Minutes to the mid-term dissemination workshop in Spain

Mo., 4th November 2013 10.30-15.00

COAM C/Hortaleza, 63, Madrid

D6.8 of WP6 from Entranze Project

Written by:

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ENTRANZE Project

Year of implementation:	April 2012 – September 2014
Client:	EACI
Web:	http://www.entranze.eu

Project consortium:

EEG	Energy Economics Group Institute of Power Systems and Energy Economics Vienna University of Technology
NCRC	National Consumer Research Centre
Fraunhofer	Fraunhofer Society for the advancement of applied research
CENER	National Renewable Energy Centre
eERG	end use Efficiency Research Group, Politecnico di Milano
Oeko	Öko-Institut
SOFENA	Sofia Energy Agency
BPIE	Buildings Performance Institute Europe
Enerdata	Enerdata
SEVEn	SEVEn, The Energy Efficiency Center

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The ENTRANZE project

The objective of the ENTRANZE project is to actively support policy making by providing the required data, analysis and guidelines to achieve a fast and strong penetration of nZEB and RES-H/C within the existing national building stocks. The project intends to connect building experts from European research and academia to national decision makers and key stakeholders with a view to build ambitious, but reality proof, policies and roadmaps.

The core part of the project is the dialogue with policy makers and experts and will focus on nine countries, covering >60% of the EU-27 building stock. Data, scenarios and recommendations will also be provided for EU-27 (+ Croatia and Serbia).

This document includes the minutes of the mid-term workshop in Spain/Madrid on 4th November 2013.

Acknowledgement:

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Content

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1. Agenda

The original agenda is documented in the Annex I. It included the following points;

- Welcome

  Inés Leal, COAM

- Presentation of all participants

  Florencio Manteca, CENER

- Introduction to the project ENTRANZE

  María Fernández Boneta, CENER

- Presentation of ENTRANZE Data Tool

  Inés Díaz Regodon, CENER

- Panel discussion: Transition from Spanish construction industry towards the stage nZEB

  Luis Rodulfo, CEPCO
  Ricardo García San José, ATECYR
  Eduardo Collado, UNEF
  Pilar Pereda Suquet, COAM

- Cost-optimal methodology according to EPBD within the ENTRANZE project

  María Fernández Boneta, CENER

- NZEB in Spain: ongoing activities

  Javier Serra María-Tomé, Ministry of Public Works

- Financial instruments that enforce the transition to nZEBs

  Patricia Laplana, CROSSCHECK Capital Partners

- NZEB housing development. Barriers and opportunities.

  Francisco Javier Domeño Gárate, Promotor Edificio Zero 2020

- The vision of users

  Ana Etxenique,CECU

- Discussion and conclusions

  ALL

Moderation: Florencio Manteca, CENER

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2. Overview

The main Spanish stakeholders were invited to participate in the mid-term workshop. Around 40 people attended the event, from different areas: administration, manufacturer associations, professional associations, consumer associations, building developers, HVAC associations, RES associations and manufacturers.

The workshop was structured around 7 individual presentations, a panel discussion regarding the "Transition from Spanish construction industry towards the stage nZEB" and a final discussion where all attendees were involved.

The list of participants is shown in the table below.

N	Name	Institution	E-mail address
1	Alberto Coloma	SaintGobain	Alberto.Coloma@saint-gobain.com
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5	Asier Iriarte Zubiria	INARQ	asier@inarq.es
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9	Cipriano Colino	VIESSMAN S.L.	CCp@viessmann.com
10	Domingo Gonzalez	SIBER	
11	Eduardo Collado	UNEF	eduardo.collado@unef.es
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15	Florencio Manteca	CENER	fmanteca@cener.com
16	Francisco Cortés del Castillo	EMVS	frcts@telefonica.net
17	Inés Díaz Regodon	CENER	idiaz@cener.com

18	Inés Leal	Grupo Tecma Red	ines@grupotecmared.es
19	Javier Domeño	Construcciones Domeño	javier@construccionesdomeno.com
20	Javier Gonzalez López	FUNDACIÓN LABORAL DE LA CONSTRUCCIÓN	-
21	Javier Serra	Ministerio de Fomento	jserra@fomento.es
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23	Jose María Ortiz	AFEC	jmortiz@afec.es
24	José Ramos Tarancón	CIAT	-
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26	Luis Mateo	ANDIMAT	lmateo@andima.es
27	Luis Rodulfo	CEPCO	director@cepco.es
28	María Fernández Boneta	CENER	mfboneta@cener.com
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38	Santiago Pascual	SIBER	spsola@siberzone.es
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40	Yago Massó	ANDIMAT	ymasso@andimat.es

3. Main discussion points

a) Regulatory instruments: Technical Building Codes

Luis Rodulfo (CEPCO - Spanish Confederation of Construction Manufacturers Associations) explains that they are in favour of developing more ambitious Building Codes. It is said that 1.600.000 dwellings are in poor or very poor condition in Spain and the present state budget for existing buildings refurbishment only allows the renovation of 100.000 dwellings per year. This means that it will take 16 years to cover 1.600.000 dwellings. Therefore, Spain needs other instruments that will allow this transition.

Moreover, it is explained that establishing an effective control system in order to ensure the right implementation of the Technical Building Code is as important as the content of the Building Code itself. It is specially highlighted that nowadays the Spanish control mechanisms are not enough to ensure the compliance of the TBC.

CEPCO consider that it would be really interesting to create an effective surveillance system that allows control to all stakeholders (project designer, housing developer, builder and so on) in order to ensure the correct use of the TBC.

b) HVAC systems

Ricardo García (ATECYR – Spanish Technical Association of heating, ventilation and air conditioning) explains his association's point of view. The specific definition of nZEB should involve a low energy need value (high performance envelope), a low energy use (high performance of HVAC systems) and a low net primary value (RES implementation for in-situ electricity generation). That means that the appropriate package of variants (passive measures + EE-H/C + RES) must be chosen for each building.

Each building should be studied in order to choose the HVAC system and RES which is the most appropriate to use, based on climate and energy need schedule. One kind of installation is not always the best for all situations.

Ricardo G. insists on the importance of establishing an effective control mechanism with the aim of ensuring the compliance of the minimum energy and technical requirements of HVAC systems.

It is highlighted that the concept of refurbishment should be referred to major renovation that allows a global concept with an appropriate integration of HVAC inside the building, ensuring aesthetical and functional behaviour.

It is mentioned that when a major renovation is considered, several Codes must be taken into account and sometimes it is difficult to reach an agreement between all of them. Ricardo G. claims regulatory documents with a common framework.

It is explained that nowadays, the trend in HVAC is to select the cheapest technology and have a study that is only based on initial investment cost. But, the cost study should be based on the life cycle of the technology according to the EPBD; however, these kinds of studies are not being developed in a real context.

c) PV installations within the actual regulatory Spanish context

Eduardo Collado (UNEF – Spanish Photovoltaic Union) explains the present regulatory situation for PV systems. The updating of TBC (September 2013) is not especially exigent with the obligation of PV. Although the document DB-HE5 establishes the mandatory requirement for PV, it is only for a few uses within the tertiary sector.

Moreover, the new draft of Royal Decree regarding the grid connection of these kinds of systems (PV, micro-eolic, micro-cogeneration) is specially discouraging.

Although it is a mature technology with a really interesting learning curve associated, and perfectly suitable for installation in buildings, the new RD will involve not assumable paybacks, since it involves a payment to the supplier per each kWh generated in-situ. Hence, the investment profitability has considerably decreased, which means the PV integrations will not be possible from the financial point of view.

From the point of view of Eduardo Collado new political will be necessary in order to change the near future.

d) Activities regarding nZEB within Spanish administration

Javier Serra (Directorate-General of Architecture and Housing and Land. Ministry of Public Works) informs about the current activities carried out by the Administration regarding nZEB:

- Last June, the new Royal Decree 235/2013 on Certification was passed. It includes certification of energy efficiency of existing buildings.
- Law 8/2013 on urban rehabilitation, regeneration and renovation, which just passed last June, includes that residential buildings over 50 years old must have a Building Assessment Report, which in addition to evaluating the state of conservation and accessibility, includes an energy efficiency certificate. The current Administration work regarding this issue is the tools development in order to automate the Building Assessment Report.
- Information and motivation: organization of seminars to inform different stakeholders.

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- In April, a new housing plan[1] concentrating on rehabilitation and enlarging the rental market was passed. Four of the seven aid programmes included in the Plan propose aid for energy rehabilitation of buildings or urban spaces.
- Last September, the updated TBC DB-HE[2] was passed. It is working on presentations, guides and documents to support the new DB-HE 2013 implementation.
- Article 9 of EPBD 2010[3]: working groups with large builders, ESCOs and regions' Administrations have been established in order to define the strategic plan for the first quarter of 2014, as the report must be submitted to Brussels in April 2014.

e) Financial instruments

Patricia Laplana (CROSSCHECK Capital Partners) explains several financial instruments that encourage the nZEB transition.

CROSSCHECK Capital Partners is a venture capital fund created to invest only in energy efficiency with an ESCO model.

Adequacy of funding to nZEB projects with ESCO model:

- Subsidies supported by the State budget: important national and European support though different instruments
- External financing modalities:
  - Loans: the analysis criteria are very restrictive right now
  - Leasing or renting of equipments: it raises difficulties when a project includes a set of equipment and related facilities as is often the case in a project nZEB
  - Project finance: it fits with nZEB projects but the small size of the projects and the absence of real cases means there is virtually no option for projects nZEB with model ESCO today
- Financial partners:
  - Private Investors or Business Angels: there is interest in the sector and therefore there are investors interested in this type of project
  - Venture capital: it may be a good alternative although profitability is sometimes reduced for this type of investment

[1] RD 233/2013 State Plan for Promoting Housing Rental, Rehabilitation of Buildings and Urban Regeneration and Renovation 2013-2016.

[2] The document regarding energy saving (DB HE) within the TBC 2006 has been updated in 2013.

[3] *"...develop policies and take measures... ... in order to stimulate the transformation of buildings that are refurbished into nearly zero-energy buildings, and inform the Comission..."*

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- Infrastructure funds: the dimension is not sufficient for funds investing in infrastructure
- Investment funds: not applicable for this type of asset

The internal rate of return (IRR) required on investment in a project of this type is approximately15%.

The size of funds managed by management companies and venture capital companies in Spain continues to grow despite the crisis, approaching the 25.000M€ managed.

Green Buildings Equity Fund I is a venture capital fund that invests in conjunction with Partners specialized in energy efficiency that can develop one or more projects through the ESCO model, obtaining return generated by savings in energy consumption of buildings.

f) Real nZEB experience. Building developer vision.

Javier Domeño explains his own experience as abuilding developer of a new nZEB in Pamplona (Navarre, Spain). The absence of a Spanish nZEB definition is the first barrier when a building developer aims to reach this standard in Spain. Therefore, the first step is to gather a group of professionals (architects and engineers) who could provide guidance regarding this issue. The technicians of Energy in buildings department of CENER were members of this professional group.

The next step according to J. Domeño's experience is the initial investment cost containment. That means that a detailed analysis must be carried out before making decisions regarding the optimum energy efficiency measures implementation (insulation increase, better thermal bridges solution, infiltration reduction, air heat recovery...) in order to select measures which reach a significant energy saving with a moderate investment cost increase. J. Domeño informs that a dwelling which meets the nZEB standard should increase its sale cost between 6-7% regarding a dwelling which only meets the TBC[4]. That value has been calculated taking into account a value of 15.8 kW/m^{2}year of energy need for heating according to the energy certification methodology for new buildings in Spain.

It is highlighted that the training of the commercial team is extremely important, since the right information transmission to the potential buyer is crucial for ensuring the interest on these kinds of buildings. Their experience shows that 95% of potential buyers

[4] TBC – Technical Building Code 2006

only appreciate what they can see and thus, it is necessary for the commercial team to work hard in order to explain all the benefits of these dwellings.

It is mentioned that the energy certification methodology should be referred to energy consumption (kWh) and not to CO_2 emissions in order to be clearer to final users. Moreover, J. Domeño insists on the scale extension (i.e. A+, A++...) to show when a special effort has been carried out.

J. Domeño asks for more financial instruments supported on the state budget for incentives for these kinds of voluntary initiatives for new buildings (i.e. subsidies, tax reduction...), and the same for existing buildings.

J. Domeño finishes his intervention with an optimistic message: *"I had a project with few options but with this exciting project we have had the option to go out to the market and 50% dwellings are pre-sold right now. So, starting works is expected later this year."*

g) Discussion about nZEB definition in Spain

The correct definition for nZEB in Spain is discussed. Some agents of insulation manufacturers explain that the translation to Spanish of "nearly zero energy building" from the Directive is not correct. The translation to Spanish uses the words "energy use" or "energy consumption" when the real concept in English only refers to "energy". Therefore, the insulation manufacturers highlighted that this very low quantity of energy may refer to the energy need (or energy demand) of the building.

María Fernández (Energy in Buildings Department, CENER) explains that the guides which support the EPBD 2010 regarding the cost-optimum calculation are referred to (net) primary energy, which should be understood as consumption.

However, all attendees agree that the nZEB definition for Spain should set both requirements (i.e. minimum energy need and minimum energy use), in line with TBC 2013[5].

h) Information and motivation

Inés Leal (Architect, COAM – Professional association of architects in Madrid) explains the architect's point of view. She says that it is the moment to improve their knowledge and learn about new technologies and new concepts ("continuous improvement proc-

[5] TBC DB HE 2013 (Document H0 – Limiting energy use and Document HE1 – Limiting energy use)

ess"), as well to help to EE and RES-H/C integration within the building context without aesthetic penalties.

Moreover, Inés thinks that awareness of society and users is essential, so as to generate a change of mind for the future and thus a model shift. J. Domeño (building developer) insists on this issue too, since 2020 is so close, when the nZEB standard will be a mandatory requirement.

Some initiatives to educate citizens are mentioned (e.g. RENOVE in Madrid to involve citizens within refurbishment process).

Ana Etchenique (CECU – Confederation of Consumers and Users) explains the user's point of view. She explains that the citizens should be taken into account in the political process, since sometimes the political decisions are not communicated clearly. For example, some recent decisions between politicians and electric supplies companies were made without taking citizens into account.

Ana E. explains that the energy poverty rate is increasing in Spain. This economic crisis has to be the starting point for analyzing the current state and setting bases to shift the current model. It is said that educational work for citizens has to be done in order to achieve citizens' participation in political development.

Ana E. thinks that energy renovations should be enforced with financial instruments (e.g. grants and/or tax incentives).

Nuría Díaz (Spanish Passivhaus Platform – PEP) speaks about the possibility of visiting Passivhaus homes in Spain through open days to be held soon. It could be a good opportunity to learn about these types of buildings, both for professionals as well as for users.

For more information: http://www.entranze.eu/workshops/spain-mid-term-workshop

ANNEX I

"Desarrollo de las políticas para favorecer la transición del parque inmobiliario español a Edificios de Consumo de Energía casi Nulo -nZEBs"

LUGAR: Colegio Oficial de Arquitectos de Madrid- COAM
FECHA: 4 de noviembre de 2013, 10:30h – 14:00h

Moderador: Florencio Manteca (Director del Depto. Energética Edificatoria de CENER)

PROGRAMA:

10.30 Bienvenida
Pilar Pereda Suquet, Secretario COAM

10.35 Breve introducción del proyecto ENTRANZE (www.entranze.eu)
María Fernández Boneta, CENER

10.45 Presentación de la herramienta on-line "ENTRANZE Data tool"
Inés Díaz Regodon, CENER

10.55 Transición de la industria de la construcción española hacia el escenario nZEB
Luis Rodulfo, Director General CEPCO
Ricardo García San José, Vicepresidente Comité Técnico ATECYR
Eduardo Collado, Director de Operaciones UNEF
Pilar Pereda Suquet, Secretario COAM

11.40 ***Pausa café***

12.00 Metodología de Cálculo coste-óptimo según EPBD. Aplicación a ENTRANZE.
María Fernández Boneta, CENER

12.15 NZEB en España: actividades en curso
Javier Serra María-Tomé, Ministerio de Fomento

12.35 **I**nstrumentos financieros que favorecen la transición a nZEBs
Ruperto Unzué Aranda, Consejero Delegado CROSSCHECK

12.50 La promoción de viviendas nZEB. Barreras y oportunidades
Francisco Javier Domeño Gárate, Promotor Edificio Zero 2020

13.05 La visión de los usuarios.
Ana Etxenique , Vicepresidenta Confederación de Consumidores y Usuarios CECU

13.20 Debate

14.00 Conclusiones y clausura del Workshop

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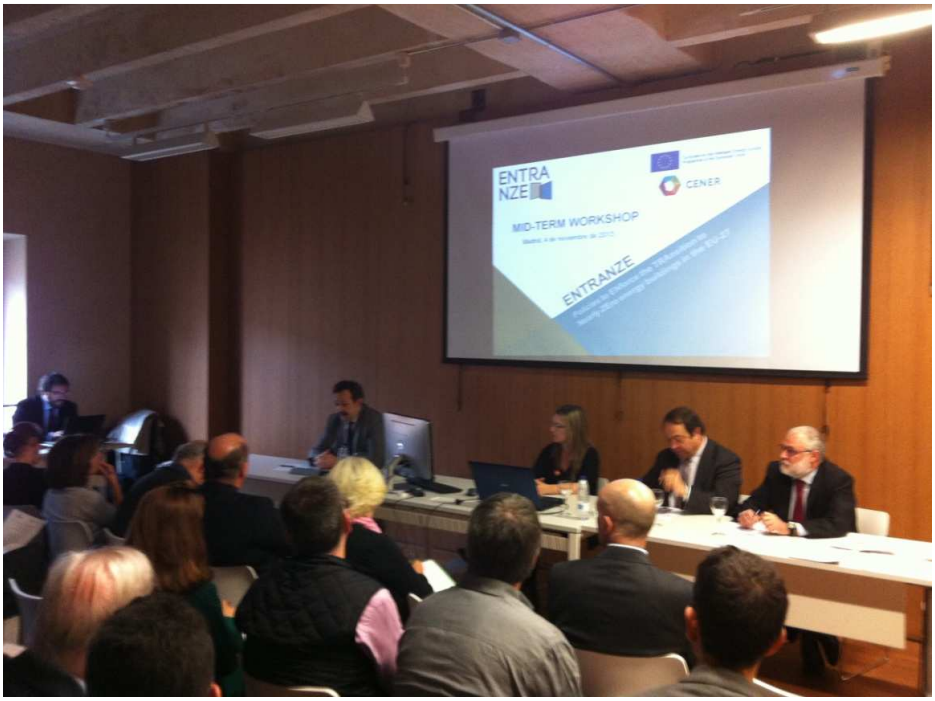
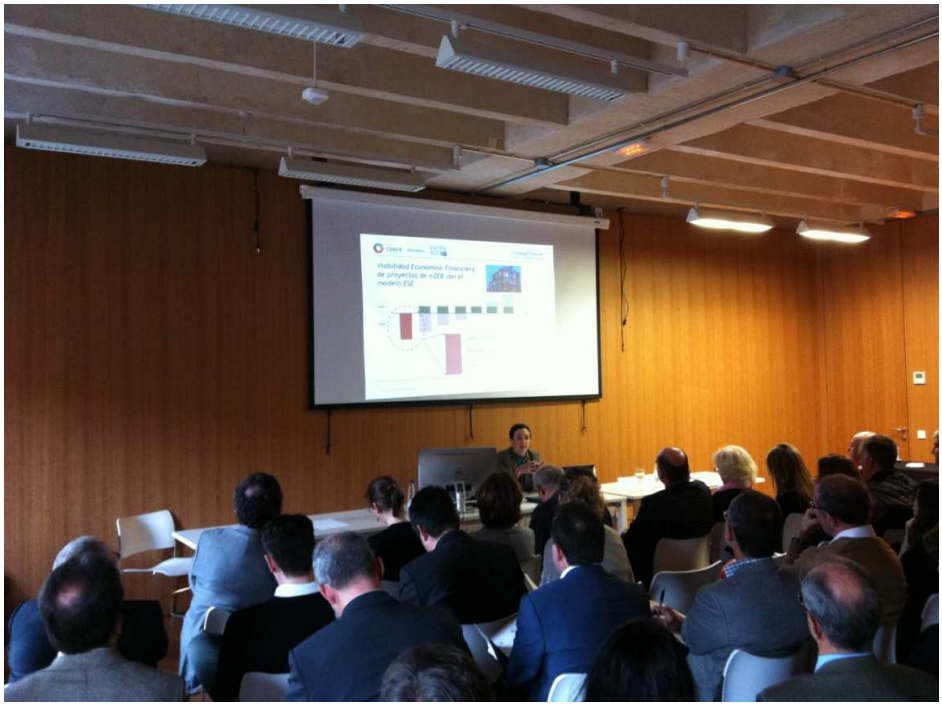
ANNEX II



Luis Rodulfo (CEPCO), Ricardo García (ATECYR), Eduardo Collado (UNEF), Inés Leal (COAM) - "Transition from Spanish construction industry towards the stage nZEB"



Patricia Laplana (CROSSCHECK Capital Partners) – Financial instruments to enforce the transition to nearly zero energy buildings