIVES

In accordance with the General Building Rules, for buildings with a maximum height of 8,50 m and for bio-climate buildings regardless of height, an additional increase in the authorised volume coefficient is given, if an energy study provides for such need.

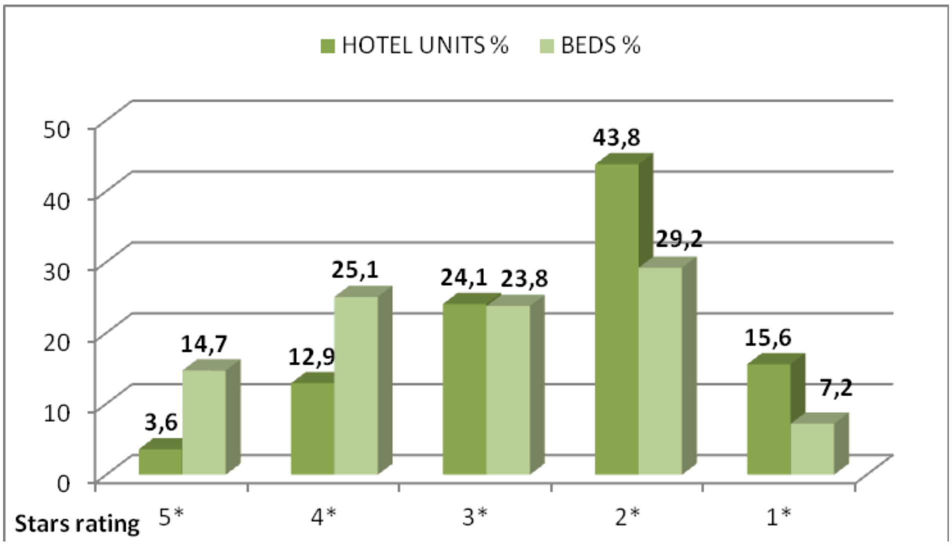
5.8. SPECIAL CHARACTERISTICS AND NEEDS OF THE LOCAL HOSPITALITY SECTOR AND THE HOTEL BUILDINGS

Tourism counts for the 16,6% of the Gross Domestic Product and for the 18,4% of employment in the Greek economy; it holds a 2,9% of the European market share. In 2014, 22,5 million tourists have visited Greece.

The hotels sector involves 9.700 hotel enterprises with 400.000 rooms/ 770.000 beds and 700.000 employees.

The main characteristics of the hospitality sector in Greece are summarized as follows:

→ Star rating: In 2012 the majority of hotel units (43,8%) were 2* (SETE, 2013). When it comes to beds, this percentage is 29.2%, while more than 63% belong to 3*, 4* and 5* categories. (ITEP and Hellenic Chamber of Hotels, 2014).



→ Average occupancy rate, yearly 51%; high seasonality index, 86% of arrivals are between May and October.

→ High concentration of accommodation capacity in certain areas. Crete and South Aegean islands alone sum up to 46,5% (ITEP and Hellenic Chamber of Hotels, 2014).

For hotel buildings, in specific, the following characteristics apply:

> Hotel and restaurants represent the 20% of Greece's building stock (building floor area, BPIE Data Hub, 2014).

> The majority of accommodation units are small and very small enterprises. Almost 43% of them are "family run hotels" with size up to 20 rooms; only 8% are considered of big size (more than 100 rooms), ITEP and Hellenic Chamber of Hotels, 2014.

> Hotels in Greece belong in two main categories (ICAP, 2012):
  a. Urban, which are situated in urban centres and operate on a yearly basis
  b. Seasonal recreation hotels, in their large majority situated in costal and mainly insular areas.

→ As concerns facilities the picture is as follows:

Facility	Percentage of hotels (%)
Restaurant	38,8
Conference centre	4,1
Conference hall	14,1
Gym	9,5
Open pool	37
Garage	5,3
Parking lot	67,3

The percentage of hotels that provide specialized services to their guests have increased, comparing to 2009, but they still remain at low levels (ITEP and Hellenic Chamber of Hotels, 2014).

→ Hotels in Greece have an average energy consumption of 290 kWh/m^2/year, 48% for heating and cooling, 7% for lighting, 13% for hot water, 25% for cooking.

→ Based on researches, almost 30% of the hotel buildings are with defective insulation of walls and roofs, 50% has an old central heating system, 50% doesn't have solar collectors.

There are some drivers that could push energy refurbishment investments, mainly the following:

- Many hoteliers welcome the idea of applying energy saving and RES measures, especially with the rising energy costs
- There is pressure from the market for adopting environmentally friendly policies and guests expect that hotels apply at least the minimum measures.
- Green profile is an added value to a hotel's image and can be a significant competitive

advantage to attract the "sustainability friendly" market segment

- In some areas, higher independence from energy providers is very important specifically in insular and remote areas.

The following barriers are reported, when it comes to implementing energy refurbishment measures in the hotel sector:

Barriers for large renovation projects to hotels			
Financial	**Regulatory/ Administrative**	**Awareness/ Capacity**	**Operational**
Lack of capital for investments and difficulty to get access to bank loans, due to the financial crisis	Bureaucracy and time-consuming process to get permits for renovation projects	Lack of successful examples to prove the feasibility of such investments	Seasonality, hindering the implementation of certain measures
High loan cost for SMEs and difficulty to provide a bank guarantee	Limitations to RES integration possibilities	Low awareness of energy efficiency issues and potential benefits	Architecture limitations
State funds usually require the investment to proceed with own funds, which are returned after the investment is implemented; not feasible for many hotel owners	Lack of regulation for obligatory energy certification in existing buildings	Lack of skills to initiate energy efficiency measures and manage a renovation project within the hotel's staff	Low priority in energy efficiency measures due to the smooth climate
Payback expectations in short term horizon			Lack of energy consumption data per hotel energy consumption activity - one electricity bill for all
State funding opportunities are dramatically reduced due to the economic austerity			

5.9. POLICY RECOMMENDATIONS FOR REGIONAL AND NATIONAL POLICY MAKERS

Hotel buildings represent a large percentage of the total building stock in Greece. Therefore, energy interventions in hotels can contribute significantly to achieve the national 20-20-20 targets. Nevertheless, targeted policies or measures for hotels willing to become nZEB are not available. Current policies usually categorise the buildings in residential, tertiary and public, however there should be different subcategories in order to increase the relevance and effectiveness of the measures.

Measures should take into account the special characteristics of the Greek hospitality sector:

- Targeting SMEs and even micro-enterprises;
- Being cost-efficient measures, taking into account the seasonality of the majority of the hotels
- Should encourage lower class accommodation units (the majority of the country's accommodation capacity) to proceed with upgrades with specific focus on energy interventions.

Based on the existing policies on nZEB and energy refurbishment of hotels, and taking into account the needs and special characteristics of the Greek hospitality sector, the following recommendations could be made:

→ BENEFICIARY REGULATORY MEASURES

- The national nZEB definitions and associated goals/values should address the different buildings features, uses and operating models. Hotels cannot be considered as typical non-residential buildings; their business model includes a number of energy intensive operations associated to their customers' comfort and expectations, therefore closely linked with their competiveness and viability. To develop viable scenarios for hotels, a "modular" benchmarking could be considered to include the non-hosting functions. Different targets should be set for new and renovated buildings
- Different measures could be promoted in different climate zones within the country; data at national and regional level should be evaluated to prioritize the available measures, according to their cost-efficiency depending on the climate zone

→ FLEXIBLE AND TARGETED FINANCING MEASURES

- Financial support could be composed of both a grant and a loan (with advantageous interest rate).
- Premium subsidies for nZEBs based on the level of achieved performance (measured improvement of energy efficiency, or reduction of energy consumption
- Large scale renovations to reach nZEB status may have a long term ROI (or may never compensate the investment) if there is no additional incentive. National Renovation Plans aiming to increase the number of nZEB have to take this into account and introduce measures to confront this; grants from the structural funds, lower property or municipal tax, etc. focused on the hospitality sector
- Improve the overall credit regime of the banks, to facilitate access to funding by SME's.
- Improve the flexibility of current funding mechanisms, provide pre-financing phases to SMEs selected for funding;
- Extra subsidy for implementing high performance energy efficiency measures in a building
- EPC can be an effective way to channel private funding into large scale projects. However in Greece, EPC models have not yet being practically implemented. Furthermore it requires a lot of expertise due to the sometimes complex set ups of ESCOs and the contractual procedures between the three parties (financial institution, technical partner and the building owner).

Mechanisms to promote the EPC model and support ESCOs to access capital from finance facilities should be established.

→ REDUCE BUREACRATIC ISSUES AND UNCERTAINITY

- “Fast track” processes when it comes to energy interventions in hotels, like thermal insulation or small scale RES systems to avoid the discouragement of hotel owners that want to proceed with large scale renovations
- Simplify the administrative procedures with an ‘one-stop shop’ approach for different steps of acquiring financing providing information, technical assistance, application, loan/grant management
- Build on local partnerships. EE projects could be more efficiently run by local institutions, such as a policy department on a municipal level, local banks and companies. This allows to plan complex projects based on confidence and trust, also boosting the local economy.

→ MEASURES TO ENCHANCE CAPACITY

- There is low awareness of energy efficiency and RES issues among hotel owners; as a result such issues are being pushed back in their agenda. Awareness campaigns or training programmes can help increase knowledge on the potential benefits of investing in such areas and inspire more hotel owners to act. Information campaigns about the available supporting schemes should also be launched and the material available should be made user friendly,
- Data base of technical solutions and expected outcomes after the implementation of different equipment and technologies; comparison of different measures in terms of technical issues, energy efficiency impact, integration considerations and ROI.
- Limited number of demonstration projects in the sector should be funded to act as examples to imitate.
- Registry of competent (certified) nZEB project designers
- Technical support to be provided to the hotel SMEs to accompany them throughout the EE process (identifying available aids/support mechanisms, filling out the administrative forms, monitoring the work of engaged companies, etc.). Indeed, one of the barriers identified is the lack of technical knowledge among the hotel staff.

→ BUILD ON THE IMAGE OF NATIONAL TOURISTIC PRODUCT

Tourism has a great impact on the national GDP and employment. Coordinated actions in national level could lead to new touristic “product” and enhanced image as a green destination. Investing in sustainability could attract new market segments. For this, a labelling scheme could be introduced, bringing in the process of granting classification for the hotels by the National Tourism Authority, considerations on energy consumption norms, minimum acceptable performance etc.

→ OTHER INCENTIVES / SUPPORTING MECHANISMS

- Energy savings obligations, imposing obligations as an incentive to invest in EE and enables designers to set pre-defined performance standards as a minimum threshold for eligibility for funds
- Obligatory Energy Certificates to all buildings
- Eco/Sustainable Energy Loan to improve energy efficiency, to support SMEs and micro-companies to implement projects for improving their energy efficiency, with beneficiary interest rate and long period of repayment.

REFERENCES

Alpha Bank, Economic Studies, 2014. Weekly economic report, 16-10-2014.

Association of Greek Tourism Enterprises (SETE), 2014. Greek Tourism: Facts and Figures.

Association of Greek Tourism Enterprises (SETE), 2012. Greek Tourism 2020,

BPIE Data Hub for the Energy Performance of Buildings, http://www.buildingsdata.eu, retrieved September 2014.

European Commission, Energy Efficiency in Buildings Implementation, Financial Incentives and Market Barriers, http://ec.europa.eu/energy/efficiency/buildings/implementation_en.htm, retrieved September 2014.

Hellenic Federation of Hoteliers. 2008. Study for the upgrade of old accommodation units.

Foundation for Economic & Industrial Research, 2012. Impact of tourism in the Greek economy.

Gaglia G.A., Balaras A.C., Mirasgedis S., Georgopoulou E., Sarafidis Y., Lalas P.D., (2007). Empirical assessment of the Hellenic non-residential building stock, energy consumption, emissions and potential energy savings. Energy and Conversion Management 24,pp 1160-1175.

ICAP Group A.E., 2012. 2012 Annual Report Status and Prospects of SMEs in Greece.

Investment Incentives Law 3299/2004, revised with L.3908/2011 and L.4146/2013, www.ependyseis.gr.

ITEP (Research Institute of Tourism) and Hellenic Chamber of Hotels. 2014. Developments in Tourism and Greek Hospitality 2013.

Law 3522/2006 "Changes in income tax, simplifications to the Code of Books and Records and other provisions".

Law 3734/2009 "Promotion of cogeneration of two or more useful energy forms, regulation of issues related to the Mesochora Hydroelectric Project and other provisions".

Law 3842/2010 "Restoring tax fairness, tackling tax evasion and other provisions".

Law 3851/2010 "Accelerating the development of Renewable Energy Sources to address climate change and other provisions relating to issues with the competence of the Ministry of Environment, Energy and Climate Change".

Law 3855/2010 “Measures to improve energy efficiency in end use, energy services and other provisions”.

Ministry of Environment, Energy and Climate Change, Second National Energy Efficiency Action Plan 2008-2016 Pursuant to Directive 2006/32/EC, Athens, September 2011.

Ministry of Development and Competitiveness, National Strategic Reference Framework (NSRF)- New programming period for Cohesion Policy 2014-2020.

Ministerial Decision D6/13280 (Government Gazette, Series II, No 1228/14 June 2011) "Energy Service Companies. Operation, Register, Code of Conduct and relevant provisions".

Ministerial Decision D6/F1/oik.8786/14.5.2010 "Implementation of the System of Guarantee of the Origin of Electricity from RES and high-efficiency cogeneration of heat and power systems and its Safeguard Mechanism".

Nearly Zero Energy Hotels. 2013. Information papers on financing tools and funding opportunities. for large scale refurbishment projects in the hotels sector. Project Report.

Research Institute of Tourism. 2008. The picture of the hotel capacity in Greece: The need to change the investment incentives policy.

6. ITALY

6.1. INTRODUCTION

The elaboration of a national Position Paper in each neZEH partner country has the very important aim to present to policy makers a document reflecting the opinion and needs of small medium hotel owners in terms of financial and other tools needed to support high efficiency energy retrofit measures in their sector.

In order to have a realistic and comprehensive overview of hoteliers' needs and opportunities in this field, SiTI drafted the Position Paper taking advantage of the expertise of policy makers, a local financial institution, associations supporting local businesses, national and local hotel associations, hotel owners and also other relevant actors in the field of energy efficiency. The contacted actors were already part of SiTI network and most of them were involved in neZEH Local Committees.

On one side, SiTI exploited the information collected in these first 18 months of neZEH, during which meetings with relevant stakeholders were organized. On the other hand, specific questions aimed at the finalization of this Position Paper were addressed to the involved actors. The chosen approach to interview these actors was to send emails presenting neZEH and the aim of the position paper, enclosing a short list of questions (personalized according to their expertise) to be answered via email or in person. Dealing with hotel owners, they were contacted both via email with a questionnaire, sent to all the members of tourism local associations locally involved in neZEH, and in person, with interviews to the applicants to the neZEH call for pilots.

The contacted **policy makers** are:

- Città di Torino – Assessorato Ambiente (TAA)
- Fondazione Smart City (FSC)
- Regione Piemonte – Energia (RPE)
- Regione Piemonte – Turismo (RPT)

The contacted **local financial institution** is:

- Finpiemonte (FP)

The contacted **associations supporting local businesses** are:

- Unioncamere Piemonte (UCP)
- Camera di Commercio di Torino (CCT)

The contacted **hotel associations** are:

- Confindustria Alberghi (CIA)
- Unione Industriale di Torino (UIT)
- Federalberghi Piemonte (FAP)
- Federalberghi Italia (FAI)
- Federalberghi Torino (FAT)

The contacted **other actors** are:

- Federesco (federation of Italian ESCo companies) (FE)
- Edilportale (the most famous Italian web portal for building professionals) (EP)

The quality of the answers allowed to draft a comprehensive overview of the current hotel sector needs and characteristics (codes in brackets are used in the following paragraphs to properly attribute each contribution).

Beside experts' opinions, the Position Paper is also based on national reports and laws, here listed:

- Aprile M., *Caratterizzazione energetica del settore alberghiero in Italia – Report RSE/2009/162*, March 2009
- D.D. 4 marzo 2013, n. 156, Agevolazioni per la realizzazione di interventi di risparmio energetico negli edifici esistenti – BANDO “risparmio energetico – edizione 2013”
- Decreto Legislativo 4 luglio 2014, n. 102, „Attuazione della direttiva 2012/27/UE sull'efficienza energetica”.
- Decreto-Legge 31 maggio 2014, n. 83, „Disposizioni urgenti per la tutela del patrimonio culturale, lo sviluppo della cultura e il rilancio del turismo”.
- Documento di Economia e Finanza (DEF) 2014, Ministero dell'Economia e della Finanza, Aprile 2014.
- Federalberghi, *Datatur 2014 - trend e statistiche sull'economia del turismo*, Roma, Edizioni ISTA, 2014
- Piano d'Azione Italiano per l'Efficienza Energetica 2014 (PAEE), Enea, Luglio 2014.
- Strategia Energetica Nazionale: per un'energia più competitiva e sostenibile (SEN), Governo Italiano, Marzo 2013.

6.2. EXISTING NATIONAL AND REGIONAL POLICIES ON NZEB AND ENERGY REFURBISHMENT OF HOTELS

6.2.1. FINANCIAL SUPPORT MEASURES FOR HOTELS

Energy efficiency in hospitality sector is taken into account from a general point of view in the energy efficiency policies (i.e. hotels are not object of specific policies) and from a more focused standpoint in policies for tourism.

ENERGY EFFICIENCY POLICIES

The main incentives scheme available nationwide promoting the uptake of energy efficiency in existing private buildings, including hotels – but not focusing just on them – are:

- **Tax deduction** for energy efficiency improvement actions. 65% deduction of gross tax (progressively reduced in 2015-2016) for projects obtaining an EP_H at least 20% lower than the reference values;

- **The thermal account** incentivizing the generation of thermal energy from Renewable Energy Sources and small scale energy efficiency projects;
- **White certificates** that are tradable securities certifying the achievement of energy savings in the final uses of energy through energy efficiency measures and projects.

Among them, according to National Energy Strategy (SEN) 2013, the most effective measure for residential sector and services is tax deduction.

Other available funding supporting energy efficiency in buildings are:

- **European Structural Funds 2014-2020;**
- **National Fund for Energy Efficiency;**
- **Funds for hotels refurbishment**, to be adopted in October 2014, included in DEF 2014.

At the regional level (Piedmont), another instrument is currently available for buildings refurbishments: the call 2013 promoted under the framework of R.L. 23/02 gives interest rate subsidies for energy efficiency measures on existing buildings.

From the experience in interviewing hoteliers, their knowledge about the regional and national funding opportunities emerged to be good and up to date (they ask for information about the European funding schemes). Unfortunately, the availability and the widespread information of local funding possibilities didn't boost the number of applicants taking advantage of these opportunities. Among hoteliers, two main restraints in applying for funding for buildings' energy efficiency were detected: the very technical language (understandable just by energy experts) used in policies texts and the extremely long bureaucratic process required by the applications rules [RPE, UIT].

Moreover, a critical review from the policy makers standpoints about the available funding possibilities for energy retrofit pointed out that current policies have promoted preferential energy efficiency measures, which turned out not to be so successful in reducing energy consumption (e.g. PV panels, heat pumps). A wider range of option should be financed [RPE].

TOURISM POLICIES

Dealing with specific policies for tourism, the recently released D.L. 83/2014, named „**artbonus and tourism decree**", envisage a 30% tax credit for hotels' refurbishments. However it is still not clear whether and how tax deductions and funding related to the energy efficiency policies will interact with the tax credit included in the quoted tourism decree.

At the current stage, no coordination among policies in the two fields is detected by the involved stakeholders. Indeed, current energy efficiency national plans are transpositions of European Directives, in which the focus is on intervention typologies rather than on building functions [UIT]. Coordination between buildings' energy efficiency and hotels sector policies is among the priorities to be addressed to policy makers.

PRIVATE CREDIT

Beside the access to public support measures, also getting credit from the bank is very hard. When asking for loans for this kind of intervention, banks ask for additional real warranties [FP, UIT].

6.2.2. TECHNICAL ASSISTANCE FOR HOTELS' REFURBISHMENT PROJECTS

Technical knowledge and assistance for hotel owners is a key issue toward the implementation of energy retrofit projects and, among the interviewed stakeholders, it is also one of the most mentioned issues preventing the implementation of energy retrofit projects.

No technical assistance at the public level is available nowadays and hoteliers willing to refurbish their hotels need to directly contact an audit firm/ESCo/design firm to have suggestions on how to optimize their energy performance. Moreover, in small-medium hotels run by privates (mainly families) - representing the majority of the Italian hotel stock – the selection criteria for design companies/building professionals to be charged of a retrofit project/realization is often acquaintance rather than field of expertise, entailing design solutions with traditional features instead of daring new experimentations. Indeed, these professional figures are on average not updated to the most recent energy requirements or technologies and relies on the application of traditional (safe/well known) solutions, blindly trying to fit with energy requirements that they perceive as binding and overestimated [RPE].

In this framework, support measures aiming at provide technical assistance to hoteliers are somehow proposed by the recent Italian law D.L. 102/2014, in which regional funding programs for energy audits in SME are introduced. Particularly, being energy audits the first step of a refurbishment projects, funding will be given to applicants only once the energy saving measures suggested by the audits are implemented and measured or certified.

6.2.3. CAPACITY BUILDING AND AWARENESS RAISING MEASURES FOR HOTELIERS

Attention for buildings energy efficiency is still very low among hoteliers. As reported by several interviewed stakeholders [CCT, FP, RPE], the main focus of hoteliers' businesses is still related to tourism in the strict sense, meaning that they are more willing to attend courses and invest money on marketing issues rather than sustainability. As a proof, in public seminars about energy efficiency and environmental impact of business activities organized by local business associations, on average only 20% of the invited attendants take part to the lessons. On the opposite, marketing and security requirements seminars are very popular and appreciated among hoteliers.

Raising the attention to energy efficiency among the general public is one of the goals recently set at the Italian legislative level in D.L. 102/2014: Article 13 is fully dedicated to information and training of buildings' occupants and professionals: ENEA (National Agency for new technologies, sustainable energy and economic development) together with ESCOs, energy services', costumers' and regional associations, have to develop a 3 years education and training program to promote and facilitate a smart and efficient use of energy.

6.3. SPECIAL CHARACTERISTICS AND NEEDS OF THE LOCAL HOSPITALITY SECTOR AND THE HOTEL BUILDINGS

6.3.1. MAIN FEATURES OF THE HOTELS SECTOR IN ITALY

The almost 34.000 Italian hotels represent about the 18% of the European hotels stock [Datatur 2014] and around 45% of the total amount of Italian accommodation structures (which include also hostels, camping, B&B and residences) [RSE/2009/162]. Among them, 3 stars hotels represent the majority of the structures (53,5%) and beds (51,5 %), and 4 stars hotels are the 15,9% of the hotel structures and have the 32,7% of the beds capacity [Datatur 2014].

The average dimensions of Italian hotels are related to their class, as shown below (Table 1).

Table 1. Average Italian hotels dimensions

<table>
<tr><th>Hotel class</th><th>Average beds n°
[Datatur 2014]</th><th>Average rooms n°
[RSE/2009/162]</th></tr>
<tr><td>1 star</td><td>23</td><td rowspan="2">10 -15</td></tr>
<tr><td>2 stars</td><td>32</td></tr>
<tr><td>3 stars</td><td>64</td><td>30</td></tr>
<tr><td>4 stars</td><td>138</td><td>65</td></tr>
<tr><td>5 stars</td><td>163</td><td>90</td></tr>
</table>

Most of hotels are located in the Northern part of Italy, but in the last decade an increasing number of hotel businesses were registered in Southern regions. In general, hotels in South Italy have higher class and bigger dimension than hotels in the North [Datatur 2014].

6.3.2. ENERGY EVALUATIONS OF THE HOTEL SECTOR

Electricity and natural gas are the more widespread energy carriers in the hotel sector, followed by oil and GPL [RSE/2009/162], but how these energy sources are used in hotels cannot be summarized in few figures, if a realistic overview is required. Indeed, evaluations on the energy performances of hotels are closely related to their characteristics and services.

In the followings, results of studies analysing the average energy consumption of specific hotel typologies and locations are presented.

1) From a statistical survey[4] on a selected group of 4 stars hotels, open all-year, with conference room, restaurant and laundry and an average dimension of 150 rooms, the energy uses for heating, cooling, domestic hot water and equipment and lighting for Northern and Central Italy were obtained (Table 2) .

Table 2. Energy uses of the investigated hotels

Energy use	Northern Italy	Central Italy
Heating [MWh/room*a]	3,5	2,5
DHW [MWh/room*a]	4,4	3,8≤x≤4,3
Cooling [MWh/room*a]	1≤x≤2,5	1≤x≤3,5
Equipment&lighting [MWh/room*a]	5<x<11	

2) A survey[5] on 4-5 stars hotels all around Italy, open all year, with an average dimension of 100 rooms (4700 m^2) provided information about the average electricity uses, about 7,7 MWh/room*a.

3) A study[6] on Sicilian (South Italy) hotels' thermal and electrical energy consumption provide figures, shown in table 3, about the average energy consumption of 3 and 4/5 stars hotels.

Table 3. Energy uses of the investigated hotels

Energy use	3 stars hotels	4-5 stars hotels
Heating and DHW [MWh/room*a]	4,2≤x≤5,3 (of which 60% for DHW)	
Electricity [MWh/room*a]	4,6	8,6

4) A study[7] presenting results of building energy simulations of 2 reference hotels (3 stars and 48 rooms – 4 stars and 112 rooms) gives figures about reference energy consumption for heating, DHW, cooling and electricity for different hotel types in Northern, Central and Southern Italy, reported in table 4.

[4] Chose, Energy Savings by CHCP plants in Europe, Energy Audits – Italy, 2001.
[5] Studio Roberto Fortino e Associati, Ospitalità Risparmio Energetico e Ambiente – I consumi energetici e la gestione delle risorse energetiche negli hotel, 2005.
[6] Beccali M., La Gennusa M., Lo Coco L., Rizzo G., An empirical approach for ranking environmental and energy saving measures in the hotel sector, Renewable Energy 34 (2009) 82-90.
[7] Aprile M., Caratterizzazione energetica del settore alberghiero in Italia – Report RSE/2009/162, March 2009.

Table 4. Energy uses of the Reference hotels

Energy use	Business – North Italy		Business – Centre		Tourism – Centre/North Italy		Tourism&Business – South Italy	
	3 stars	4 stars	3 stars	4 stars	3 stars	4 stars	3 stars	4 stars
Heating [MWh/room*a]	3	3,7	1,3	1,7	1,8	2,1	0,4	0,7
DHW [MWh/room*a]	4,8	4,8	4,8	4,8	3,8	3,8	3,8	3,8
Cooling [MWh/room*a]	1,3	1,3	2	2	2	1,9	2,7	2,7
Equipment&lighting [MWh/room*a]	3,3	5,2	3,3	5,2	3,2	5,1	3,2	5,1

6.3.3. HOTEL SECTOR ECONOMICAL SITUATION

The Italian negative economic trend of 2013 (-1,8% GND from 2012 to 2103), is replicated also in the hotel sector, where tourists presence is generally decreasing: in 2012 hotels' guests decreased of 1,7% and a similar tendency is detected for 2013. The aggregated data about hotel guests, however, have to be split between the analysis of the domestic tourism, decreasing of 5%, and the foreigner tourism, increased of 2,2%. The gap between these categories reflects once more the difficult Italian economic situation [Datatur 2014].

Such a background justifies both the mistrust of hoteliers in the economical convenience of investing in retrofit measures and the difficult to get credit from the banks for this kind of intervention.

Moreover at the current stage, most of hotels have to address their investment to be in line with the security requirements recently imposed, rather than on energy retrofit measures.

6.3.4. SPECIAL NEEDS OF THE HOTEL SECTOR

Given the general situation of the hotel sector, depicted in the previous paragraphs, 3 main needs are identified for hoteliers willing to refurbish their structures [FSC, TAA, CCT, UIT]:

1. Easier access to credit for retrofit interventions;
2. More understandable laws and/or advices from institutions for laws interpretation in practice;
3. First stage qualified technical assistance at the public level, to give hoteliers a general, "independent" and up to date overview of the potential energy savings of their hotels.

Points 2) and 3) could be also summarized in the need for policies promoting a network among hotels and technicians for energy efficiency issues [RPT].

Beside the practical needs for starting hotels' retrofit interventions, the main gap that need to be filled among hoteliers is the awareness of the raising role played by sustainability in tourism activities: the need for "easy language" information campaigns and training seminars was highlighted as a priority by most of the interviewed stakeholders [CCT, FP, UIT, RPE].

On the other hand, also guests have to be taught to appreciate the added value of staying in a sustainable hotel: in order to make the energy retrofit a profitable investment, there is the need to explain to the general public the advantages and the social value of "going for green" [UIT, RPE].

6.4. POLICY RECOMMENDATIONS FOR REGIONAL AND NATIONAL POLICY MAKERS

Assessing and listing the advantages of investing in green retrofit of hotels is the necessary first step toward any definition of successful policies in this field (very few businessmen would ever apply to a public program only for personal believes). From the interviewed hoteliers and stakeholders, the main pros of becoming a nearly Zero/high performing hotel emerged clearly:

- reduction of the hotel's operational costs, thanks to the consistent energy demand decrease;
- Improved image of the hotel and improved market positioning, meeting the new interest of tourist for sustainability;
- Increase comfort as an added value for hotels' guests.

In order to take advantage of the listed benefits, hoteliers needs to be supported by local and national policies to start the refurbishment process, overcoming all the limits previously stated. In the followings, the suggestions for national/local policies implementation resulting from the interviews to stakeholders are reported. According to their nature, they are gathered in 3 different sections, reflecting the main aim of the recommendations: financial support, technical assistance and awareness raising.

Financial support

- Fiscal incentives [TAA, FSC], with incentives proportional to the return of investment and expected increased income of structures undergoing a retrofit intervention [UIT]
- Subsidies for design, financial analysis and realization of high energy performance refurbishment projects [RPT]
- Tools allowing easier access to credit for investment on energy efficiency measures and use of renewable energy in hotels [FP, FSC]

Technical assistance

- Public energy help desk/consultancy services for hoteliers, for first hand and broad direction suggestions about the refurbishment possibilities available [TAA, FSC]
- Legal help desk for hoteliers, for explanation in practice of public funding opportunities' eligibility criteria and requirements [TAA, FSC, CCT]

Awareness raising

- Creation of a nZE/high performing hotels local network, in order to promote a structured offer of new-generation sustainable accommodations [RPE]
- Training courses and seminars for hoteliers, providing basic technical knowledge and presenting the advantages – ECONOMICAL and environmental – of investing in high performing refurbishment projects [CCT, UIT, RPE].

As a final remark, stakeholders pointed out that energy efficiency policies have to take into account the feasibility of the interventions promoted. Setting targets too ambitious, not taking into account economical evaluations or cost-optimal levels of energy performance, may lead hoteliers to give up the sustainability path because they perceive it as unfeasible [RPE]. The priority to be addressed should be retrofitting hotels which have very high potential energy savings rather than “blindly” asking for nearly Zero Energy consumptions [TAA, FSC].

7. ROMANIA

7.1. 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).

This document was compiled from information gathered from representatives of the hotels sector and relevant actors through a series of meetings: Workshop (28.05.2014)8 , interviews with 8 hotels9, workshop with nZEB actors from Romania (25.052014)10. Furthermore an analysis of the legal and financial frame was performed from the national construction legislation and EU Sectorial Operational Programmes (2014-2020), to identify measures that support nZEB and neZEH.

Sources

1. Plan for increasing the number of nearly zero energy buildings (nZEB) Romania[11]
2. Strategy for mobilizing investments for the renovation of the residential and commercial buildings, both public and private, existing in Romania[12]
3. Implementing nearly zero energy buildings (nZEB) in Romania – definition and roadmap - abstract[13]
4. Renovating Romania "A strategy for the sustainable renovation of the buildings in Romania"[14]

The hospitality sector is subject to the regulations of two ministries:

- MDRAP[15] (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.

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[8] Launch Event and Industry Workshop/attached doc.

[9] Application form Romania neZEH

[10] Roundtable organized at URBAN-INCERC Bucharest (BUILD UP Skills QualiShell), Sustainable Energy Week Ro 23-27 June 2014

[11] Ministry of Regional Development and Public Administration, General Directorate for Regional Development and Infrastructure, Technical Department Infoprod_constructii@mdrap.ro, Writing I, Revision 0 - October 2013

[12] Ministry of Regional Development and Public Administration - 30 April 2014

[13] Study published in August 2012 by the Buildings Performance Institute Europe (BPIE), www.bpie.eu/low_energy_buildings_east_eu.html

[14] Study published in April 2014 by the Buildings Performance Institute Europe (BPIE), http://bpie.eu/renovating_romania.html

[15] Ministry of Regional Development and Public Administration

According to Law 372/2005[16] - 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;"

[16] Law 372 / 13.12.2005 on the energy performance of buildings – republished in 07.2013

7.2. EXISTING NATIONAL AND REGIONAL POLICIES ON NZEB AND ENERGY REFURBISHMENT OF HOTELS

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 behaviour, using intelligent lighting, HVAC, individual refrigerators - all into the direct control of the guest.

In the national “Plan for increasing the number of nearly zero energy buildings (NEZEB) Romania”17 there are no technical analysis and development scenarios for the hotel sector, which, in 2010, 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”18
- “Cluster PRO-nZEB”19 - Cluster for promoting nearly zero energy buildings in Romania
- “Califică-te! Da-ți o șansă la o viață mai bună!”20 - “Qualify! Give yourself a chance at a better life!”

[17] Ministry of Regional Development and Public Administration, General Directorate for Regional Development and Infrastructure, Technical Department Infoprod_constructii@mdrap.ro, Writing I, Revision 0 - October 2013

18 “National Qualification Scheme for Construction Workers to Ensure High Performance Building Envelopes” /IEE/12/BWI/344/S12.659731: 2013-2015, http://www.iee-robust.ro/qualishell/

19 Co-financing: Sectorial Operational Programme Increase of Economic Competitiveness

(SOP IEC), co-financed through the Regional Development Fund • priority axis 1 – An innovative and eco-efficient production system • Key Area of Intervention D.1.3 Sustainable development of entrepreneurship • Operation Support for integrating enterprises in supply chains or clusters

20 POSDRU: 164/2.3/S/137877 – Participation and access to continuous professional training “

- "PROEFICIEN" 21 - Professional Qualifications for Energy Efficiency
- "NeZeR" 22 - Promotion of smart and integrated NZEB renovation measures in the European Renovation market
- "RePublic_ZEB" - Refurbishment of the Public Building Stock Towards nZEB23

During the interviews, hotels representatives declared that they implemented various energy efficiency measures with own funds and did not have information on financial instruments for their sector. Through the "*Regional Operational Programme 2014 – 2020*" the following SME (the majority of hotels are SMEs) measures will be financed:

- Priority Axis 2 – Improving the competitiveness of SMEs
  - *Building/refurbishment and developing production space/**SME services,** including the purchase of installations, equipment (incl. IT systems), machinery, including new technologies.*

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 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.

7.3. SPECIAL CHARACTERISTICS AND NEEDS OF THE LOCAL HOSPITALITY SECTOR AND THE HOTEL BUILDINGS

Within the existing policy measures and available financial support mechanisms there are no measures that directly apply to the hospitality sector.

Following the meetings with hotels representatives, via direct interviews or in meetings organised at the national level in the frame of neZEH, there is a clear sense that the hotels do not have specialised, unbiased information on buildings. The official information in the case of major refurbishment works is provided by the energy audit, the auditor proposing different solution packages. The owner can choose one of the solution packages proposed by the auditor.

Furthermore, 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.

21 POSDRU: Sectorial Operational Programme Human resources Development 2007 – 2013

22 Funded through: IEE-13/763/SI2.674877, 2014-2017

23 Funded through: IEE/13/886/SI2.674899, 2014-2017

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 in the use and application of the use-effectiveness of energy as a daily practice.

At the moment there is no governmental financial support available, but there are some instruments available on the market for the hospitality sector, as follow:

- ROSEFF – "Romanian Small and Medium Enterprise Sustainable Energy Finance Facility", European Union - European Bank for Reconstruction and Development
- 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

Another challenge is the lack of qualified personnel and the lack of information on nearly zero energy hotels[24], 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

Another issue is the lack of qualification of workers in the neZEB sector.

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.

24 Horia Petran, Center for energy performance of buildings, Workshop – Brașov, 28.05.2014

7.4. POLICY RECOMMENDATIONS FOR REGIONAL AND NATIONAL POLICY MAKERS

1. In order to support the hotels to reach nearly zero energy level, the sector should be reconsidered and approached not as a percentage of the total buildings, but as a representative sector for Romania, a country with considerable touristic potential.

2. Special features of „nZEB", which has to be taken into account when defining policies on buildings energy performance.

3. Information sessions on the performance of equipment, technologies and tools: energy performance contracts, credit facilities, tested solutions for the hospitality sector from national and European level.

4. Introduction in the process of granting classification for the hotels by the National Tourism Authority, in addition to the necessary equipment, considerations on energy consumption norms, minimum acceptable performance for each appliance and equipment used/installed.

5. The hotels sector requires financial and informational support:

   - Financial – national funds to support the implementation of different energy efficient solutions

   - Knowledge – data base of feasible technical solutions and expected outcomes after the implementation of different equipment and technologies. A data base of best practices in the hospitality sector should increase the confidence in new technologies and their application results.

8. SPAIN

8.1. INTRODUCTION

This position paper has been elaborated with the assistance of the following actors:

- Balantia (Energy Efficiency in the Hospitality Sector)
- ITH (Institute for Technology in Hotels)
- Ministry of Public Works
- IDAE (Institute for Diversification and Saving of Energy)

We have organized personal interviews with most of the above organizations and telephone calls with every one of them.

8.2. EXISTING NATIONAL AND REGIONAL POLICIES ON NZEB AND ENERGY REFURBISHMENT OF HOTELS

Spain has recently had a good season, and that has led to an environment of trust which is helping the appearance of new financial tools for hospitality renovation. Particularly, in the last few months more than 525 M€ have been granted for financing actions that are directly or indirectly related to improving the energy efficiency in hotels. Why this sudden interest in energy efficiency from funds? Mainly because it is known that most investment conducted in this regard are cost effective and therefore economically viable. Another reason could be that most refurbishments include measures to enhance the energy efficiency and normally the refurbishments are conducted by big hotel chains with good solvency, so financing companies are eager to finance this type of projects, especially because this sector is considered as a refuge within the national economic outlook.

AVAILABLE SUBSIDY LINES

PIMA SOL – Santander Bank

The European Investment Bank (EIB), through Santander Bank as the entity responsible for processing these funds, provides loans and leases of up to 75% of investment in energy efficiency (max. 12.5M €) of 2 to 8 years with variable interest rates 12-month Euribor + 4% with quarterly reviews.

HOTEL SOSTENIBLE ITH – Sabadell Bank

The Institute for Technology in Hotels (ITH), which is an organization dependant on the

Federation for Spanish Hoteliers (CEHAT) has developed a credit line of 200 M€ to finance projects with special focus on energy efficiency and hotel sustainability. The peculiarity of this line is that is offered in a renting format which fee depends directly on the savings. Periods are set up to 7 years.

PAREER – IDAE

In September 2013, the Institute for Diversification and Saving of Energy (IDAE), announced the PAREER Program, an investment fund endowed with 125 M€ for energy efficiency projects in the hospitality and residential sector (existing buildings). While the above lines are subject to the approval of a risk committee of private financial institutions, this particular one is directly evaluated from IDAE, hence their evaluation criteria about energy efficiency and sustainability are more specific and demanding.

CONCLUSIONS

In general, it is known that a cheap and safe access to financing will help hoteliers to move forward in energy renovations.

Apart from that, it would be a good thing to provide funding for small measures to be conducted gradually, so that the savings can help economically in the following measures, instead of forcing hoteliers to undertake a major renovation. Actually, that is exactly what is happening with PIMA SOL, which is not achieving success because the bank asks the hotelier for a huge investment.

8.3. SPECIAL CHARACTERISTICS AND NEEDS OF THE LOCAL HOSPITALITY SECTOR AND THE HOTEL BUILDINGS

ENERGY CHARACTERISTICS:

During 2012, the hospitality sector in Spain reported 281 million overnight stays, highly above European average. Energy efficiency is therefore an important tool to enhance the competitiveness of such a strategic sector for Spain.

The energy cost, which varies from a 4% to a 25% of the whole operational cost of a hotel, can be substantially reduced with the implementation of energy efficiency measures. In addition to the direct benefits for the hospitality sector, the development of these measures could generate an industry that could contribute with more than 860 M€ to the Spanish GDP and with about 5.000 jobs per year. This will help to achieve an energy saving of about 420 toe which will lead at least to a significant environmental improvement (reduction of 835 kt CO_2)

The most used energy efficiency service in Spain is the Energy Supply Contracting (ESC), where the Energy Service Company (ESCo) and the hotel agree a more favorable price for the provision of energy (thermal and electricity) than the one they had previously.

On the other hand, it is getting increasingly popular another contract model, the Energy Performance Contracting (EPC), which lay on the energy savings achieved by actions in the energy demand of the hotel.

ECONOMIC CHARACTERISTICS:

The year 2013 closed with 45.100 billion of income in international tourism, 10% of national GDP.

CONSTRUCTIVE CHARACTERISTICS:

The average age of the Spanish hospitality sector is above 30 years, from a building stock of 14.000 tourist accommodations. The overwhelming majority of the oldest accommodations are located in mature coastal tourist areas, so they suffer from bad quality enclosures, windows and facilities.

SUPPORT MEASURES AND FINANCING TOOLS TO PROMOTE ENERGY EFFICIENCY REFURBISHMENT IN HOTELS:

In terms of funding, incentives associated with the promotion of energy efficiency are very interesting, particularly when the refurbishment is carried out (average cycles of 10 years approx.). Incentives could be channeled through the reduction in fees associated with the refurbishment licenses or through a reduction in taxes levied on real estate.

GENERAL ISSUES OF THE HOSPITALITY SECTOR IN SPAIN:

Energy costs have tripled their price in the last 3 years. In Spain there has been a general fall in prices due to the crisis in certain locations (i.e. Madrid).

Many hotels have to undertake online marketing by their own. They have to care about their online reputation and manage attacks to their image.

GENERAL URGENT NEEDS OF THE HOSPITALITY SECTOR IN SPAIN:

Probably the most important issue to solve is to promote the renovation of the hotel building stock and its repositioning to a more affluent tourism that values the precious attributes of the tourism product offered in Spain, so that the Spanish hotel market would be less vulnerable compared to other competing markets that offers the “product of sun and beach” at better prices and newer facilities.

Another important need is the promoting of training among hoteliers and hospitality professionals.

Finally, some hotels don't belong to any associations, which lead to inconsistencies in the promotion and coordination of tourism in Spain.

8.4. POLICY RECOMMENDATIONS FOR REGIONAL AND NATIONAL POLICY MAKERS

- Tourist tax reduction
- Cooperative public investment with the private sector in promoting the renovation of obsolete destinations
- Promoting the regulation of illegal lodging

9. SWEDEN

9.1. INTRODUCTION

The Swedish Position Paper was elaborated as a result of a discussion workshop following the project launch event in Stockholm during September 2014. Some 25 participants attended the event representing key stakeholders such as The Swedish National Energy Authority (public authority), The Swedish National Hotel Association (Visita), The Swedish Eco-labelling group (Swan marking), The Royal Institute of Technology in Stockholm (KTH), leading players in the sustainability area and representatives from the hotel and hospitality industry. We were unable to find any financial institutions to participate and discuss funding schemes for hotel refurbishment projects to achieve nZEB.

9.2. EXISTING NATIONAL AND REGIONAL POLICIES ON NZEB AND ENERGY REFURBISHMENT OF HOTELS

As reported in other deliverables, there are no existing nZEB policies with regard to existing hotel refurbishment in Sweden. The National Energy Authority has given The Swedish National Board of Housing, Building and Planning – BOVERKET the assignment to investigate the nZEB definition and values for Sweden and a report with recommendations is expected mid-2015. The lack of a national definition accounts for the lack of any national policy. This is also reflected in the complete lack of any kind of funding scheme to assist hotels and the plan to refurbish towards nZEB.

There is a clear need for:

1. nZEB definitions and goals in general and for the hospitality sector in particular.

2. National and regional policies for the hospitality sector

3. Technical knowledge/assistance available to prepare and implement hotel refurbishment projects to achieve nZEB goals. Current focus is very much on just energy efficiency measures and less on combining with renewables.

4. There is a lack of financial support or funding schemes at regional/national levels. This was confirmed by hoteliers. Some banks are beginning to consider “green” loans to businesses, but this is very much in the embryonic stage.

5. There are no nZEB national strategies for the hospitality sector at this time.

9.3. SPECIAL CHARACTERISTICS AND NEEDS OF THE LOCAL HOSPITALITY SECTOR AND THE HOTEL BUILDINGS

- A large number of Swedish hotels are very dependent on providing conference facilities. Such conference hotels may not necessarily be available to any guest not participating in the conference (some will make rooms available should the situation permit) This means that, as opposed to more traditional hotels, their season is from September to June, and any refurbishments/renovation work is carried out during the summer period when these hotels tend to close due to lack of conferences.
- Not all hoteliers own their hotel building. A common characteristic across Swedish hotels is that the hotel building itself is owned by a property company and leased/rented by the hotelier. This can cause issues when deciding what energy efficiency measure/renewable energy sources to implement and who pays for what. It would be useful for the neZEH project to address this issue and to understand if this is a possible barrier to achieving nZEB status.
- There is a strong positive trend towards sustainability in general terms including energy efficiency, renewables, food, waste, chemicals and materials.
- Hoteliers are overwhelmed by companies selling energy efficiency technology, but without any independent means to assess the feasibility/benefits/advantages of such technology for their hotel. As a result, hoteliers are rather sceptical of sales staff and new solutions.

9.4. POLICY RECOMMENDATIONS FOR REGIONAL AND NATIONAL POLICY MAKERS

- National nZEB definitions and associated goals/values are required
- National Incentive schemes required to help the hospitability sector get started and begin accomplishing nZEB goals. This could extend from providing access to funding independent energy audits to sustainable national incentive schemes.
- Independent credibility analysis of technical solutions - Hoteliers are often confronted by a large number of technical solutions, many of which are unfamiliar to them. While solutions may seem viable (certainly according to the sales staff), it is often unclear if the investment required will provide the expected return. There is a demand for some form of independent assessment facility. The energy auditors should be an independent source of knowledge here.
- Hotels contacted have expressed a need for independent technical support to help them through the renovation process. There is also an apparent general lack of technical knowledge about what is required to achieve nZEB status.

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Federation of European Heating, Ventilation and Air-conditioning Associations

Agency of Braşov for Energy Management and Environment Protection, Romania

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Energy Institute Hrvoje Požar, Croatia

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Sustainable Innovation, Sweden

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