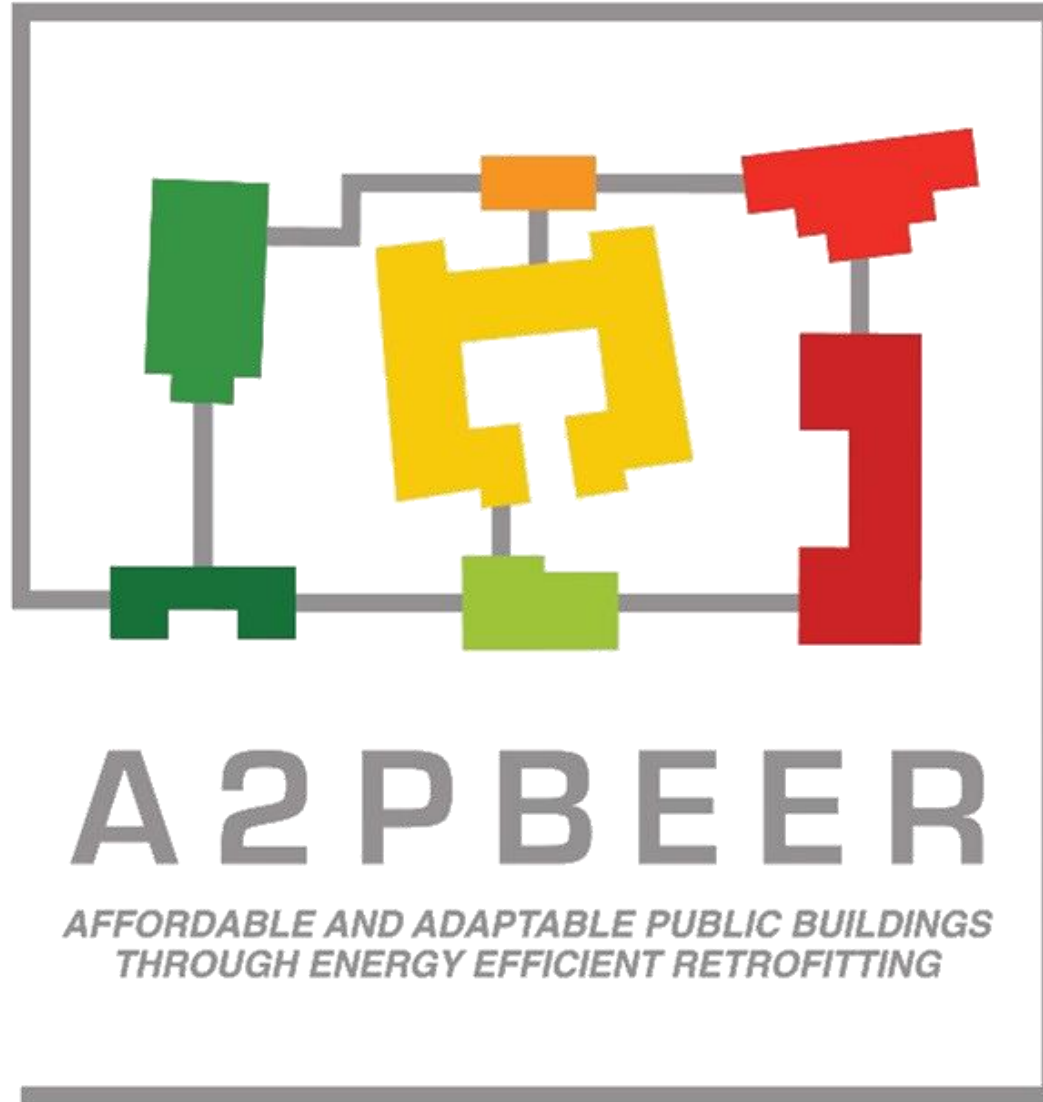


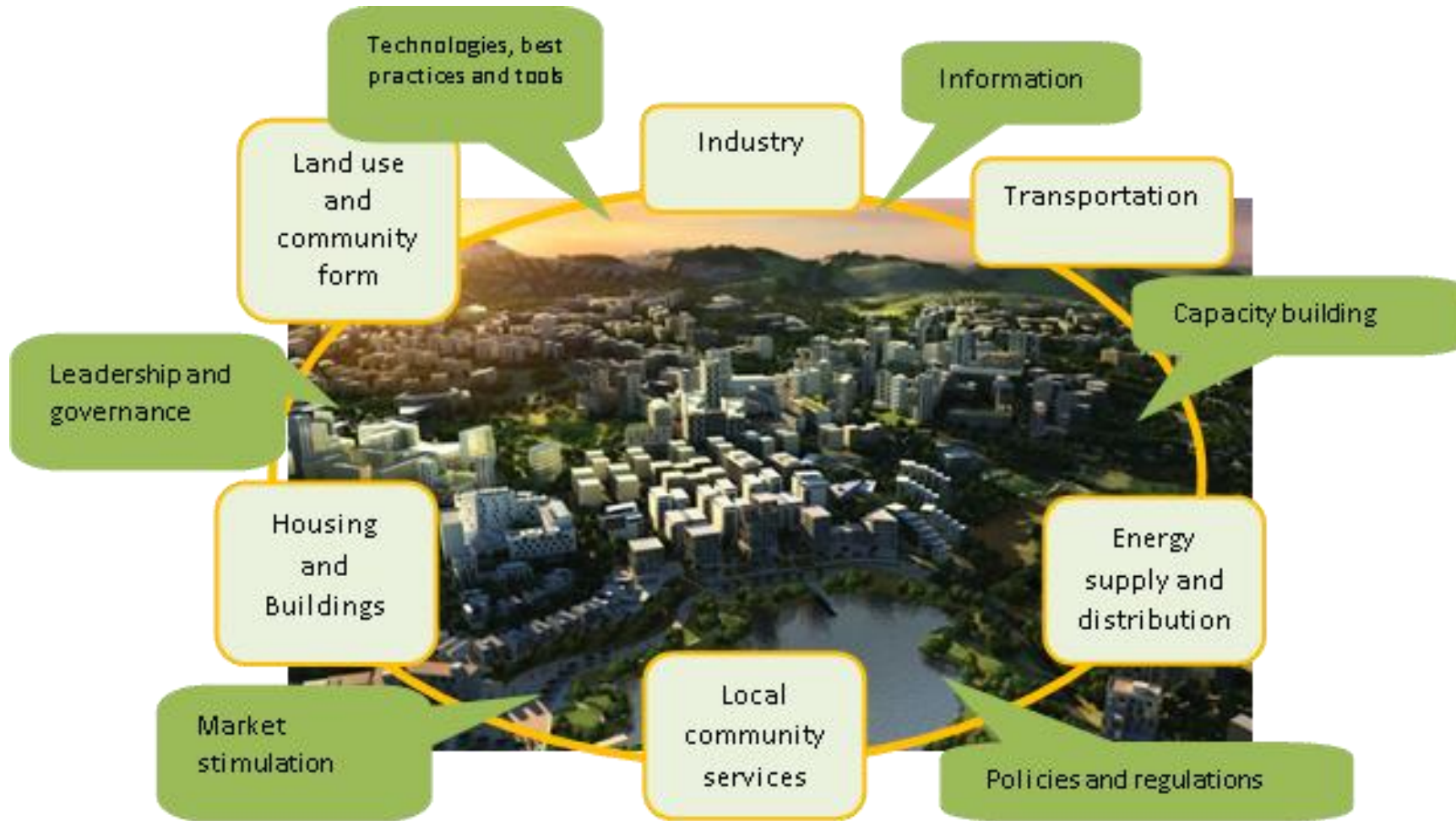


Introducción

Guía soporte de A2PBEER



- Antecedentes sobre la caracterización de la construcción pública y de distrito
- Antecedentes sobre la metodología sistémica de rehabilitación de construcción pública y de distritos
- Introducción a la Guía Soporte de A2PBEER
- Herramientas externas de la Guía soporte
- Ejercicio de aprendizaje



A2PBEER adoptó un enfoque holístico, considerando los diferentes sectores en la cadena de valor de la energía!

Antecedentes sobre la caracterización de la construcción pública y de distrito

Definición Edificio

Público: edificios que son propiedad o están ocupados por autoridades públicas o están destinados al uso del público en general.

Aspectos Generales de la caracterización de Edificio Público & Distrito:

- Tipo y uso del edificio
- Características constructivas
- Morfología
- Año de construcción
- Sistemas de energía y uso
- Otros sistemas



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Image source: Pixabay

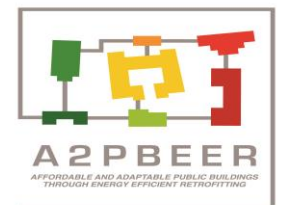
Categorización de Distritos Públicos

Distrito cerrado: Grandes extensiones propiedad del mismo organismo público. Generalmente limitados claramente: se separa de su entorno por una barrera física o funcional. La mayoría de los edificios son generalmente del mismo tipo con algunas distinciones. Ejemplos típicos: campus universitario, hospital

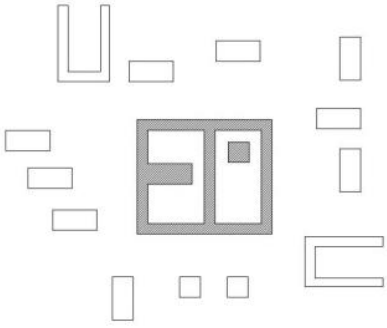
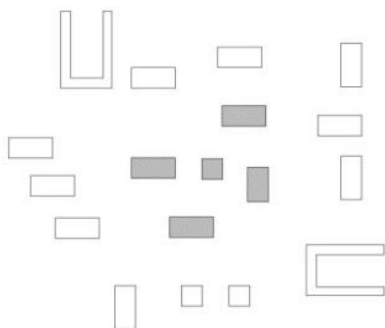
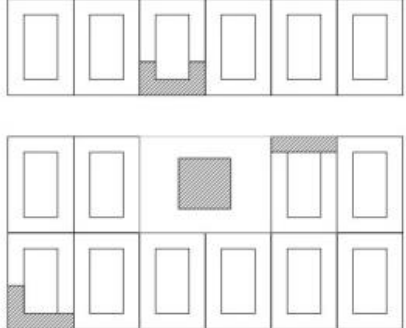
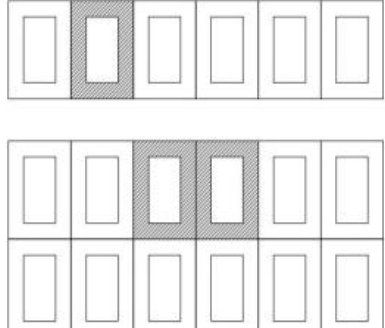
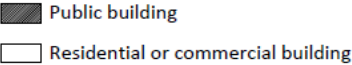
Distrito Abierto: Las barreras no están definidas por parámetros físicos, sino por el uso y la propiedad. Principales características: integradas en un marco urbano y más actores involucrados en el proceso de toma de decisiones. Generalmente tiene escasez de espacios abiertos y comparte servicios públicos con otros usuarios.

Tipos de Distrito Público basados en funciones:

- Distritos culturales
- Distritos educativos
- Administración
- Cuidado de la salud
- Deportivo
- Base militar
- Prisiones
- Transporte
- Lugares de culto
- Mixto
- Otros



Distrito Publico Morfologia

M1 Introvertido	M2 Campus	M3 Mixto	M4 Integrado
El Vaticano (IT) 	Olympiapark, Munich (DE) 	Budapest, Distrito Cultural (HU) 	Madrid Centro (ES) 
			
			

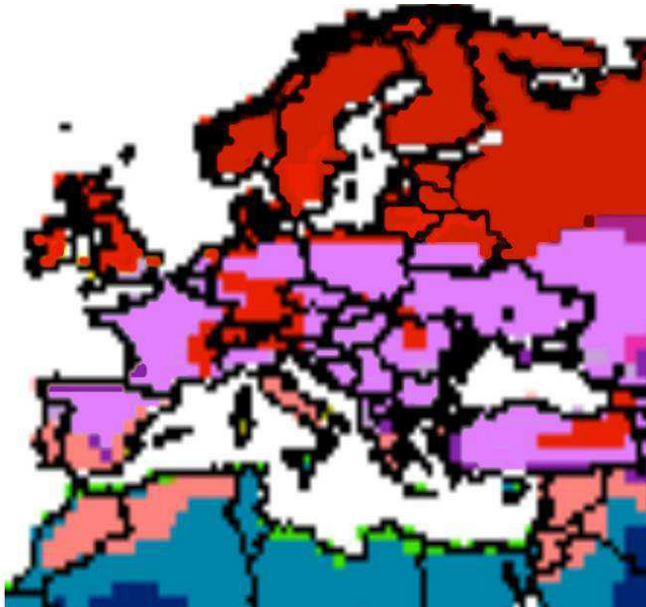
Factores que afectan la demanda de energía del distrito

Morfología del Distrito	Uso del Distrito	Infraestructura
Densidad Intensidad del uso del suelo (huella) Alturas del edificio Características de la calle Conectividad	Diversidad Índice del área residencial Edificios públicos / no residenciales en la zona Edificios industriales en la zona	Alumbrado público Suministro de electricidad Grado de desarrollo del transporte Energía renovable externa Calefacción / refrigeración urbana Gestión de aguas residuales

Clasificación Climática



Clasificación Climática

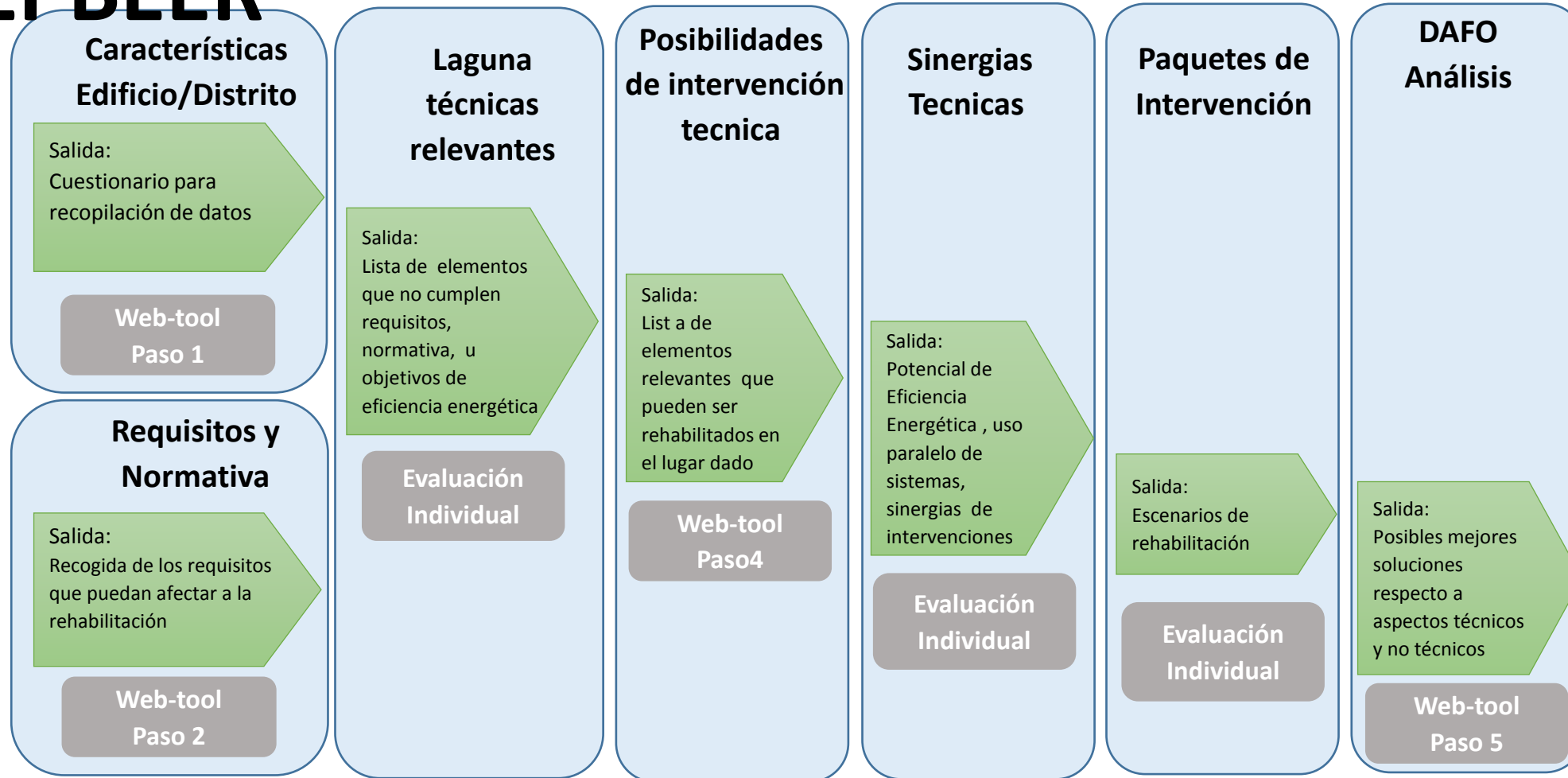


	Climate zone	CDD	HDD	Relative humidity	Average temp.
	Heating Only	<1000	≥ 1000	<50	Or ≤ 23
	Heating Dominated	≥ 1000 and <2000	≥ 2000 and <5000	<50	Or ≤ 23
	Balanced Heating and Cooling Demand	≥ 1000 and <3000	≥ 1000 and <3000	<50	Or ≤ 23
	Cooling Dominated	≥ 2000 and <3000	≥ 1000 and <2000	<50	Or ≤ 23

Además, consideraciones no técnicas:

- Restricciones financieras
- Restricciones legales
- Limitaciones organizacionales / institucionales
- Limitaciones de información

Diagrama de flujo de la metodología A2PBEER



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E
S

Comentarios de la Inversión
Análisis

Comentarios del retorno de la
inversión

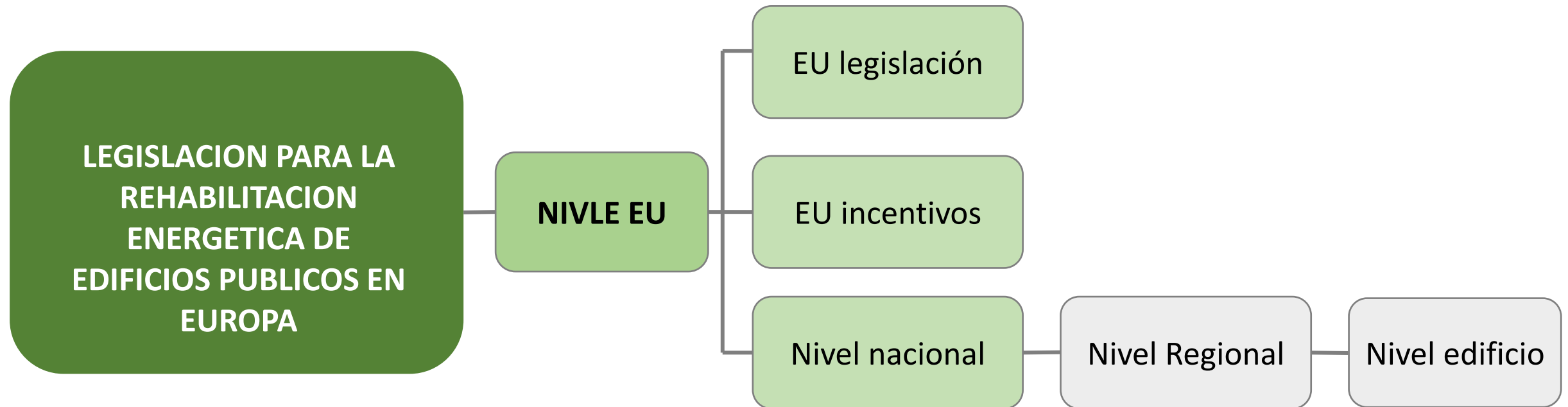
Análisis

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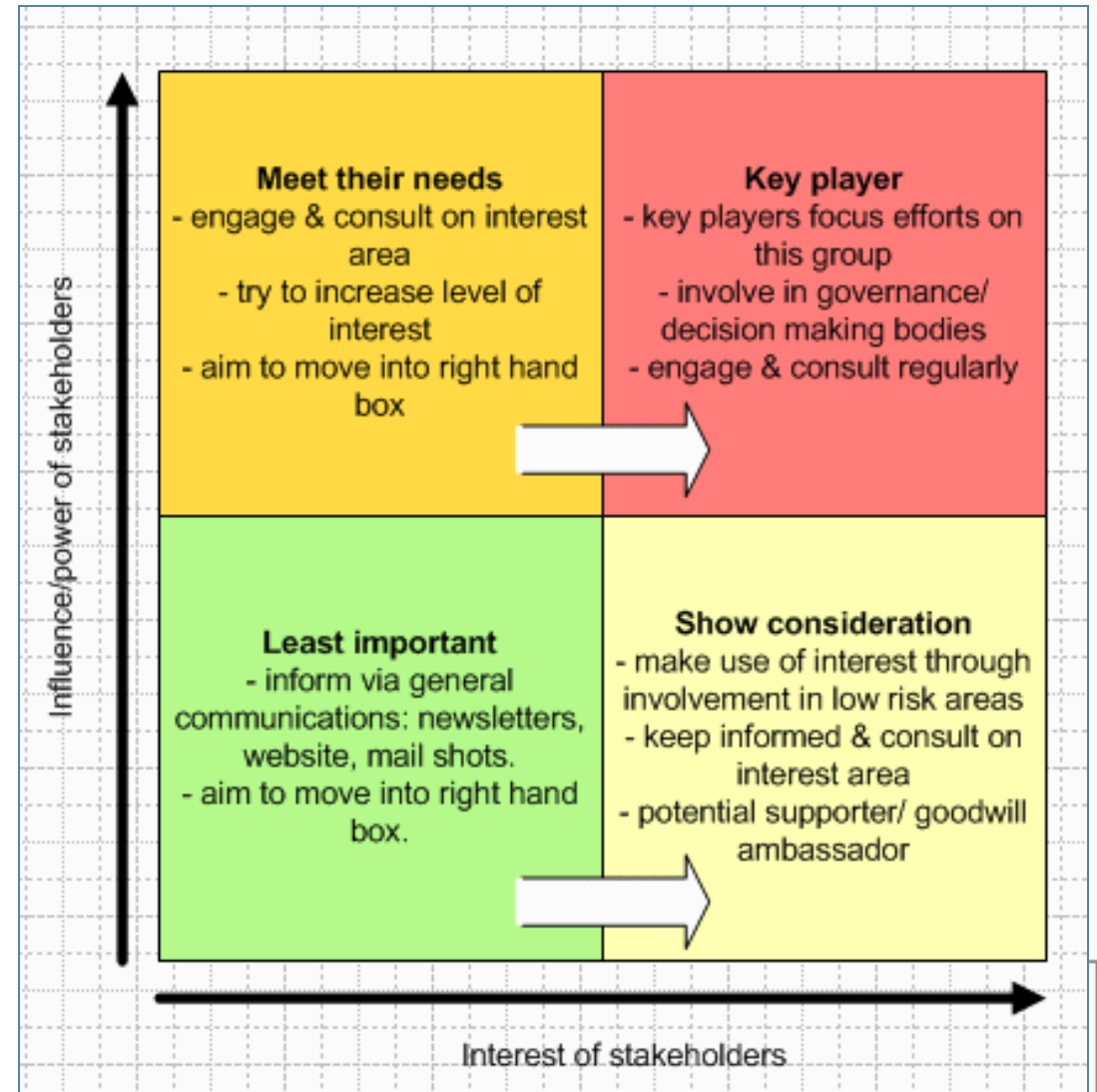
CARACTERÍSTICAS EDIFICIO / DISTRITO



Consideraciones Legales: Requisitos y Normas

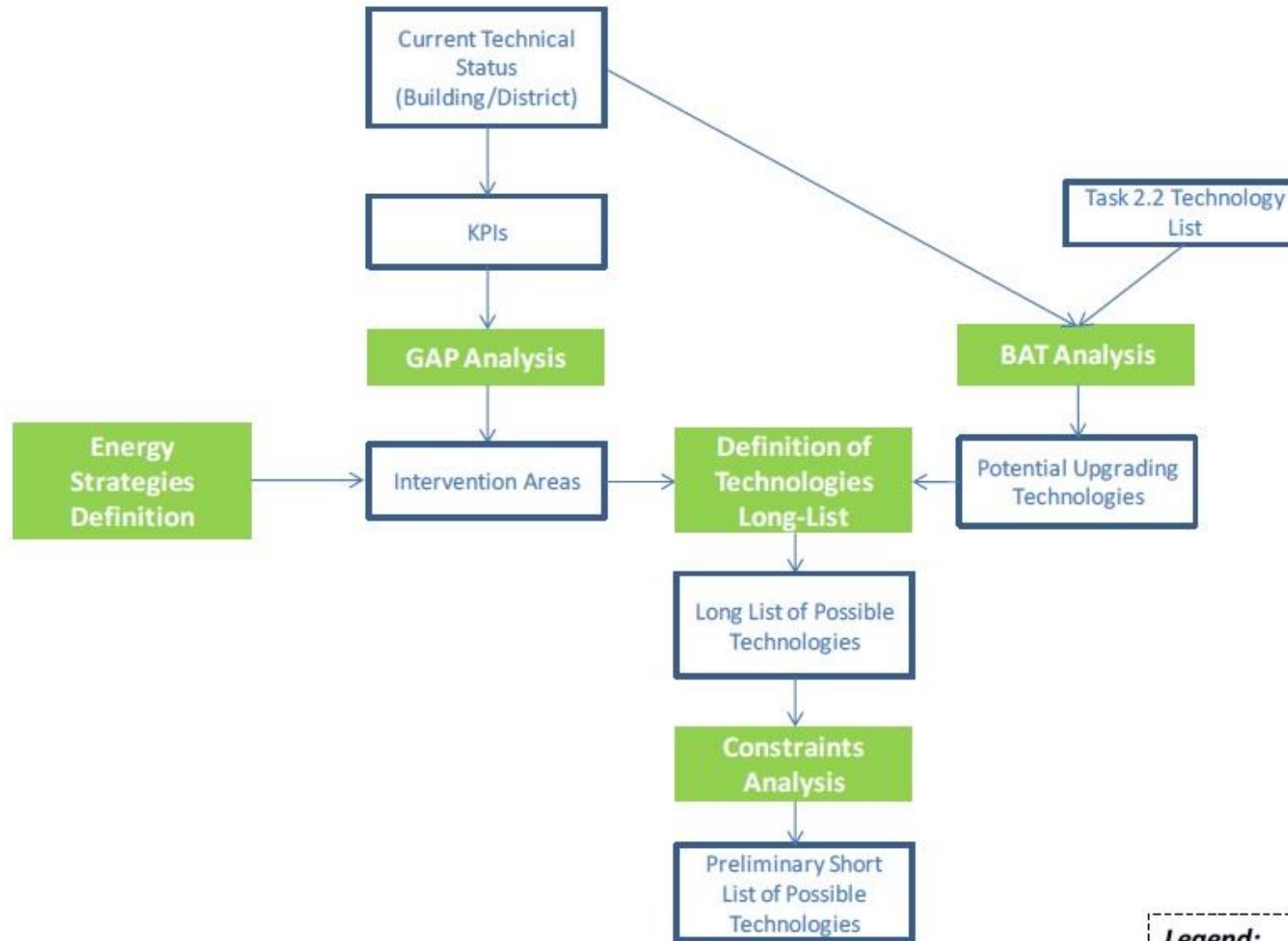


Analisis de los agentes



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Tecnologías Recomendadas



Legend:

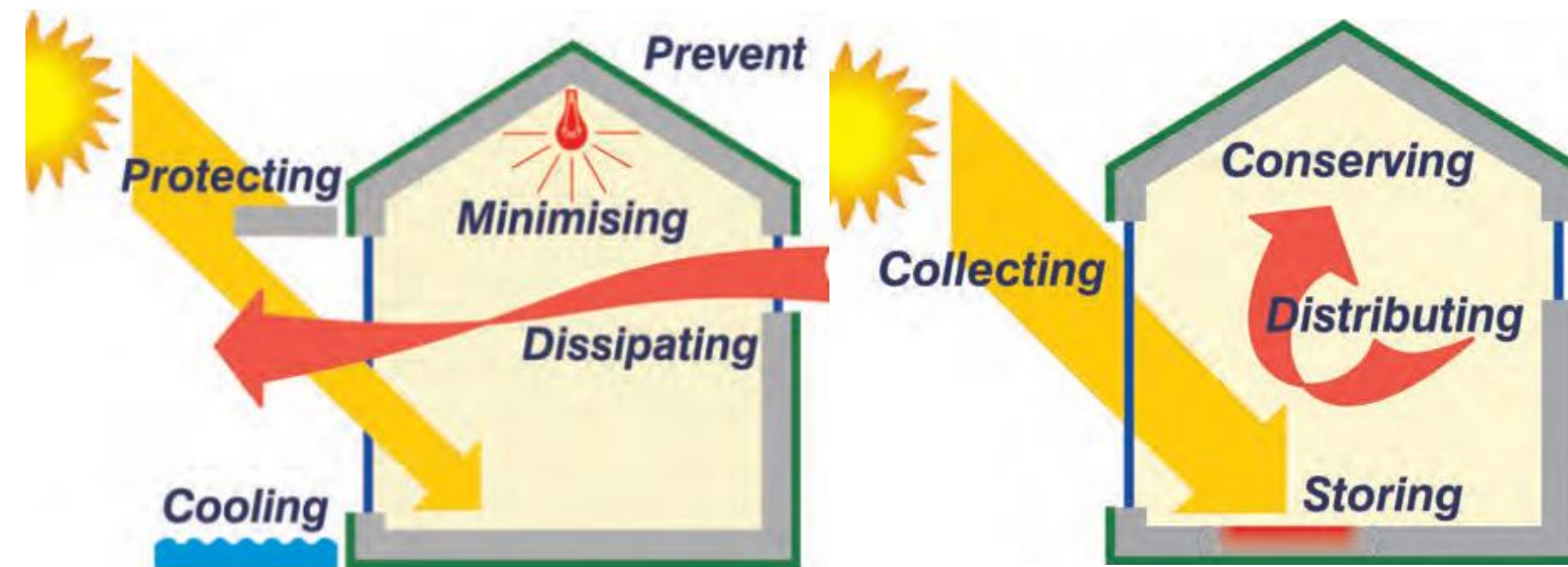
xxx

Input / Output

xxx

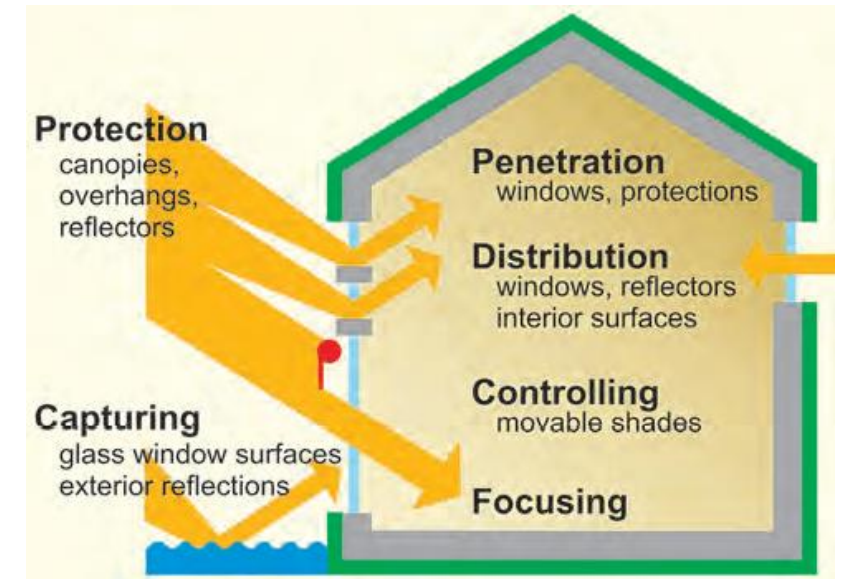
Operational Phase

Estrategias Energéticas



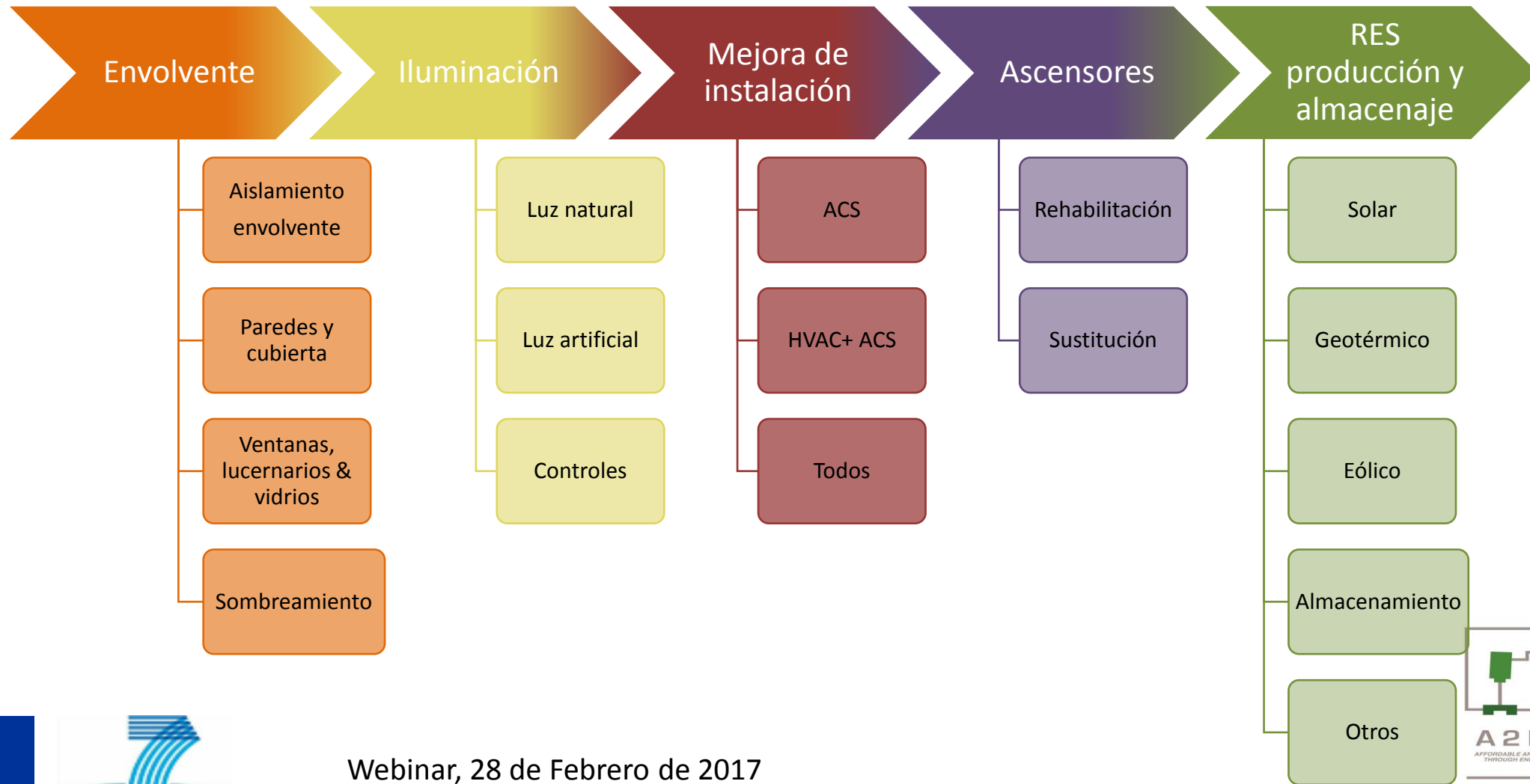
Estrategias para reducción
de Refrigeración

Estrategias para
reducción
de calefacción



Estrategias para incrementar
iluminación natural

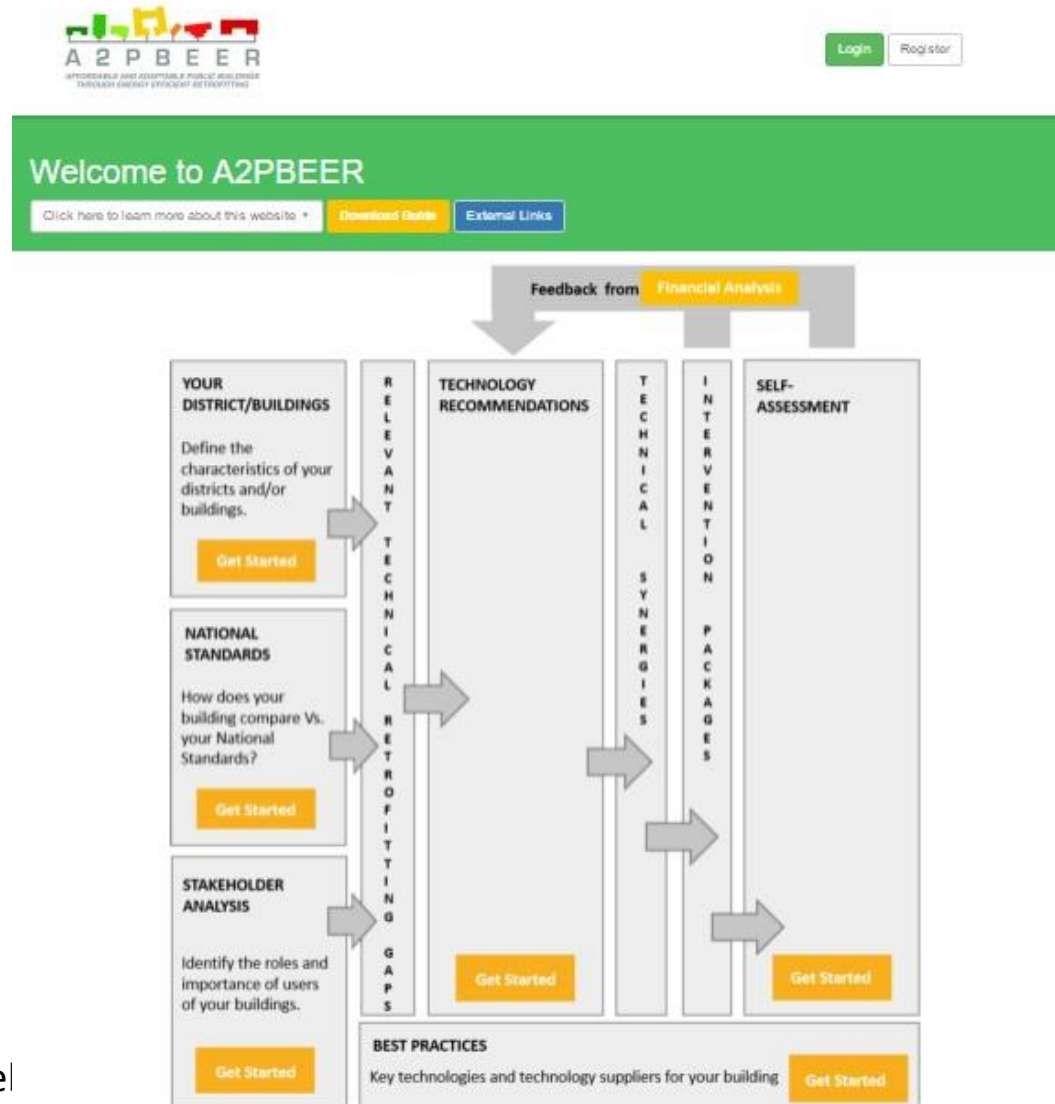
Categorías de Soluciones y Sistemas Tecnológicos



Análisis DAFO

Criteria Examples Advantages of proposition? Capabilities? Competitive advantages? USP's? Resources, assets, people? Experience	Strengths	Weaknesses	Criteria Examples disadvantages of proposition? Gaps in capabilities? Lack of competitive strength? Reputation, presence and reach?
Criteria Examples Market developments? Competitors vulnerabilities? Industry or lifestyle trends? Technology development and innovation? Global	Opportunities	Threats	Criteria Examples Political effects? Legislative effects? Environmental effects? IT developments? Competitor intentions - various?

Aplicación Web : introducción de la herramienta Paso a Paso



Wel

Welcome to A2PBEER

[Click here to learn more about this website ▾](#)
[Download Guide](#)
[External Links](#)

GUIDE FOR A2PBEER Support Guide Toolkit

Welcome to the A2PBEER Support Guide Toolkit. The aim of this Guide is to assist stakeholders in making best practice decisions on how to improve the energy performance of their public building or district. The Guide will outline the methodology on how to carry out a district and building assessment from the viewpoint of energy consumption. There are six stages to complete and each stage is explained clearly as you process the information, but if you need assistance there are help buttons to assist. The Guide can be applied to all public retrofitting projects and can be used as a general energy assessment of the site.

- Section 1 – Your District/Buildings: determines how the characteristics of the buildings and districts influence the energy consumption of the public buildings/districts. The importance of climate, microclimate are also explained and addressed in this section.
- Section 2 – National Standards: the implementation of National Regulations can interrupt, delay and postpone projects causing barriers in the successful realisation of any retrofitting project. This section collates necessary information prior to determining retrofitting methodologies.
- Section 3 – Stakeholder Analysis: is a gathering of information about the persons and organizations that have an interest and influence on the retrofitting project.
- Section 4 – Technology Recommendations: an outline of the available low energy efficient solutions and systems for retrofitting in buildings and districts dependent on climate, building type and usage.
- Section 5 – Self Assessment: SWOT analysis of technical, financial and legal categories.
- Section 6 – Best Practices: a database of relevant projects.

First and foremost: REGISTER!



A 2 P B E E R
AFFORDABLE AND ADAPTABLE PUBLIC BUILDINGS
THROUGH ENERGY EFFICIENT RETROFITTING

Register For This Site

Username

Email

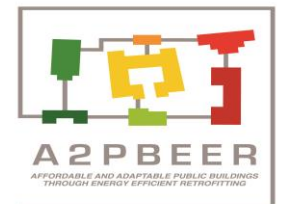
What colour starts with the letter G

Registration confirmation will be emailed to you.

Register

SEVENTH FRAMEWORK PROGRAMME

... puede iniciar la sesión para utilizar la aplicación A2PBEER!



brero de 2017



Paso 1. Tu Distrito/ Edificio

Your District/Buildings

Define the characteristics of your districts and/or buildings

Background Info ⓘ Help ⓘ

Add a building...

Choose an option...
Add a building...
Edit a building...
Delete a building...
Download Report...

Download Report

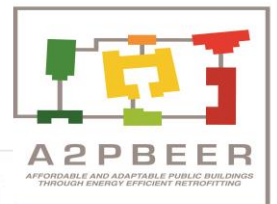
from the dropdown above.

Add a new Building

Building Name	Name
Building Location	Location
Building Function	Please select Please select Education Office Administration Academic Accommodation Event Hall Cultural Evening Cultural Day Health Care School
Scale	
Notes	

Close

Create



Your District/Buildings

Define the characteristics of your districts and/or buildings

Background Info ⓘ

Help ⓘ

Add a building... ▼

Download Report

Climate Data

District Data

Building Data

Other

Energy Consumption

** Mandatory Fields*

* Climate

Heating Dominated ▼



* Topography

Valley ▼



* Heat Island Effect

Site with potential heat island effect ▼



* Exposed to wind

Average ▼



Update

Next >

Paso 2. Normativa National



National Standards

Key recommendations for improved building energy performance

Background Info ⓘ

Help ⓘ

Bp test 01 ▼

Download Report

National
Standards Links

EU Level ▼
Select Region
EU Level
Spain
Sweden
Turkey

EU-LEVEL

Legislation

Energy Performance of Buildings Directive (EPBD): The EPBD requires Member States to set a requirement for the primary energy use of the building, expressed in kWh/m² per year, reflecting their national, regional or local conditions. [Link](#) Energy Efficiency Directive (EED): The EED aims at three targets. The first one concerns the indicative 20% target, i.e. energy consumption for the entire EU of no more than 1 474 Mtoe of primary energy and/or no more than 1 078 Mtoe of final energy in 2020.

The second target focuses on public buildings, i.e. from January 2014, 3 % of the total floor area of heated and/or cooled buildings owned and occupied by a central government must be renovated each year. The third aim concerns specific energy savings from an energy efficiency obligation (1.5 % of the annual energy sales to final customers of all energy distributors or all retail energy sales companies by volume).

[Link2](#) Directive on the promotion of co-generation (CHP-Directive) : [Link 3](#)

Paso 3. Análisis de agentes

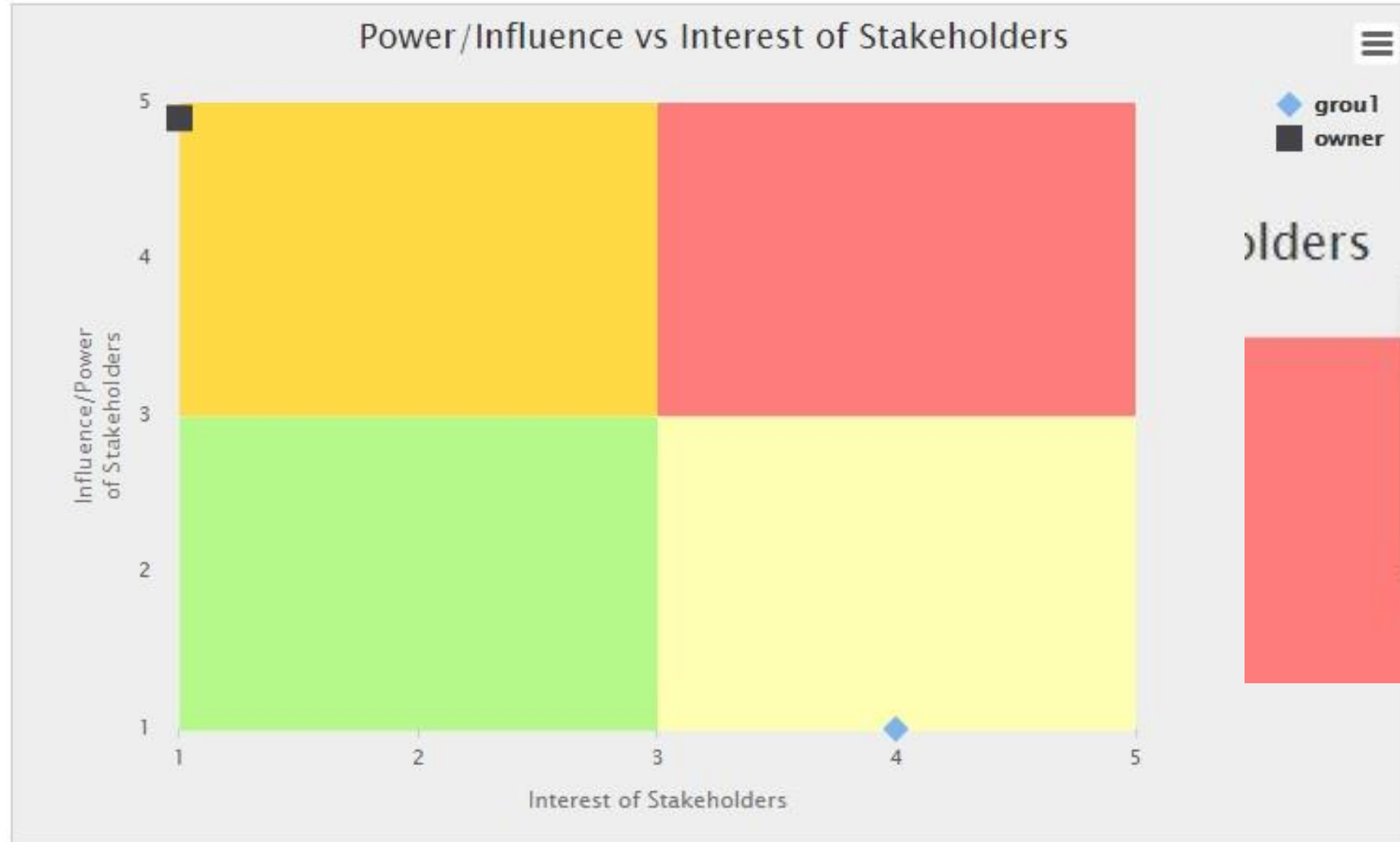
Stakeholder Analysis

Stakeholder #1	
Stakeholder or target group	grou1
How do they influence the product and innovations in retrofitting projects?	very
What are their interests?	energy efficiency
Level of power (1-5)	1
Level of interest (1-5)	4
Power/Interest group (KP, MTN, SC,LI)	Show consideration (SC)
Comments	very

Stakeholder #2	
----------------	--

Add Stakeholder

Update



olders

Print chart

Download PNG image
 Download JPEG image
 Download PDF document
 Download SVG vector image

Paso 4. Tecnologías Recomendadas

Filter Technologies for Bp test 01

Category	Please Select...
Scale	ENVELOPE BMS Renewable Energy production and storage
Stage	M&E Systems Daylighting Artificial lighting
Climate	Energy efficient equipment
Financial Evaluation	Please Select...
Heritage	Please Select...

[Search Technologies](#)

▼ Heating

▼ Cooling

▼ Ventilation

▼ Lighting

▼ DHW

▼ Electricity

Paso 5. AUTOEVALUACIÓN: DAFO

ANÁLISIS

Add SWOT

Download SWOTs

Add SWOT

SWOT Analysis Template

State what you are assessing here

Criteria
Examples
Advantages of proposition?
Capabilities?
Competitive advantages?
USP's?
Resources, assets, people?
Experience

Strengths

Weaknesses

Criteria
Examples
disadvantages of proposition?
Gaps in capabilities?
Lack of competitive strength?
Reputation, presence and reach?

Criteria
Examples
Market developments?
Competitors vulnerabilities?
Industry or lifestyle trends?
Technology development and innovation?
Global

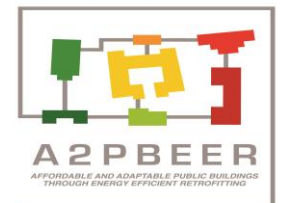
Opportunities

Threats

Criteria
Examples
Political effects?
Legislative effects?
Environmental effects?
IT developments?
Competitor intentions - various?

Add

webinar, 28 de febrero de 2017



Paso 6. BUENAS PRACTICAS

Best Practices

Key technologies and technology suppliers for your building

Background Info ⓘ

Help ⓘ

Best Practices/Case Studies

Download Report

Search Case Studies

Select Country ▼

Building Function ▼

Min Size (m2)

Max Size (m2)

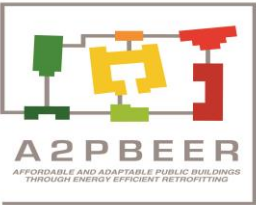
Intervention Year

Search

Download

Scroll to right to see full table ↘

Building Function	Name	Pre-existent	Construction	Construction (last phase)	Intervention date	Interventions	Insulat walls
	Professional Associations Hospital Ludwigshafen, Germany	1968-1999	1968	1999		Ventilation optimization by adaption of utilization times, reduction of pressure and volume flow. Planned: replacement of fans and HRV	
School	School in Stuttgart-Dillingen, Germany	1936, 1957, 1970	1936	1970		Additional insulation and window	



Herramientas Externas

External Links

This point gathers the links to external tools or webpages with relevant information for each of the sections of the WebGuide, i.e:

1. Building and district characteristics
2. Requirements and standards
3. Applicable technologies
4. Self assessment
5. Best practices databases

Evaluating alternative design solutions is made easier by the help of different modeling tools available online today (further analyze in chapter 1.4.4, however the output data, the level of expertise required and the resources needed to run the modeling tools are very diverse). Therefore, the chosen model should meet specific requirements depending on the level of accuracy needed. Using a complex modeling tool when there is rough knowledge of the building physics, may lead to erroneous results of building energy use. Hence, it is important to select the self-assessment model that better suits to our project status, and tools have been classified with increasing complexity.

. Building and district characteristics

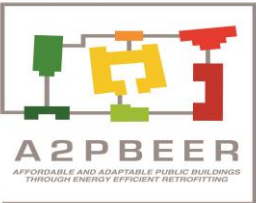
Information from D2.1 and D2.2 will be introduced in this point.

. Requirements and standards

This chapter gathers the URL links to national building codes and the supporting software tools of the demosites countries.

. National building codes requirements and standards

countryName		Scope/features	links
Spain	Código Técnico de la edificación	National building code with the requirements that construction works have to meet. Herramientas para la valoración de la demanda energética y del consumo energético de los edificios residenciales y gran terciario	http://www.codigotecnico.org/web/recursos/documentos/
Spain	LIDER & CalenerGT		http://www.codigotecnico.org/web/recursos/aplicaciones



Información Adicional en la herramienta

Your District/Buildings - Help

On this page you can add or edit your buildings or districts. There are 4 main options:

- Add a new building and define the building characteristics
- Edit a building and refine the building characteristics
- Delete a building
- Download a report about one or aspects of one or more buildings

Adding a New Building

Select the "Add a building" option from the drop-down and enter the information about your building/district

Edit a Building

This option allows you to define in detail the characteristics of your building. This is important as you can now get recommendations on how to improve the energy efficiency of your building and identify issues that need to be fixed.

Delete a Building

You may have entered a building in error so you can delete it using this function

Download a Report

You can choose one building or all of your building and you can chose to include one or more of the following in the report.

- Building Characteristics: This report outputs the characteristics of your building as entered by you.
- National Standards: Compares your building against the national standards for your country
- Stakeholder Analysis: A report of the stakeholders for your building rating their influence and power.
- Technologies: Based on the characteristics of your building we recommend the technologies you should use to fix any issues with energy efficiency.

Background Info ⓘ

Help ⓘ

Download Report

Tiempo para jugar!

<http://retrofit.a2pbeer.eu/>



**Por favor pruebe por si mismo
la herramienta Guía soporte de
A2PBEER!**

Muchas gracias por su atención!



Webinar, 28 de Febrero de 2017