



## **Minutes to the final dissemination workshop in Spain**

**We., 17<sup>th</sup> September 2014 16.00-19.00**

**COAM C/Hortaleza, 63, Madrid**

**D6.9 of WP6 from Entranze Project**

**September 2014**

**Written by:**

María Fernández Boneta  
Energy in Buildings Department  
National Renewable Energy Centre - CENER



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Programme of the European Union

## ENTRANZE Project

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

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### Project consortium:

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

## 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 final workshop in Spain/Madrid on 17<sup>th</sup> September 2014.

### Acknowledgement:

The authors and the whole project consortium gratefully acknowledge the financial and intellectual support of this work provided by the Intelligent Energy for Europe – Programme.



Co-funded by the Intelligent Energy Europe  
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## 1. Agenda

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

- Welcome  
*Florencio Manteca, CENER*
- Presentation of all participants  
*Florencio Manteca, CENER*
- Introduction to the project ENTRANZE  
*María Fernández Boneta, CENER (presentation I, annex III)*
- Main outcomes of ENTRANZE project. Scenario results up to 2030  
*María Fernández Boneta, CENER (presentation II, annex III)*
- Panel discussion: Suitability of current policy instruments in Spain to enforce the transition of existing buildings stock to nZEB  
*Javier Serra, Ministerio de Fomento*  
*Ana Etxenique , Vicepresidenta Confederación de Consumidores y Usuarios CECU*  
*Marta Torres, Gerente Asociación de Promotores Inmobiliarios de Madrid, ASPRIMA*  
*María del Puy Jiménez, Responsable de proyectos y evaluación, Fundación Laboral de la Construcción*  
*Pilar Pereda Suquet, Secretario COAM*
- Discussion  
*ALL*
- Energy indicators for nZEB definition  
*Luis Vega Catalán, Ministerio de Fomento*
- The role of RES-H/C within the transition to nZEB concept  
*Florencio Manteca, CENER (presentation II, annex III)*
- Discussion and conclusions  
*ALL*

Moderation: Florencio Manteca, CENER

## 2. Overview

The main Spanish stakeholders were invited to participate in the final 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 4 individual presentations, a panel discussion regarding the “Spanish policy instruments to enforce the transition to 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
2	Alvaro Pimentel	AISLA	a.pimentel@aisla.org
3	Ana Etchenique	Confederación de Consumidores y Usuarios CECU	ana.e@cecu.es
4	Andrés Paredes Salvador	IDEA - Solar y Edificios	aparedes@idae.es
5	Angel Luis Teso	exeleria	ateso@exeleria.com
6	Antonio Arteché Sola	LUXMATE	Antonio.arteché@luxmate.es
7	Beatriz Prieto Gómez	TRAGSA	
8	Blanca Gómez García-Verdugo	Confederación nacional de instaladores y mantenedores - CNI	blanca.gomez@cni-instaladores.com
9	Carlos Expósito	ALIA Arquitectura, Energía y Medio Ambiente, S.L.	administracion@alia-es.com
10	Carlos Montoya	IDEA - Solar y Edificios	cmontoya@idae.es
11	Cipriano Colino	VISSMAN S.L.	CCp@viessmann.com
12	Ester Pita	KNAUF Insulation	esther.pita@knaufinsulation.com
13	Florencio Manteca	CENER	fmanteca@cener.com

14	Frasncisco Cortés del Castillo	EMVS	frcts@telefonica.net
15	Ignacio Prieto Leache	TRAGSA	iprl@tragsa.es
16	Ignacio Reviriego	Lledó Energía	IReviriego@lledoenergia.es
17	Inés Leal	Grupo Tecma Red	ines@grupotecmared.es
18	Iñaki Alonso	Satt arquitectura	inaki@satt.es
19	Javier Serra	Ministerio de Fomento	jserra@fomento.es
20	José Antonio Ferrer Tevar	CIEMAT	ja.ferrer@ciemat.es
21	Jose Javier Diez Vidal	TRAGSA	jdiez7@tragsa.es
22	Jose Luis Gutierrez Gonzalez	VISSMAN S.L.	gutj@viessmann.com
23	José Luis López	ACA - Asociación de ciencias ambientales	jo-seluis.lopez@cienciasambientales.org.es
24	Jose María Ortiz	Asociación de Fabricantes de Equipos de Climatización - AFEC	jmortiz@afec.es
25	Luis Antonio Galán Benzal	TRAGSA	lgalan@tragsa.es
26	Luis Mateo	ANDIMAT	lmateo@andimat.es
27	Luis Rodolfo	CEPCO	director@cepcos.es
28	Luis Vega Catalán	Ministerio Fomento	lvega@fomento.es
29	María Anderez Valdavidia	TRAGSA	
30	María Arauz	EMSV Getafe	maria.arauz@emsvgetafe.org
31	María del Puy Jiménez Fernández-Sesma	Fundación laboral de la construcción	pjimenez@fundacionlaboral.org
32	María Fernández Boneta	CENER	mfboneta@cener.com

33	Mariluz Baldasano	PiAE_Arquitectura, Energía y Medioam- biente	mbaldasano@planoinclinado.es
34	Marta Torres	ASPRIMA	m.torres@asprima.es
35	Miguel Angel Prieto Miñano	EMVS	
36	Patrizia Laplana	CROSSCHECK	plaplana@sumacapital.com
37	Paula Rivas Hesse	GBCe	privas.iisbe@gmail.com
38	Pilar Pereda Suquet	COAM	pilar.pereda@coam.org
39	Raquel Garcia Mon- zón	WWF	rgarciam@wwf.es
40	Santiago Pascual	SIBER	spsola@siberzone.es
41	Yago Massó	ANDIMAT	ymasso@andimat.es

### 3. Main discussion points

#### a) Access to economic incentives

Javier Serra (Directorate-General of Architecture and Housing and Land. Ministry of Public Works) explains that there are current national plans to promote buildings' refurbishment support from the state budget.

#### Current economic support instruments

– **PAREER: Aid Programme for the Energy Renovation of Existing Buildings used in the residential sector (housing and hotel use)** approved by IDAE Resolution of 25 September 2013. Its goal is to encourage and promote the implementation of integral measures which favour energy saving, energy efficiency improvement and the use of renewable energies in existing buildings. Assistance is granted in the form of a monetary provision without compensation or repayable loan, depending on the type of measures (thermal envelope and heating and lighting installations). It has a budget of €125 million.

– **JESSICA-FIDAE** fund for financing the renovation of non-residential buildings, among other measures.

– **PIMA SOL** environmental stimulus plan, aimed at financing the energy renovation of hotels. Promoted by the Ministry of Agriculture, Food and Environment.

– **State plan for the promotion of rental housing, building restoration and urban regeneration and renovation, 2013–2016 (Royal Decree 233/2013)** of the Ministry of Development, aimed at promoting the energy renovation of residential buildings. Includes a residential building renovation programme aimed at improving energy efficiency. Measures eligible for subsidy include improving the thermal envelope of buildings to reduce energy demand for heating and cooling, installing heating, cooling, domestic hot water and ventilation systems and common building facilities such as lifts and lighting. To qualify for subsidies, the building's total annual energy demand in terms of heating and cooling must be reduced by at least 30% compared to the levels taken before implementation of the measures, as demonstrated by the energy certificate.

However, due to different barriers (e.g. lack of communication campaigns, lack of owners' motivation, difficulty to access to the subsidies from the regional governments), not all of this budget is being consumed because the citizens are not demanding the subsidies.

Hence, Javier Serra explains that it is crucial to identify the current barriers of communication, information and motivation of citizens and try to solve them.

## **b) Motivation/information barriers**

Ana Etchenique (CECU – Confederation of Consumers and Users<sup>1</sup>) explains that there is not a real culture regarding these issues in the current Spanish society. Thus, from her point of view, the most important issue is sector training (technicians, experts, politicians and of course, citizens).

It has been reported in a recent survey of 2.400 dwellings that 70% of people did not know what the energy efficiency means.

Hence, the focus of current instruments should be motivation, information and training of citizens so that they demand energy efficiency and as a consequence, the support programmes from the state budget. Ana Etchenique says that it is important to find the motivations that move people in order for citizens to demand energy efficiency. If it is necessary, the information/motivation campaigns should be carried out in each neighbourhood, in each home...

Ana Etchenique highlights that there is a deep lack of confidence in the current society. Hence, any new instrument or measure should be implemented with total transparency.

Raquel Garcia (WWF<sup>2</sup>) explains their experience collaborating with EMVS<sup>3</sup> in the renovation of a multifamily house in the Los Angeles neighborhood (Madrid) with low rent owners. She explains that it is crucial to analyze the target sector for each case. Their experience within this project shows lack of training and sensitivity for these issues. In this way, she proposes information campaigns so that our society understands that the energy tariff will increase constantly and specific actions are needed in order to ensure the energy sustainability.

## **c) Exemplary measures**

Several attendants agreed that exemplary projects or measures are needed in order to generate confidence in the sector, especially in the final consumer. In order to achieve this target, the role of Administration is crucial.

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<sup>1</sup> <http://www.cecuc.es/>

<sup>2</sup> <http://www.wwf.es/>

<sup>3</sup> Empresa Municipal de la Vivienda y Suelo (municipally owned housing and land in Madrid)  
<http://www.emvs.es/Paginas/Home.aspx>

An attendant from an ESCO explains that the participation model should be public-private. However, they have found barriers from both sides (public and private) to creating this type of model, especially legal barriers from the Administration side in signing these types of agreements.

Other attendants recalled the confidence problem: there is a lack of confidence in ESCOs due to old, failed experiences.

Another attendant mentions that they hope the large private company will develop exemplary actions.

#### **d) Real experiences**

Pilar Pereda (Arquitect) explains a real experience based on PAREER<sup>4</sup> and a pilot project based on the collaboration, information and training of a multifamily building.

The project has been developed to involve the entire process; coaching building owners during renovation from planning to completion (including the technical advice), but also obtaining subsidies and preferential loans to carry out the refurbishment. The project is in the last phase before the building refurbishment, the owners should right now accept the economic conditions which are very attractive for them (79€/month for each owner during 12 years).

Pilar Pereda explains that there is a lack of private funding (from banks), which presents an additional barrier to developing these type of projects or renovation activities.

Pilar Pereda also highlights, like other attendants, the lack of confidence (e.g., energy audits).

#### **e) Sector training**

María del Puy Jiménez (Fundación Laboral de la Construcción<sup>5</sup>) explains the training activities for the sector which are developed in the Foundation.

At European level, the difficulty to find qualified professionals to develop energy efficiency projects has been identified. She explains their experience in the BuildUp project, which is divided into several pillars:

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<sup>4</sup> PAREER: Aid Programme for the Energy Renovation of Existing Buildings used in the residential sector (housing and hotel use)

<sup>5</sup> <http://www.fundacionlaboral.org/>

- Pillar 1. Roadmap definition: Owner's awareness, training sector...
- Pillar 2. Tool development for training professionals who are not inside the regulated education.

Within the context of the European project they (the Foundation) have developed a total of 9 training actions with a design where several experts have been involved.

#### **f) Spanish case**

A discussion regarding the specific situation of Spanish case is opened.

It is noted that, regarding building refurbishment, the Spanish case is not an average European Union case. Even in the most representative pilot projects, a low amount of public participation is achieved because there are several barriers to renovation.

Another important barrier which is mentioned during the discussion is the complex mechanism through which funds are accessed from the state budget to support renovation activities. Although the national plans of grants exist, citizens can only have access to subsidies via regional governments. Hence, specific agreements have to be signed between the central government and each regional government, which adds another administrative barrier to promoting renovation activities.

#### **g) Energy indicators**

Luis Vega (Directorate-General of Architecture and Housing and Land. Ministry of Public Works) explains the structure of energy indicators in order to define the nZEB concept. The Standard draft EN15603:2014 establishes the methodology in order to calculate the energy indicators in line with EPBD 2010 and Regulation 244/2012.

Luis Vega explains that the energy indicators must be carefully defined at country level in order to fit the energy model of the country. In this way, before fixing values, these indicators should be defined in detail.

#### **h) The role of RES to enforce the nZEB concept**

Florencio Manteca (Director of Energy in Buildings Department, CENER) explains the role of renewable energy sources (solar thermal, photovoltaic and biomass) in the definition of nZEB (see presentation III in annex III) based on ENTRANZE project results and other projects developed by CENER (e.g. REVILICIA<sup>6</sup> and Ce3X<sup>7</sup>).

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<sup>6</sup> E-learning platform, including a nZEB analysis within the Spanish region

<sup>7</sup> Energy certification methodology for existing buildings

## ANNEX I

### II WORKSHOP ENTRANZE

#### 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  
C/Hortaleza, 63(Aula de formación A5)*

*FECHA: 17 de septiembre de 2014, 16:00h – 18:00h*

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

#### PROGRAMA:

- 16.00** Bienvenida  
*Florencio Manteca, CENER*
- 16.05** Introducción del proyecto ENTRANZE ([www.entranze.eu](http://www.entranze.eu))  
Instrumentos políticos que permitan la transición a nZEBs. Aplicación en ENTRANZE  
*María Fernández Boneta, CENER*
- 16.30** Proyecciones hasta 2030 ante distintos escenarios políticos. Modelos ENTRANZE.  
Presentación de la herramienta on-line para visualización de resultados.  
*María Fernández Boneta, CENER*
- 17.00** Mesa redonda/Debate: Idoneidad de los instrumentos políticos en España para favorecer la transición del parque de edificios existente a nZEB  
*Javier Serra, Ministerio de Fomento*  
*Ana Etxenique, Vicepresidenta Confederación de Consumidores y Usuarios CECU*  
*Marta Torres, Gerente Asociación de Promotores Inmobiliarios de Madrid, ASPRIMA*  
*María del Puy Jiménez, Responsable de proyectos y evaluación, Fundación Laboral de la Construcción*  
*Pilar Pereda Suquet, Secretario COAM*
- 18.20** Indicadores energéticos para la definición del edificio de energía casi nula.  
*Luis Vega Catalán, Representante del Ministerio de Fomento*
- 18.35** El papel de las EERR en la transición hacia el concepto nZEB  
*Florencio Manteca, CENER*
- 18.50** Conclusiones y clausura del Workshop  
*Florencio Manteca, CENER*

## ANNEX II



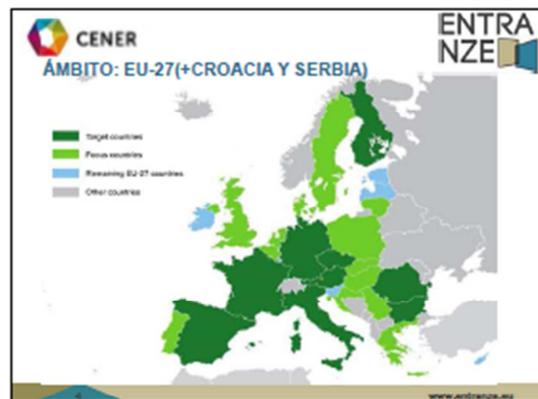
Round table: “Suitability of current policy instruments in Spain to enforce the transition of existing buildings stock to nZEB” - Javier Serra (Ministry of Public Works), Ana Etxenique (CECU), Marta Torres (ASPRIMA), María del Puy Jiménez, Responsable de proyectos y evaluación (Fundación Laboral de la Construcción), Pilar Pereda Suquet (COAM)



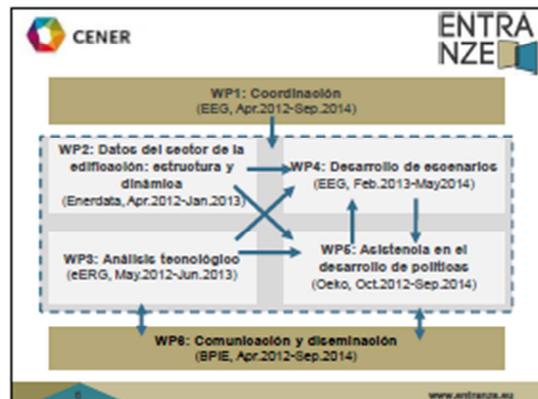
María Fernández Boneta (CENER) – Overview and main outcomes of ENTRANZE project

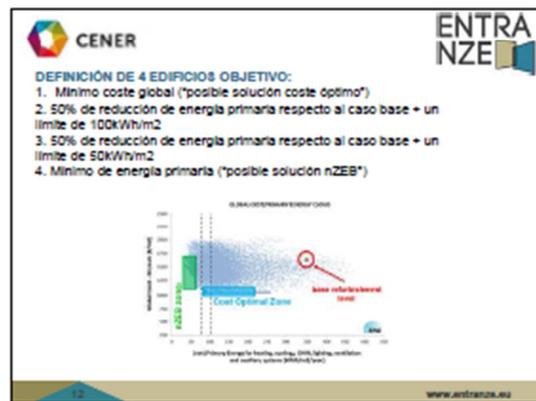
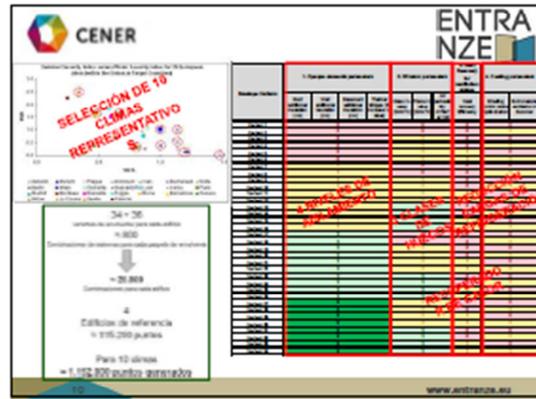
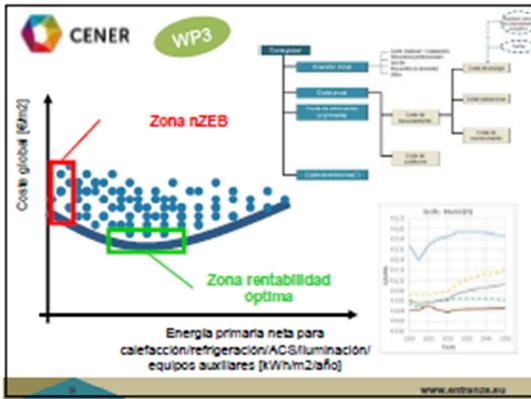
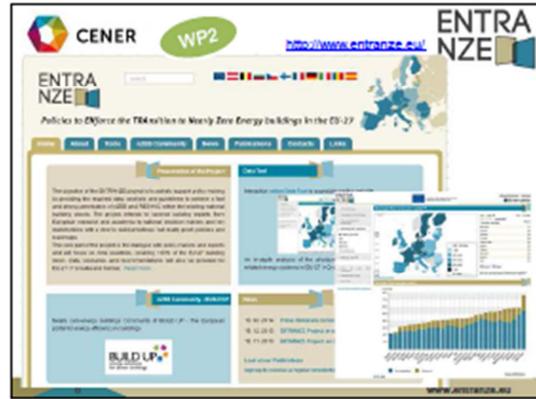
## ANNEX III

### Presentation I



Nombre del participante	Acronimo	País	Papel principal en el Consorcio
Energy Economics Group of Technology	EEG	EE	Coordinador. Lider de la formulación de escenarios mediante el modelo computacional IES-TRNSYS, proceso: perfilsoo17
Technological Research Centre	TECHC	ES	Políticas de compatibilización de las agendas legislativas, proceso: perfilsoo18
Fraunhofer Society for the advancement of applied research	Fraunhofer	DE	Políticas de eficiencia energética, integración del comportamiento de las agendas legislativas, coordinación el modelo IES-TRNSYS
National Research Energy Centre	ENERC	RO	Contribución al análisis tecnológico, simulación energética de edificios en el ámbito residencial, proceso: perfilsoo19
EUROPEAN ENERGY RESEARCH GROUP, POLITECNICO DI MILANO	eERG	IT	Lider del análisis tecnológico, simulación energética de edificios en el ámbito terciario, proceso: perfilsoo20
Technopolis	TECH	FR	Lider del análisis político, proceso: perfilsoo21
SOLE Energy Agency	SOLENA	GR	Contribución a la tipología y caracterización de los edificios, proceso: perfilsoo22
Building Performance Institute	BPIE	BE	Lider de las actividades de comunicación, redacción de parte del plan de difusión, proceso: perfilsoo23
Enerdata	Enerdata	FR	Lider del análisis de datos relacionados con la energía consumida en los edificios, modelo POLUS y definición de escenarios, proceso: perfilsoo24
SEVEN, The Energy Efficiency Centre	SEVEN	CZ	Creación y mantenimiento de la página web del proyecto, proceso: perfilsoo25







## Presentation II

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

**CENER**

**ENTRANZE**  
Policies to ENforce the TRAnsiTion to Nearly ZEro energy buildings in the EU-27

**PROYECCIONES HASTA 2030 ANTE DISTINTOS ESCENARIOS POLÍTICOS MODELOS ENTRANZE (WP4)**

Madrid, 17 de septiembre de 2013

María Fernández Boneta  
CENER

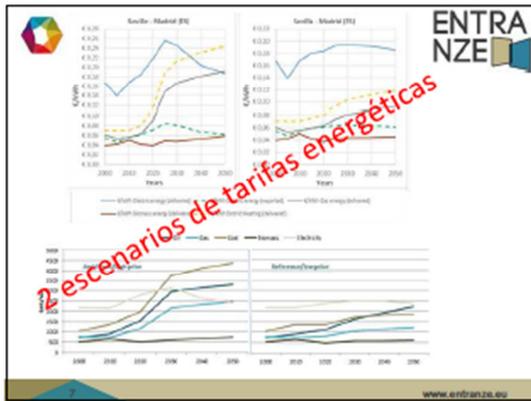
2 [www.entranze.eu](http://www.entranze.eu)



**PAQUETES DE POLÍTICAS SELECCIONADAS PARA ESPAÑA**

Policy set 1	Policy set 2	Policy set 3
Escenario social	Escenario moderado	Escenario político
<ul style="list-style-type: none"> <li>Incremento regulador de eficiencia energética (CEE 2010)</li> <li>Instrumentos económicos asistencia subvenciones y préstamos financiados del presupuesto de estado (RD 23/2012)</li> <li>N/A reducido (17%) para reformas integrales de viviendas</li> </ul>	<ul style="list-style-type: none"> <li>Endicremento moderado de los incentivos económicos de eficiencia energética respecto a CEE (2010)</li> <li>Instrumento económico asistencia subvenciones y préstamos financiados del presupuesto de estado (RD 23/2012)</li> <li>N/A reducido (17%) para reformas integrales de viviendas</li> <li>Capacidad y cualificación del sector</li> <li>Habilitar Centros de competencia para la rehabilitación energética</li> </ul>	<ul style="list-style-type: none"> <li>Incremento moderado de los incentivos económicos de eficiencia energética respecto a CEE (2010)</li> <li>Incremento del presupuesto del Estado para financiar rehabilitación energética</li> <li>N/A reducido (17%) para reformas integrales de viviendas</li> <li>Sistema de obligaciones de eficiencia energética (Art. 7, Directiva 2012/27/EU)</li> <li>Incluir en la regulación de un sistema de obligación a la rehabilitación</li> <li>Capacidad y cualificación del sector</li> <li>Habilitar Centros de competencia para la rehabilitación energética</li> </ul>

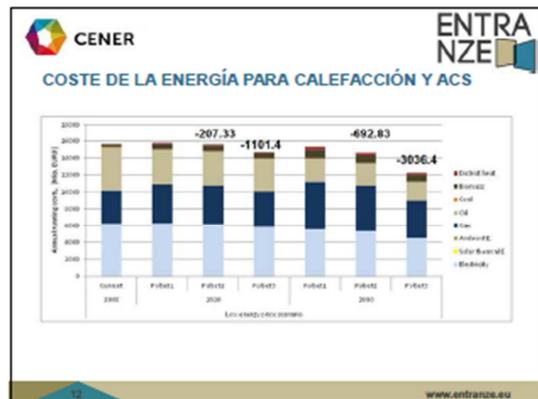
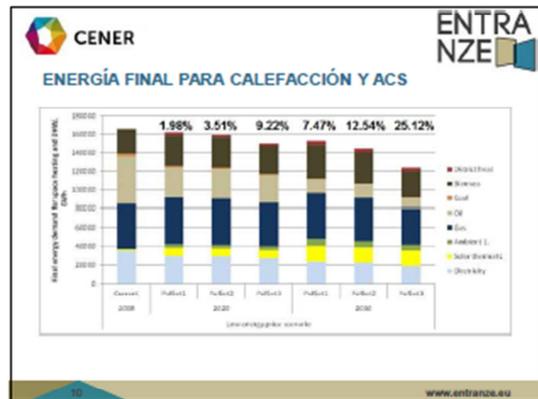
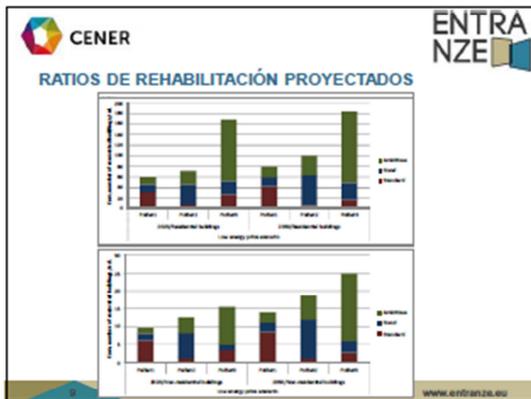
3 paquetes de instrumentos políticos

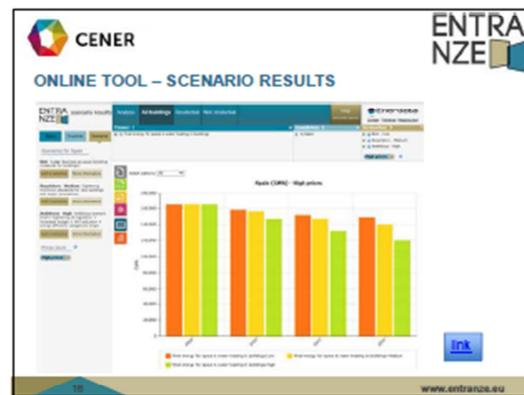
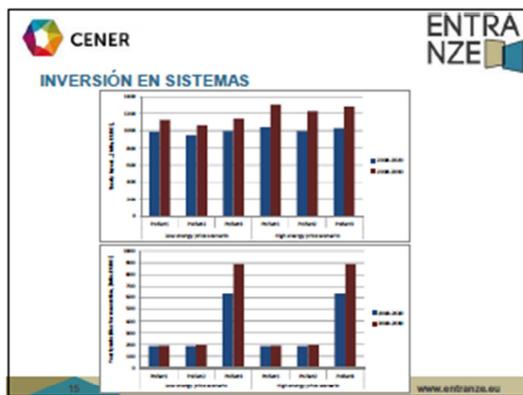
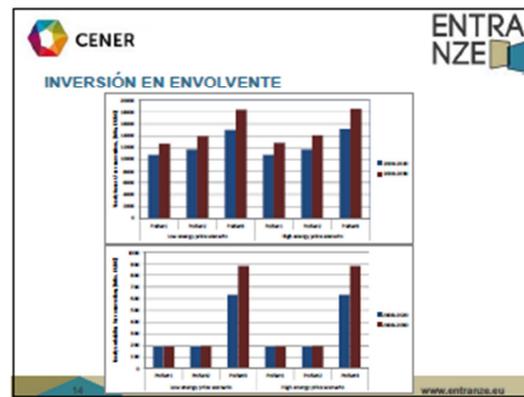
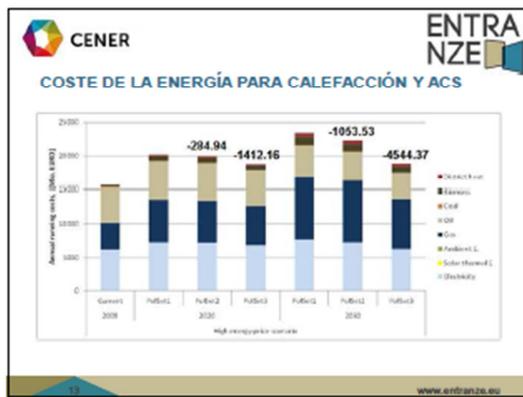


ENTRANZE

3 niveles de reforma de envolvente

Scenario	Roof	Wall	Floor	Windows	Night cooling	Roof	Wall	Floor
Reference	10 cm of Thermal insulation	10 cm of Thermal insulation	8 cm of Thermal insulation	Double glass with air cavity (16mm), thermal transmittance value of glazing U <sub>g</sub> 1.7 W/m <sup>2</sup> K, g 0.76, T <sub>sp</sub> 5.02				
Scenario 1	20 cm of Thermal insulation	15 cm of Thermal insulation	10 cm of Thermal insulation	Double glass with air cavity (16mm) and a low glass, thermal transmittance value of glazing U <sub>g</sub> 1.7 W/m <sup>2</sup> K, g 0.76, T <sub>sp</sub> 5.02		yes		no
Scenario 2	30 cm of Thermal insulation	20 cm of Thermal insulation	15 cm of Thermal insulation	Triple glass with air cavity (16mm) and a low glass, thermal transmittance value of glazing U <sub>g</sub> 1.7 W/m <sup>2</sup> K, g 0.76, T <sub>sp</sub> 5.02		yes		no
Scenario 3	40 cm of Thermal insulation	25 cm of Thermal insulation	20 cm of Thermal insulation	Triple glass with air cavity (16mm) and a low glass, thermal transmittance value of glazing U <sub>g</sub> 1.7 W/m <sup>2</sup> K, g 0.76, T <sub>sp</sub> 5.02	Automated natural ventilation		yes	no

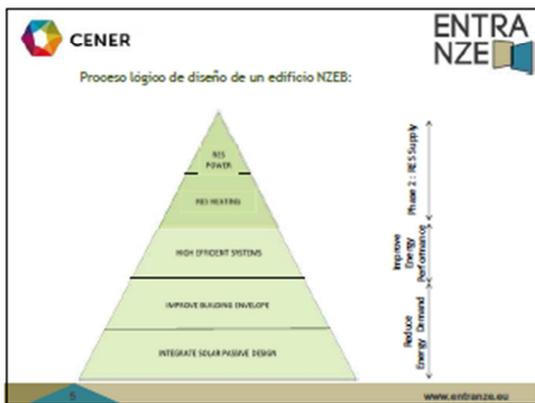
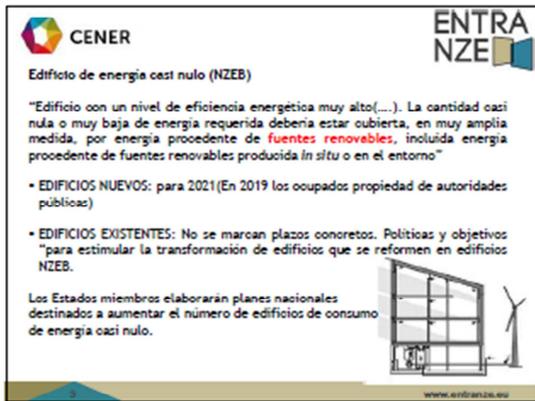


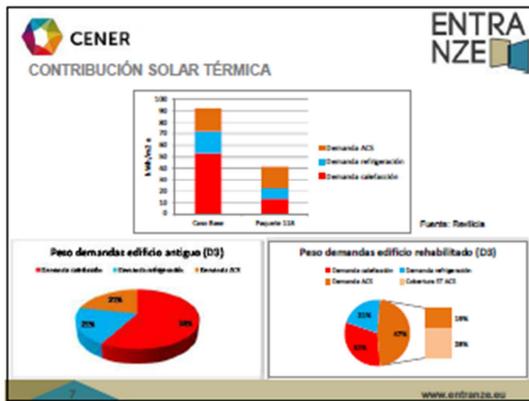


Gracias por su atención!  
 Más información: [www.entranze.eu](http://www.entranze.eu)  
 María Fernández Boneta  
 Centro Nacional de Energías Renovables CENER  
 Tel: +34 948 252800  
 Email: [mfboneta@cener.com](mailto:mfboneta@cener.com)

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Presentation III

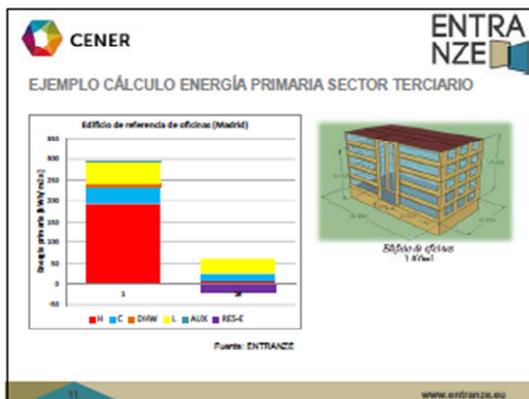
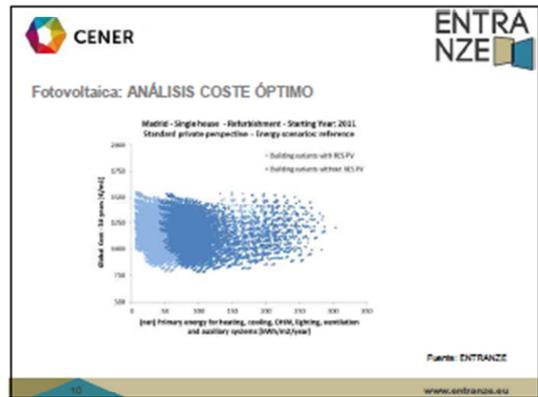
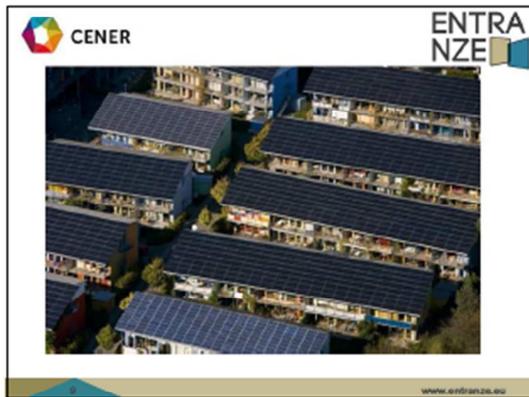




**ENERGÍA SOLAR FOTOVOLTAICA.**

- Tecnología madura, para aplicaciones aisladas o conectadas a red.
- Diferentes tecnología (monocristalino, amorfo, lámina delgada,...).
- Grandes posibilidades de integración arquitectónica.
- Tecnología coste-efectiva sin necesidad de estímulos.
- El reto tecnológico: aumento de su rendimiento global (actualmente ~ 14%)
- Barrera: escenario político hostil y legislación desincentivadora

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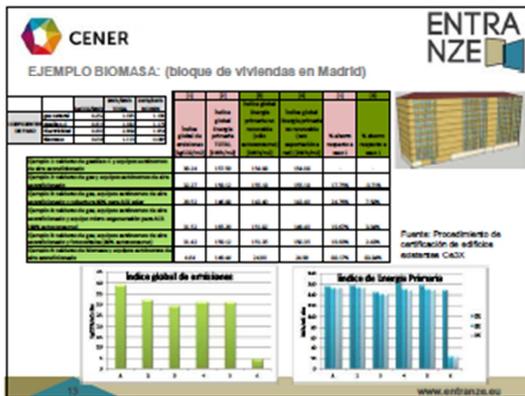


**BIOMASA**

- Tecnología madura. Rendimientos por encima del 90%. Bajos niveles de emisiones de partículas y bajo mantenimiento.
- Barreras logísticas: Suministro de biomasa
- Parámetros de diseño: tipo de caldera, tipo de combustible (densidad y poder calorífico), características del silo,...
- Precio de la biomasa competitivo frente a combustibles fósiles.

Figura 1: Diagrama de flujo de la biomasa

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- CONCLUSIONES:
- La integración de energías renovables es imprescindible para la consecución de edificios de energía casi nula.
  - Una vez aplicadas medidas de reducción de la demanda y aumento del rendimiento, la única medida de mejora posible es la aportación de energía renovable.
  - El diseño de soluciones basadas en renovables debe ser realizado prestando mucha atención a la relación coste / eficacia de la solución, y utilizando la tecnología apropiada a cada caso.
  - Actualmente existe una grave inoportunidad entre los objetivos y la legislación europea (EPBD) por un lado, y el marco legal en materia de energía en España por otro.
  - Esto supone una importante barrera para la efectiva aplicación del estándar NZEB en España
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