

Position paper – Greece

(WP2 – D2.7, position papers)

Issued by ENV/TUC, Created 20-Sep-14, Last update 05-Mar-16

www.nezeh.eu



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







THE EU INITIATIVE NEARLY ZERO ENERGY HOTELS (neZEH)

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

The expected results are:

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

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

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

PROJECT PARTNERS

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

PROJECT COORDINATOR

Professor Theocharis Tsoutsos, Renewable and Sustainable Energy Systems Lab. School of Environmental Engineering, TECHNICAL UNIVERSITY OF CRETE (ENV/TUC)

WP2 LEADER

Federation of European Heating, Ventilation and Air-conditioning Associations (REHVA)

DELIVERABLE EDITOR

Technical University of Crete, Renewable and Sustainable Energy Systems Lab (ENV/TUC) Work Team: Theocharis Tsoutsos, Stavroula Tournaki, Maria Frangou (ENV/TUC)

www.nezeh.eu

LEGAL NOTICE

The sole responsibility for the content of this publication lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither the EASME nor the European Commission are responsible for any use that may be made of the information contained therein. Reproduction is authorized upon approval and provided the source is acknowledged





CONTENTS

1.	INTRODUCTION	4
2.	EXISTING NATIONAL AND REGIONAL POLICY ON NZEB AND ENERGY REFURBISHMENT OF HOTELS	5
	2.1. National Action Plan for Energy Efficiency	6
	2.1.1. Energy efficiency of building regulations	6
	2.1.2. Compulsory installation of central solar thermal systems in buildings of the tertiary sector 7	
	2.1.3. Energy upgrade of commercial buildings	7
	2.1.4. Energy upgrade of commercial buildings through Energy Service Companies	7
	2.1.5. Education and training actions for tertiary sector staff	7
	2.1.6. Developing smart metering systems for final electrical energy consumption	8
	2.2. Structural Funds	8
	2.3. Investment Incentives Law	8
	2.4. ETEAN (National Fund for Entrepreneurship and Development)	8
	2.5. Urban incentives	9
3.	SPECIAL CHARACTERISTICS AND NEEDS OF THE HOSPITALITY SECTOR AND THE HOTEL BUILDINGS	10
4.	POLICY RECOMMENDATIONS FOR REGIONAL AND NATIONAL POLICY MAKERS	14



1.INTRODUCTION

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

Amongst the activities undertaken by the neZEH consortium for that scope is to provide 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 nearly zero energy investments in the accommodation sector.

At the time of developing this Position Paper, the National Action Plan for increasing the number of nZEB that will include the national nZEB definition criteria, has not yet been published. However, there are important funding opportunities, such as calls in the frame of the National Strategic Reference Framework (NSRF) 2014-2020¹, that can support this type of investments. This position paper presents an assessment of the current framework and provides recommendations for further support through targeted policy measures, using the experience gained through the development of the pilot hotels, as well as from other neZEH activities and exchanges with the hotel sector.

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

- > bilateral meetings with key stakeholders
- > interviews with hotel owners
- > exchanges with key policy and market players in the frame of industry conferences and relevant events.

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

- 3rd National Energy Efficiency Action Plan, December 2014, Ministry of the Environment, Energy and Climate Change (YPEKA) and Centre for Renewable Energy Sources and Saving (CRES)²
- Greek Tourism: Facts and Figures, 2014 edition, Association of Greek Tourism Enterprises (SETE)³
- Greek Tourism 2020, Association of Greek Tourism Enterprises (SETE)⁴
- Tourism in the Greek economy, Foundation for Economic & Industrial Research (IOBE)⁵
- National Strategic Reference Framework (NSRF), New programming period for Cohesion

¹ Ministry of Development and Competitiveness, National Strategic Reference Framework (NSRF)-New programming period for Cohesion Policy 2014-2020.

² Ministry of Environment, Energy and Climate Change, National Energy Efficiency Action Plan Pursuant to Article 24(2) of Directive 2012/27/EU, Athens, December 2014

³ Association of Greek Tourism Enterprises (SETE), 2014. Greek Tourism: Facts and Figures.

⁴ Association of Greek Tourism Enterprises (SETE), 2012. Greek Tourism 2020,

⁵ Foundation for Economic & Industrial Research, 2012. Impact of tourism in the Greek economy





Policy 2014-2020, Ministry of Regional Development and Competitiveness

- Sectorial Analysis of Hotel Enterprises, 2012, ICAP Group⁶
- Research Institute of Tourism⁷
- Federation of Greek hoteliers⁸.

2.EXISTING NATIONAL AND REGIONAL POLICY ON NZEB AND ENERGY REFURBISHMENT OF HOTELS

The EPBD recast⁹, Article 9, foresees that MS shall submit a National plan for increasing the number of nearly zero-energy buildings, while the EED¹⁰ stipulates that by April 2014 all MS shall submit their Building Renovation Strategy, as part of their National Energy Efficiency Action Plan. Greece has published the Building Renovation Strategy in December 2014, while the National plan for increasing the number of NZEBs is being prepared by the competed authorities. The foundations for the transition towards low energy consumption buildings have been set by the following laws:

- Law 3661/2008 on the energy efficiency of buildings¹¹
- Law 3851/2010 on the acceleration of the development of Renewable Energy Sources and climate change¹²
- Law 3855/2010 on the improvement of the energy end-use efficiency¹³
- Law 4122/2013 on energy efficient buildings (harmonization with the EU Directive 2010/31/EU)¹⁴

The transition has begun with the following two legislative provisions:

> On energy efficiency: The new Regulation on the energy performance of buildings

- ¹⁰ Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency,
- amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC
- ¹¹ Law 3661/2008 "Measures to reduce energy consumption in buildings and other provisions"
- ¹² 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".

¹⁴ Law 4122/2013 "Energy efficient buildings – Harmonization with the EU Directive 2010/31/EU of the European Parliament and of the Council on the energy performance of buildings"

⁶ ICAP Group A.E., 2012. 2012 Annual Report Status and Prospects of SMEs in Greece.

⁷ Research Institute of Tourism. 2008. The picture of the hotel capacity in Greece: The need to change the investment incentives policy.

⁸ Hellenic Federation of Hoteliers. 2008. Study for the upgrade of old accommodation units.

⁹ Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings

¹³ Law 3855/2010 "Measures to improve energy efficiency in end use, energy services and other provisions".





(KENAK)¹⁵ sets two key requirements:

- i) submission of a study on the Energy Performance of Buildings for the issue of a building permit,
- ii) performance of Energy Inspections to Buildings, Boilers, Heating and Air Conditioning Systems, which are expected to contribute significantly to the direction of energy efficient buildings.
- > On use of RES: Law 3851/2010 requires:
 - i) Buildings applying for a 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 the financial kind can be found in the neZEH information papers on financial tools and funding opportunities for large scale refurbishment projects in the hotels sector¹⁶.

2.1. National Action Plan for Energy Efficiency

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

2.1.1. Energy efficiency of building 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)

 $^{^{15}}$ Δ6/B/οικ. 5825/2010 "Approval of the Regulation on Energy Performance of Buildings"

¹⁶ neZEH information papers on financial tools and funding opportunities for large scale refurbishment projects in the hotels sector, 2016, Available on www.nezeh.eu





The study of 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.

2.1.2. 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.

2.1.3. Energy upgrade of commercial buildings

This measure, which is planned to be implemented in the period 2015-2020, shall provide incentives through subsidising actions and recognised good practices to decrease energy consumption in existing commercial buildings by intervening effectively to improve their energy efficiency. It will target the tertiary sector, and in particular offices and stores. The eligible actions will be: energy upgrade of the building envelope, energy upgrade of electro-mechanical installations, upgrade of the natural/ artificial lighting system, installing an energy management system, installing systems for Cogeneration of Heat and Power and installing Renewable Energy Systems.

2.1.4. Energy upgrade of commercial buildings through Energy Service Companies

Law 3855/2010 sets the legislative framework of Energy Performance Contracts (EPCs) and a subsequent Ministerial Decision¹⁷ establishes an Energy Service Company (ESCO) Record.

The measure, planned to be implemented in the period 2015-2020, provides incentives to boost the business activity of ESCOs by creating specific financial means (guarantee or lending special purpose Fund), which improve the financial activity and/ or liquidity of the businesses concerned and enable them to implement energy performance contracts.

2.1.5. Education and training actions for tertiary sector staff

The measure concerns education and training actions for tertiary sector staff to raise their energy awareness and improve their energy behaviour and shall be implemented from 2015-2020.

¹⁷ Ministerial Decision D6/13280 (Government Gazette, Series II, No 1228/14 June 2011) "Energy Service Companies. Operation, Register, Code of Conduct and relevant provisions".





2.1.6. Developing smart metering systems for final electrical energy consumption

From 2014-2020, 80% of existing conventional electricity meters in the Hellenic Electricity Distribution Network should be replaced with smart metering systems, which provide telemetry for consumption, remote control, two-way communication with consumers and the use of multiband invoices 24 hours a day. The development of smart systems will allow new market mechanisms to develop (e.g. flexible energy invoices, load management programmes), further contributing to energy saving.

2.2. Structural Funds

Under the new National Strategic Reference Framework (NSRF), energy efficiency and renewable energy systems in enterprises are promoted, giving particular focus to buildings that have high or particular energy consumptions, such as hotels.

Incentives support actions such as: buildings, installations and surroundings, machinery, equipment, equipment for energy efficiency, certification and environmental management, promotion and advertising, studies, labour etc.

2.3. Investment Incentives Law

The Investment Incentives Law, 4146/2013¹⁸, 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 hotel 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).

2.4. ETEAN (National Fund for Entrepreneurship and Development)

ETEAN is a public funding instrument, providing soft loans through collaborating banks. • Entrepreneurship Fund -Business Restart: supports investment plans of businesses

¹⁸ Investment Incentives Law 3299/2004, revised with L.3908/2011 and L.4146/2013, www.ependyseis.gr.





that: a) were enrolled in the Investment Law, b) were enrolled in other programs of state support and c) were not enrolled in programs of state support and have not been materialized yet

- Entrepreneurship Fund Insular Touristic Entrepreneurship: 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.
- Guarantee Fund: supports a) loans that finance investment plans of businesses and b) loans against the grant of an approved investment plan from state support programmes (concerns NSRF and Investment Law approved bodies)

2.5. 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.





3.SPECIAL CHARACTERISTICS AND NEEDS OF THE HOSPITALITY SECTOR AND THE HOTEL BUILDINGS



Figure 1. Contribution if tourism in Greek economy (Source: SETE)

Tourism counts for the 16,3% of the Gross Domestic Product and for the 18,2% of employment in the Greek economy¹⁹; is employees about 700.000 people. In 2015, 23,6 million tourists have visited Greece²⁰. The hotel sector involves 9.706 hotel enterprises with 403.792 rooms/ 779.118 beds and holds a 3,8% of the European market share²¹.

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

 \rightarrow Star rating: In 2015 the majority of hotel units (43%) were 2*. While 4* and 5* hotels present growth in comparison with 2000.²²

¹⁹ SETE, Greek Tourism: Facts & Figures 2013

²⁰ GBR Consulting, GBR Hospitality Quarterly Newsletter, 2016. Greek Hospitality Industry Performance www.hotelnewsresource.com/pdf16/GBR042816.pdf

²¹ http://money-tourism.gr/greek-hospitality-report-2015/?lang=en

²² NAI Hellas, 2015. Hospitality Report

 $www.nai-hellas.gr/reports/CommercialRealEstate/Hospitality_Report_2015_NAIHellas.pdf$





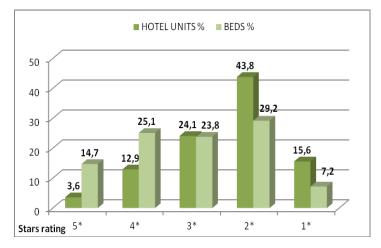


Figure 2: Percentage of hotel units and beds according to category, 2013 (Source: SETE, Facts and Figures Association of Greek Tourism Enterprises)

- $\rightarrow\,$ Average occupancy rate, yearly 51%; high seasonality index, 86% of arrivals are between May and October. 23
- → High concentration of accommodation capacity in certain areas. Crete and South Aegean islands alone sum up to 46,44%.

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

- > Hotel and restaurants represent the 20% of Greece's non-residential building stock (building floor area)²⁴.
- The majority of accommodation units is 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)²⁵.
- > Hotels in Greece belong in two main categories²⁶:
 - a. Urban, which are situated in urban centres and operate on a yearly basis
 - b. Seasonal recreation hotels, in their large majority situated in coastal and mainly insular areas.
- \rightarrow As concerns facilities the picture is as follows:

²³ ITEP (Research Institute of Tourism) and Hellenic Chamber of Hotels. 2014. Developments in Tourism and Greek Hospitality 2013

²⁴ BPIE Data Hub for the Energy Performance of Buildings, <u>http://www.buildingsdata.eu</u>, retrieved February 2016.

²⁵ ITEP (Research Institute of Tourism) and Hellenic Chamber of Hotels. 2014. Developments in Tourism and Greek Hospitality 2013

²⁶ ICAP Group A.E., 2012. 2012 Annual Report Status and Prospects of SMEs in Greece.





Facility	Percentage of hotels (%)
Restaurant	38,8
Conference center	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/m²/year, 48% for heating and cooling, 7% for lighting, 13% for hot water, 25% for cooking.
- → Based on the survey, almost 30% of the hotel buildings are with defective insulation of walls and roofs, 50% have 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 for 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						





4. 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 a 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 nonresidential buildings; their business model includes a number of energy intensive operations associated with their customers' comfort and expectations, therefore closely linked with their competitiveness 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 a
 national and regional level should be evaluated to prioritize the available measures, according
 to their cost-efficiency depending on the climate zone.
- There is a need for tailored building policies for hotels and other accommodation buildings, which represent a large percentage of the building stock in Greece. The only way to do this is to have a coordinated dialogue between the competent authorities for buildings on the one hand and for tourism on the other. The way forward would be to a) evaluate the current data, b) set short-term, medium-term and long-term goals on national and regional levels and c) elaborate a roadmap that will guide all relevant stakeholders on how to reach these goals.





→ 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. This is especially true for measures that require high investment, such as building envelope insulation, as was concluded from the feasibility studies in neZEH pilot hotels. 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. as a motive to invest in energy renovation projects focused on the hospitality sector. The ongoing programming of the European Structural and Investment Funds (ESIF, 2014-2020) is a huge opportunity to mainstream buildings energy efficiency policies and achieve large scale improvements.
- 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 been practically implemented; lack of funds and liquidity obstacles due to the economic crisis hinder large scale investments. Furthermore, it requires a lot of expertise due to the sometimes complex setups 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 BUREAUCRATIC ISSUES AND UNCERTAINTY

- "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 a '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 ENHANCE 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 programmes²⁷, that will include the study of best practice examples, can help increase knowledge on the potential benefits of investing in such areas and inspire more hotel owners to act. Sharing existing successful examples of hotels engaging to become nZEB is important in order to inspire and scale up. The neZEH pilot hotels are already paving the way towards such investments. Information campaigns about the available supporting schemes should also be launched and the material available should be made user friendly.
- The development of a national open-source database with nZEB buildings, including energy and cost data where available, would contribute towards this objective. The database could also include 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.
- A limited number of demonstration projects in the sector should be funded to act as examples to imitate.
- Technical support to be provided to the hotel SMEs 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.). A solution could be the set-up of "one-stop-shop" service or energy help desk for the non-residential building sector, in order to guide hotel owners through the whole process.
- Another barrier identified is the lack of training among the hotel staff on how to operate in their daily activities to ensure energy efficiency. The hotels could be supported in order to organize training sessions for their staff and increase their competence in these issues.
- Building professionals need to be prepared to respond to the new era of nZEB; there should be requirements for training leading to qualified professionals and companies in high energy efficiency, and especially to energy retrofits towards nZEB. Training sources²⁸ on basic technical knowledge related to energy efficiency/nZEB and public support schemes for capacity building can contribute to that direction. A Registry of competent (certified) nZEB project designers could be established to support this.

\rightarrow BUILD ON THE IMAGE OF NATIONAL TOURISTIC PRODUCT

Tourism has a great impact on the national GDP and employment. Coordinated actions at the 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

²⁷ Nearly Zero Energy Hotels (neZEH). Training courses for hotel owners. http://www.nezeh.eu/main menu/library/training/index.html

²⁸ Nearly Zero Energy Hotels (neZEH). Training courses for building professionals. http://www.nezeh.eu/main_menu/library/training/index.html





Tourism Authority, considerations on energy consumption norms, minimum acceptable performance etc.

\rightarrow 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 for all buildings
- Eco/Sustainable Energy Loan to improve energy efficiency, to support SMEs and microcompanies to implement projects for improving their energy efficiency, with beneficiary interest rate and a long period of repayment.





neZEH TEAM



Project Coordinator

Technical University of Crete, School of Environmental Engineering Renewable and Sustainable Energy Systems Lab, Greece

World Tourism Organization



Network of European Regions for a Sustainable and Competitive Tourism



Federation of European Heating, Ventilation and Air-conditioning Associations



Agency of Braşov for Energy Management and Environment Protection, Romania



Creara Consultores S.L., Spain



ENERGIES 2050, France



Energy Institute Hrvoje Požar, Croatia

Istituto Superiore sui Sistemi Territoriali per l'Innovazione, Italy

Istituto Superiore sui Sistemi Territoriali per l'Innovazione

Sustainable

innovation

Sustainable Innovation, Sweden

CONTACTS

PROJECT COORDINATOR: Technical University of Crete, Renewable and Sustainable Energy Systems Lab Ms Stavroula Tournaki • <u>stavroula.tournaki@enveng.tuc.gr</u> • +30 28210 37861 • www.nezeh.eu

AUTHOR:

Technical University of Crete, Renewable and Sustainable Energy Systems Lab Theocharis Tsoutsos, Stavroula Tournaki, Maria Frangou



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