GTR 2014 REPORT

NATIONAL STRATEGY FOR BUILDINGS' RENOVATION

Key Steps to Transform Spain's Buildings Sector

Coordinated by:

GBCe green building council españa

FUNDACIÓN CONAMA

Sponsored by:

European Climate Foundation

FUNDACIÓN la casa que ahorra

URSA uralita

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Chapter 1

INTRODUCTION.
WORKING GROUP FOR BUILDINGS RENOVATION
GRUPO DE TRABAJO SOBRE REHABILITACIÓN (GTR)

Rehabilitation Working Group 2014 "GTR"

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Grupo de Trabajo sobre Rehabilitación 2014 "GTR"

This report has been reviewed by 25 International and Local Experts

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Chapter 2 EXECUTIVE SUMMARY

Looking forward

This report has been reviewed by 25 International and Local Experts

GTR 2011 Report

Has gained momentum among Spanish policy makers and private sector

GTR 2012 Report

It is an update which has furthered the model and its conclusions

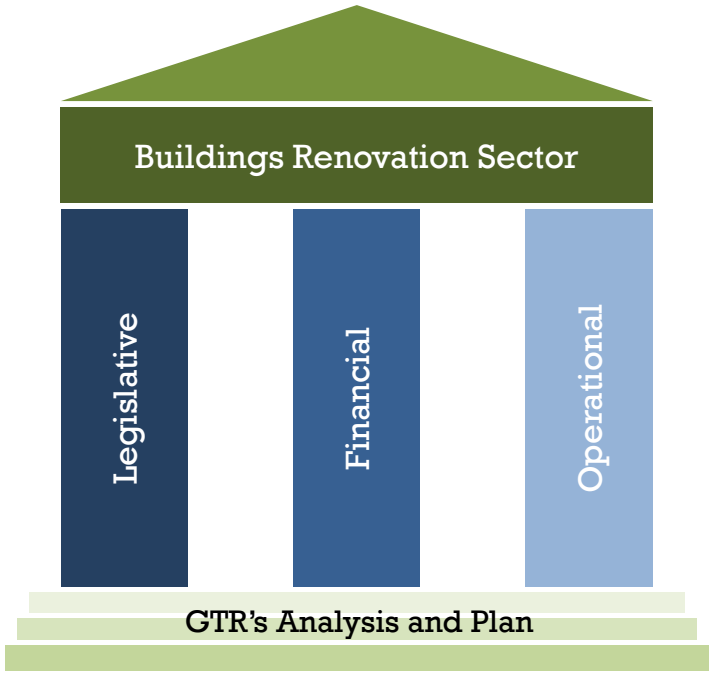
GTR 2014 Report

A National Strategy for Rehabilitation

GTR 2014 REPORT

Three pillars of the National Strategy for the Renovation of Buildings

GTR has identified six key steps for a long-term buildings renovation roadmap in Spain



1	**Political Leadership**
2	**An Action Plan**
3	**New Legislative Framework**
4	**National Energy Efficiency Fund**
5	**Renovation Agency**
6	**Open source data**

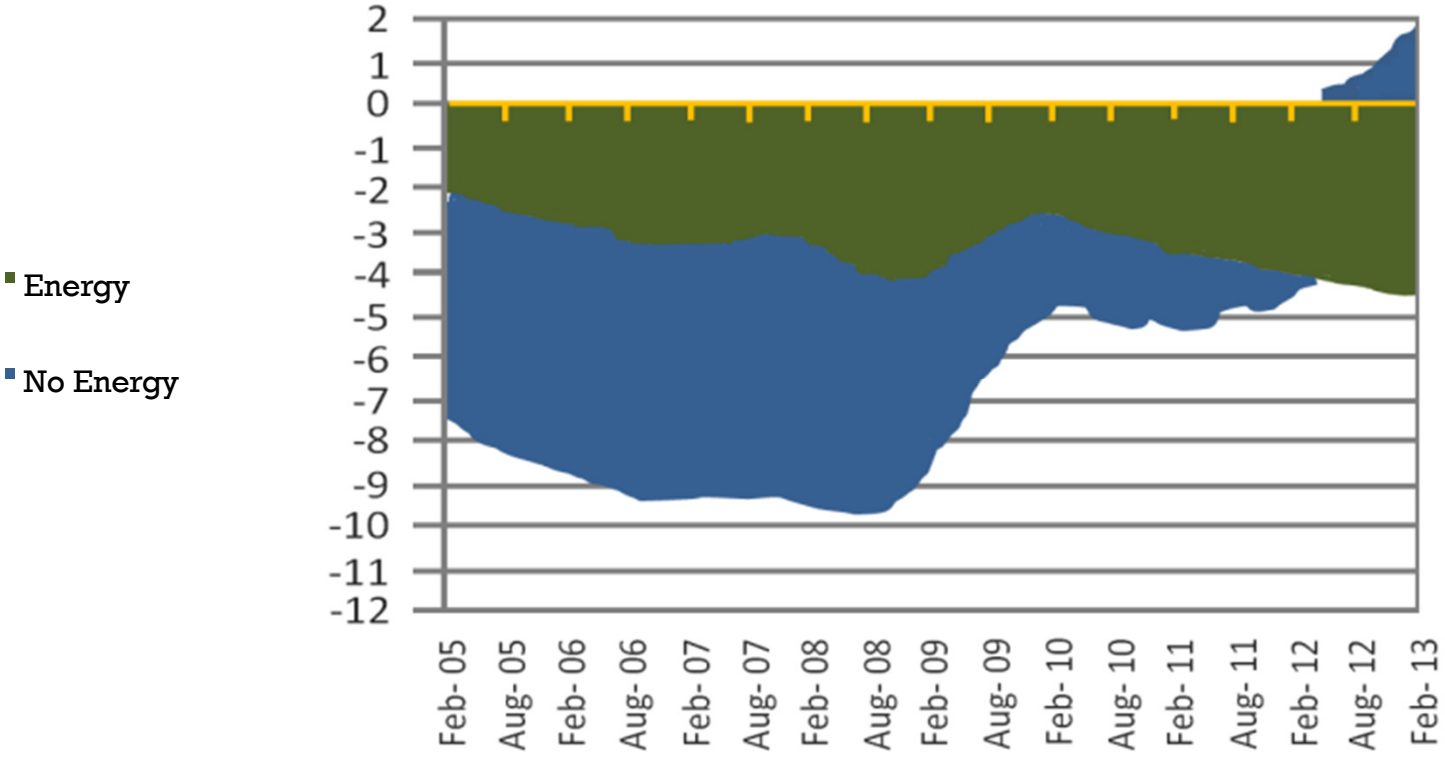
Chapter 3

Energy and Building Efficiency in Spain

Spain's energy dependence is of 76%

Energy Efficiency is key to balance the country's commercial trade deficit

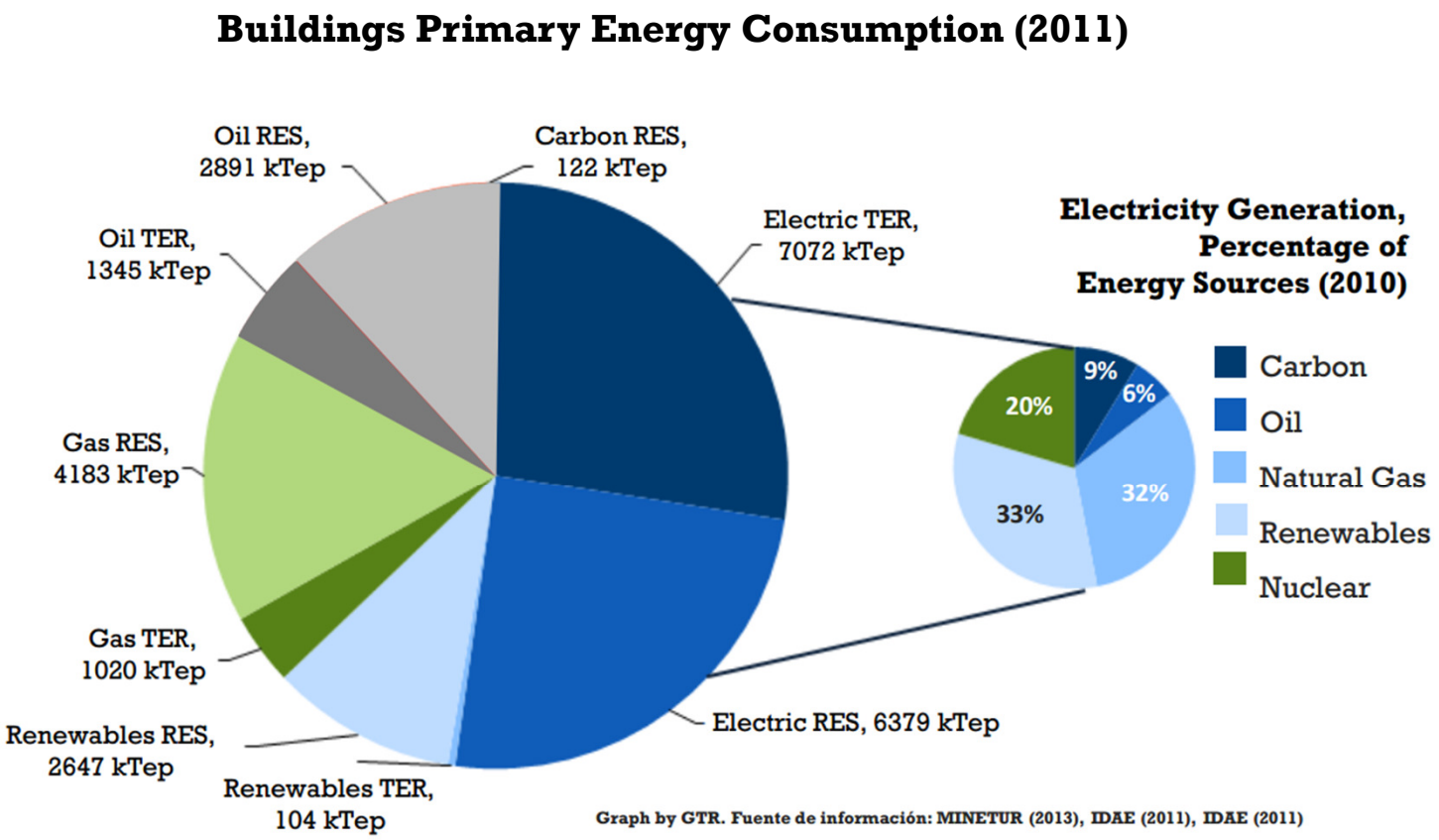
Commercial Cumulative Balance, 12 months (GDP Percentage)



Source: BBVA Research (2013)

Energy Security and Economic Growth

Energy Efficient Buildings can deliver Long-term Prosperity

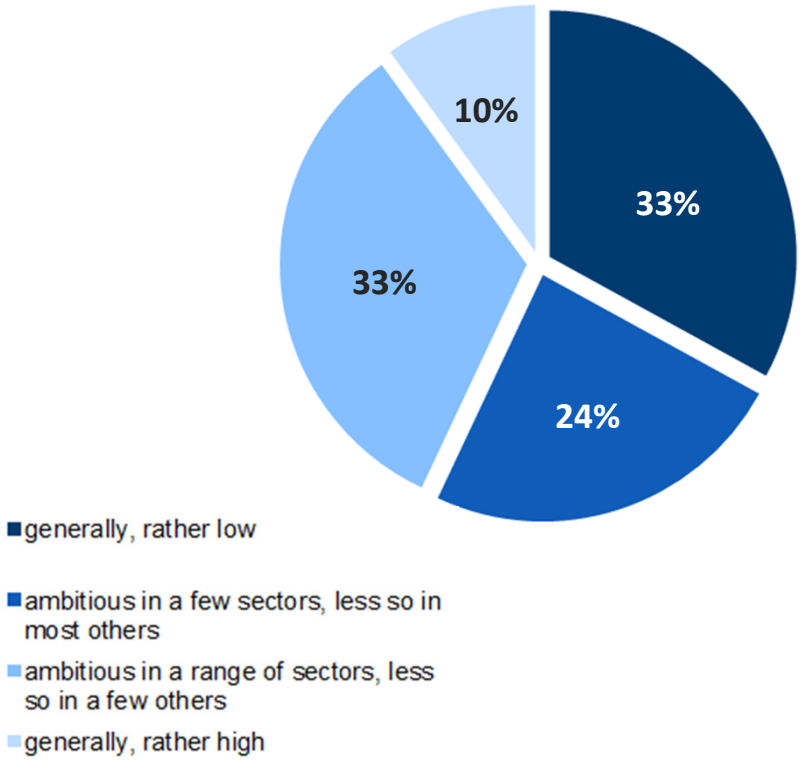


Source: BBVA Research (2013)

Energy Efficiency has not been a priority

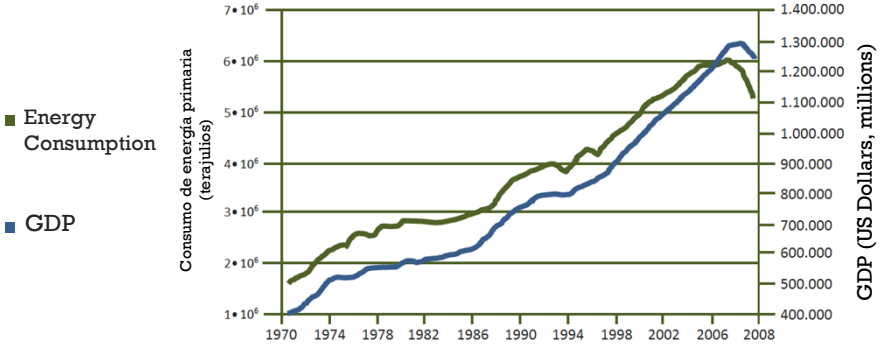
The Spanish Economy shows a correlation between GDP and energy

Energy-Efficiency-Watch Summary of Spanish Energy Policy Ambition-2013



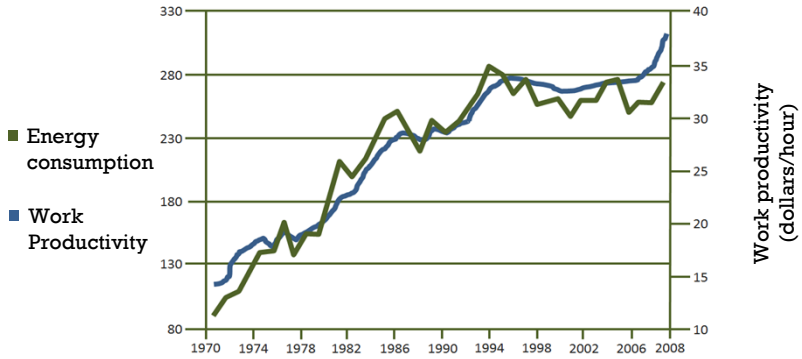
Graph by GTR, Data Source: Energy Efficiency Watch (2013)

Correlation between Primary Energy Consumption and GDP



Source: Investigación y Ciencia (2012)

Correlation between Energy Consumption and Productivity



Source: Investigación y Ciencia (2012) **Slide Constructed by GTR based on the work of:** Ramos Martin (2013)

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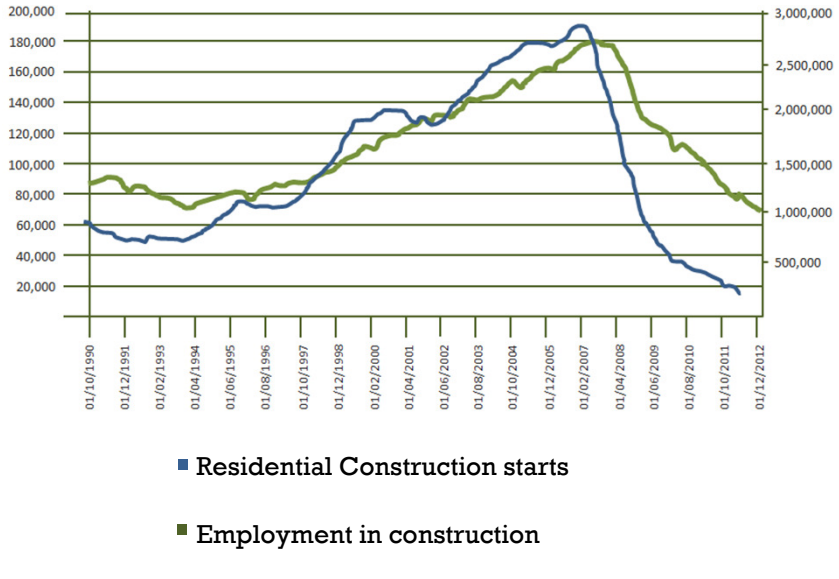
A new focus for the buildings Sector

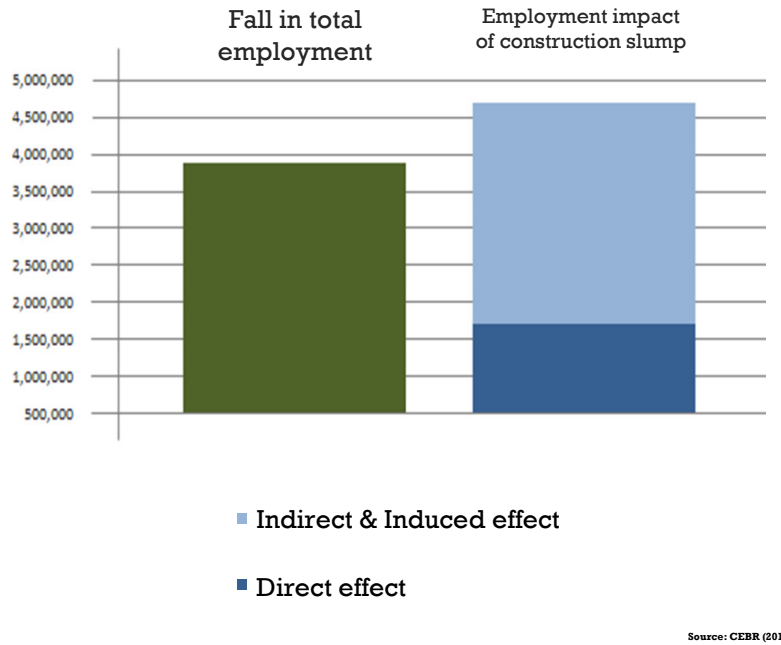
Skills & Innovation can form the basis of a new Buildings Sector in Spain

Employment in the construction sector (left) and one-year total of square meters of construction permits (right)



Source: CEBR (2013)

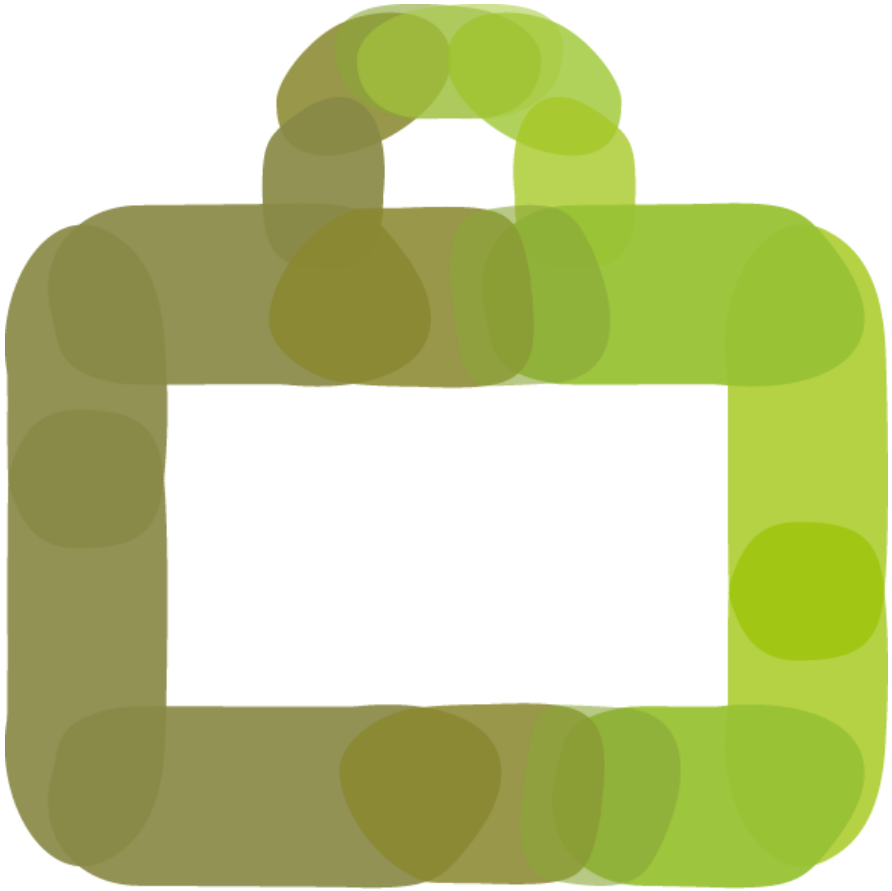
Change in Employment in Aggregate and in the Construction Sector between Q3 2007 and Q1 2013



Source: CEBR (2013)

Chapter 4

The Opportunity and GTR's Response



A proposal supported at Conama 2012

It is necessary to overcome barriers that currently prevent the development of the rehabilitation sector

Assessment

- **Energy Retrofit of Buildings in Spain** currently exists as a subsector of the Construction Sector.
- **Yet, the Energy Retrofit of Buildings** is set to become the Construction Sector's main activity.
  - —A series of barriers prevent its development
- **What needs to be done to unlock its great potential?**

Proposal

1. Barriers need to be broken through reforms in the following arenas:

- Legislative
- Financial
- Operational

2. Without barriers:

The Energy Renovation of the Spanish Building Stock

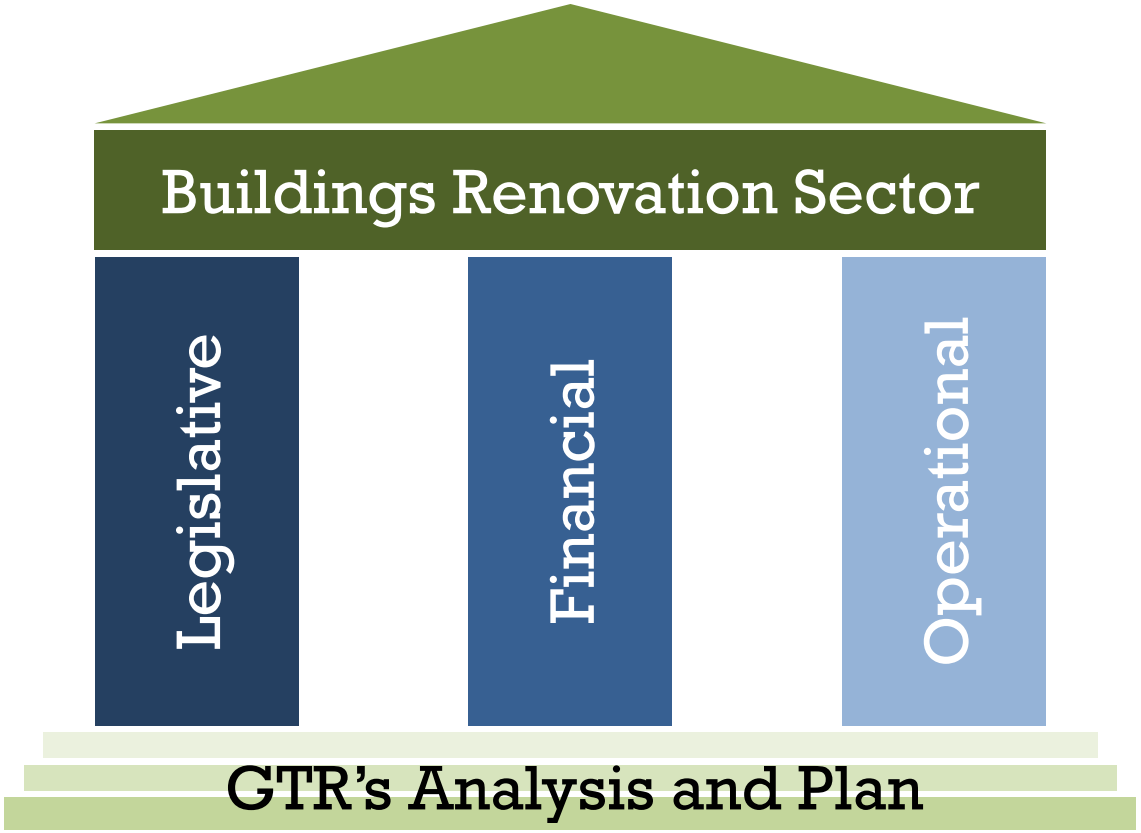
Can Ignite

A New Buildings Renovation Sector

Chart by GTR, Data Source: Conama (2012)

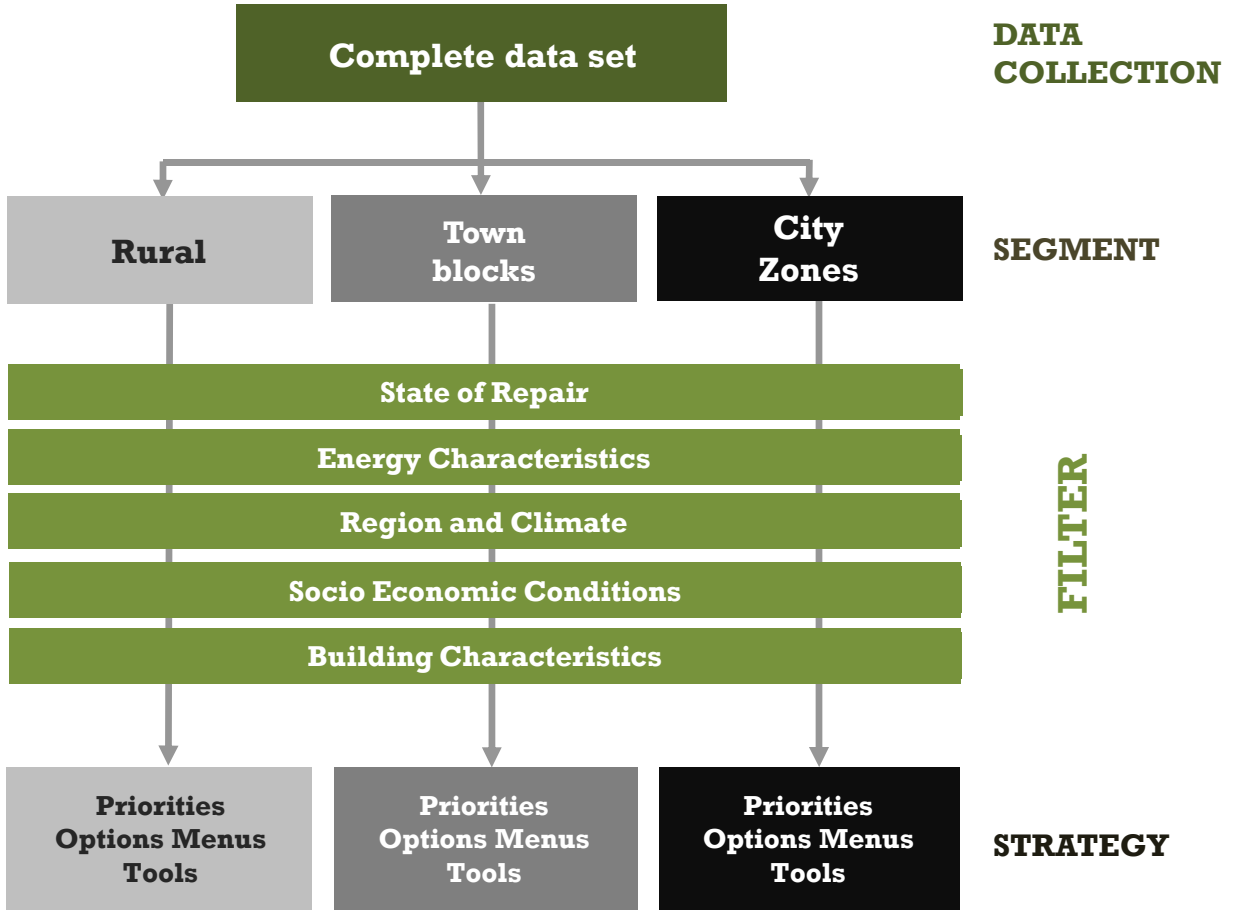
Diagnosis of Spain's Building Challenge

Designing an Approach to Understand and Resolve Issues



GTR's Methodology: Step by step, "Bottom-up"

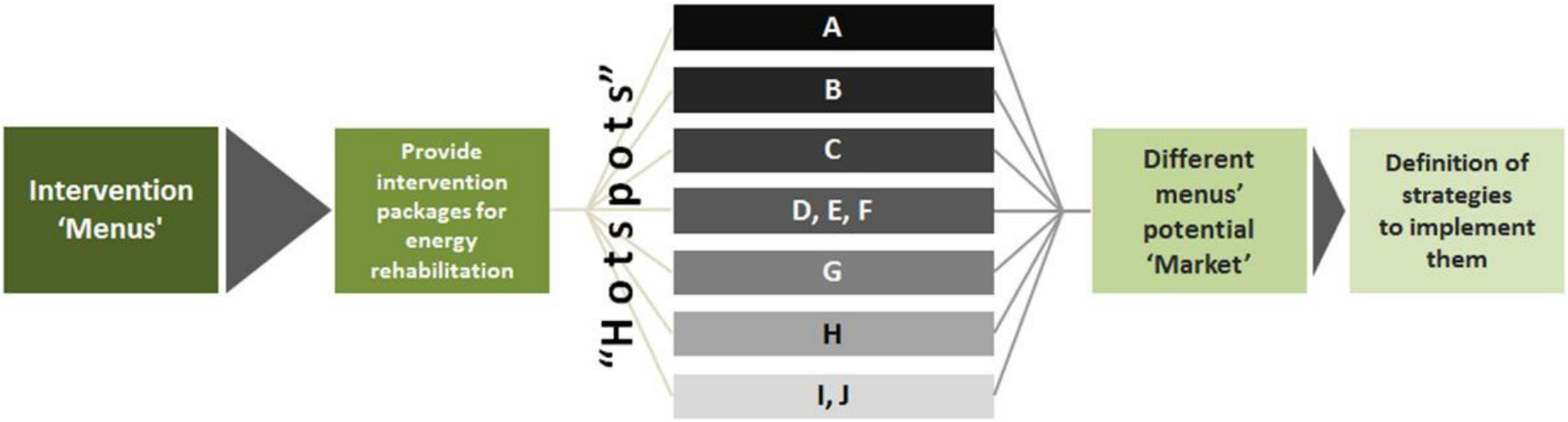
Residential Building Segmentation



GTR's Methodology: Step by step, "Bottom-up"

El modelo económico utilizado tiene en cuenta más de 80 parámetros

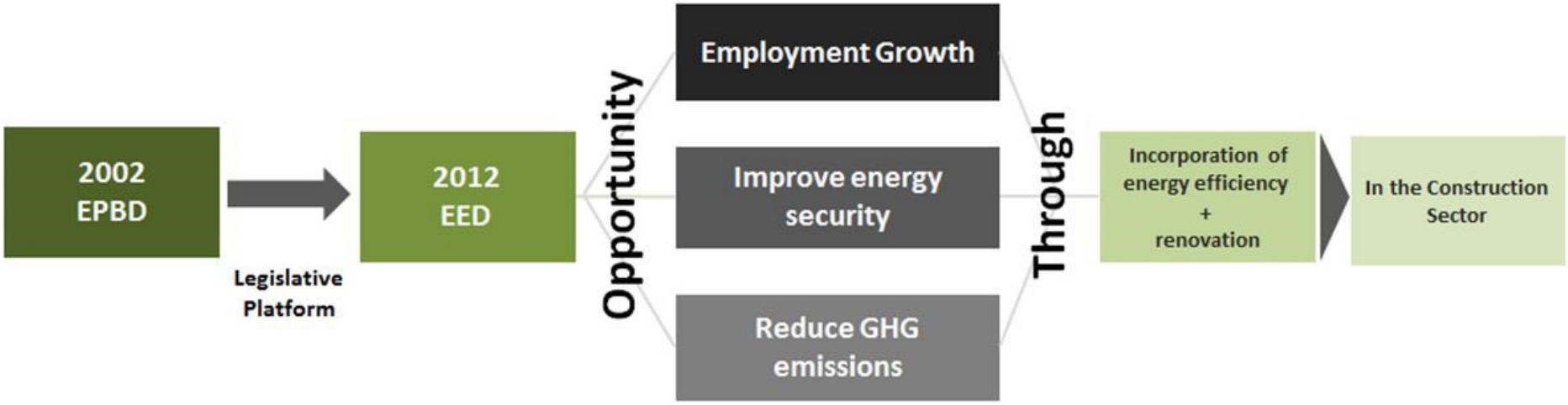
GTR's Methodology segments the physical reality and applies an "Intervention Menu" approach to determine the cost and impact of the transformation.



GTR's Methodology: Step by step, "Bottom-up"

The economic model used has over 80 parameters

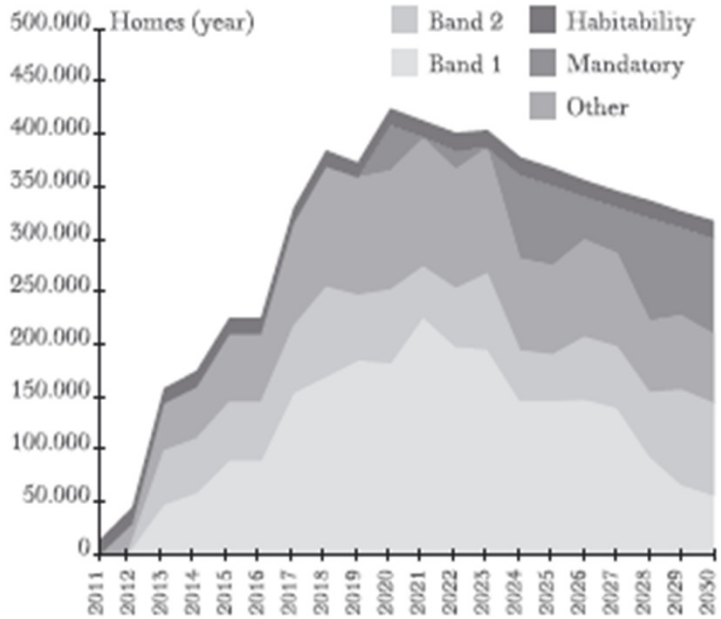
GTR has focused on the direct incorporation of the new legislative guidelines in the European Union's Energy Efficiency Directive 2012, as well as national and international best-practice processes and developments



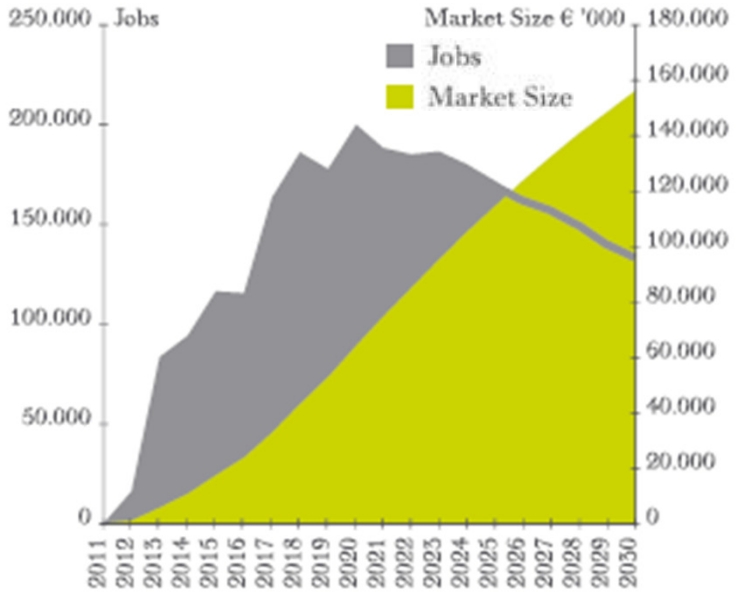
Implementation of the GTR plan, Results

Pre-conditions to Ensure the Success of the New Buildings Renovation Sector

Expected profile of the home renovation activity in the New Housing Sector delivered through the GTR Residential Buildings Action Plan.



The GTR Action Plan creates a home renovation market with an aggregate value of up to Euro 160 billion by 2030 and is capable of creating and sustaining 130-170,000 new jobs for individuals within the New Housing Sector.



GTR's Action Plan Delivers EU Targets

The renovation of 10 million homes until 2050 can create over 150,000 jobs

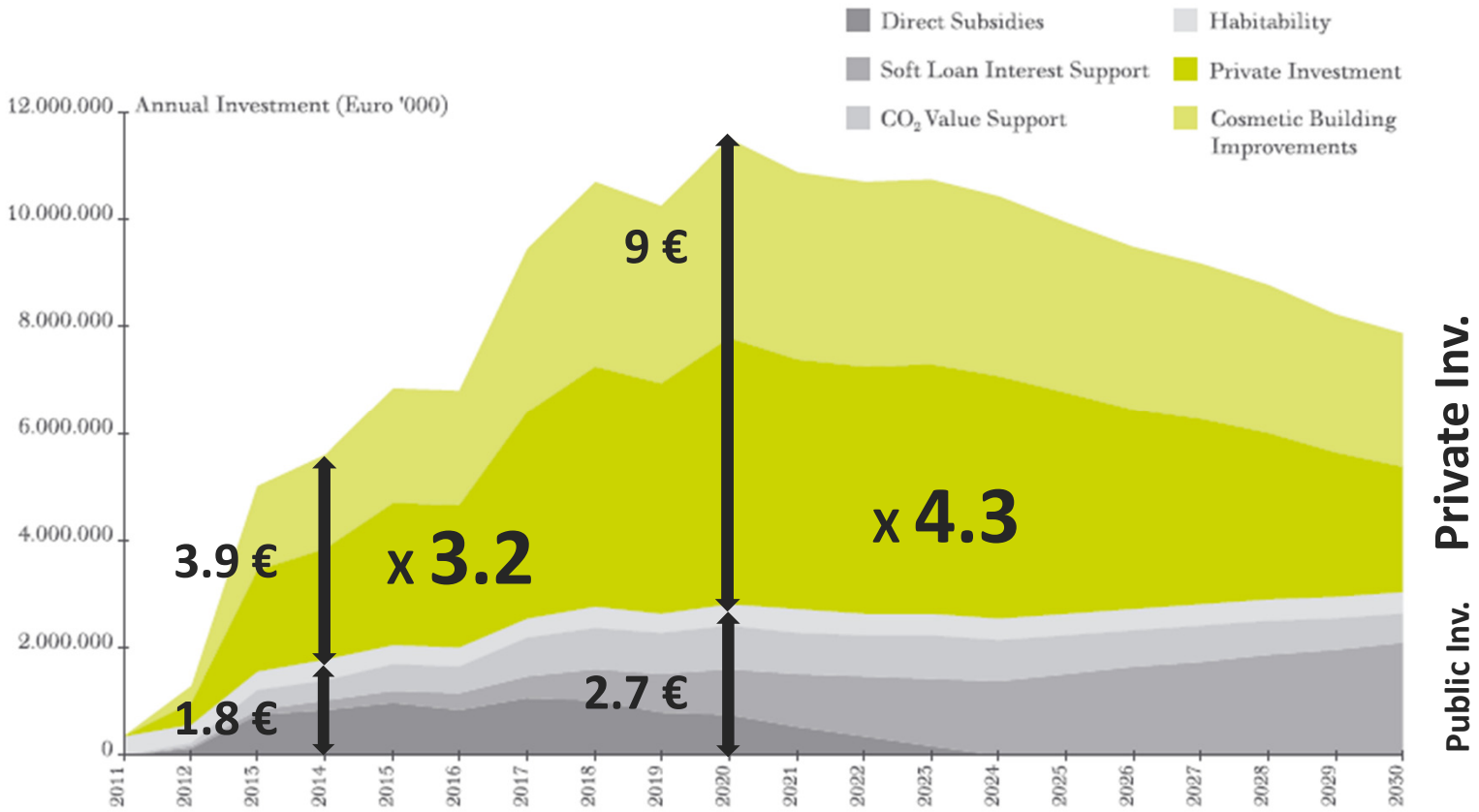
2020-2050 Results of GTR Action Plan

	2020	2030	2050
Number of Homes Reformed (2012-year)	2.200.000	5.700.000	10.000.000
(% of 2001 Primary Residential Homes)	14%	35%	62%
Aggregate Investment in Housing (€ mm)	64.000 €	160.000 €	260.000 €
Cumulative Investment only in Energy Efficiency	42.667 €	106.667 €	173.333 €
Energy Saved in Year (GW*hr*)	21.000	47.000	68.000
Cumulative Energy Savings since 2012 (GWh)	77.000	440.000	1.6700.000
CO_2 Saved in Year ('000 *Tons*)	4.600	8.300	8.600
(% Reduc. vs 2001 Residential Homes (inc. other measures)	24%	49%	82%
Cumulative CO_2 savings from 2012 ('000 Tons)	19.000	89.000	26.000
Accumulated Savings Energy and CO_2 from 2012 (€ mm)	11.000 €	81.000 €	390.000 €
Jobs Sustained (Period Average)	130.000	170.000	120.000
Subsidy Cost per Job (average over period)	13,694 €	14.144 €	n/a

Investing in Housing for Spain's Future

Creating a new job in renovation costs less than the annual subsidies of an unemployed worker

Annual evolution of the public and private finance sources, Investment Magnitude



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Five Key Factors for the Transformation of Buildings

Pre-conditions to Ensure the Success of the New Buildings Renovation Sector

1	**Adherence to Buildings Codes and Energy Performance Standards must be properly enforced.**
2	**White Certificates or similar energy efficiency obligations.**
3	**25% public support and/or public finance for deep renovation.**
4	**20 year financing at low rates (MAX. 5%).**
5	**“One Stop Shop” for all public-private finance streams and operators to deliver housing transformation.**

Investing in Housing for Spain's Future

Creating a new job in renovation costs less than the annual subsidies of an unemployed worker

Phases of the Plan

2012-2014
Policy Design and Launch Phase

2014-2020
Roll-out and Scale-up

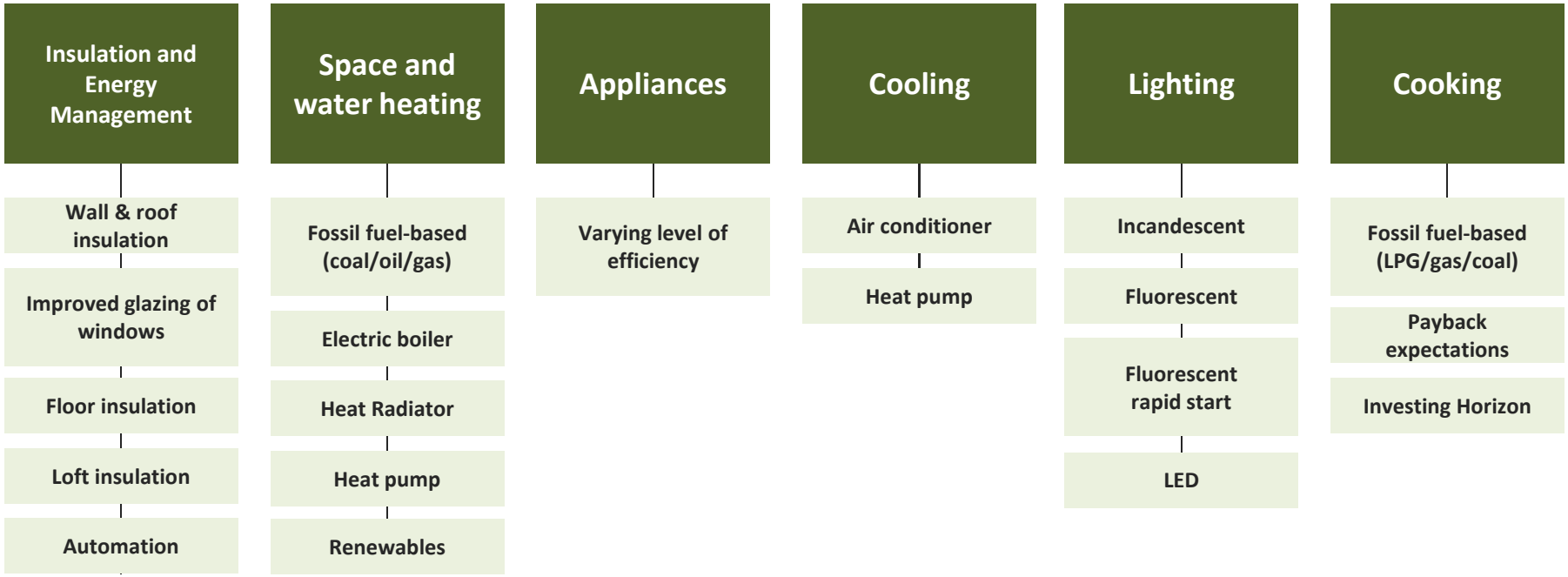
2020-2030
Steady-State

2030-2050
Mandatory Energy Performance

Opportunities to renovate tertiary sector buildings

They represent 35% of spain's buildings energy consumption and their potential savings are significant

"Menus" of Measures for the Rehabilitation of Tertiary Buildings



Source: IEA (2012)

Non residential sector strategies, summary

Different uses, consumption and potential savings

	n° Buildings	Thousand m2	kTOE total	Energy Distribution %				Savings %
				Heating & Cooling (just cooling)	Lighting	Hot Water	Equipment & Others	
Private Offices	900,000	90,000	2,000	55 (25)	20	5	20	45-55%
Small Businesses	780,000	95,000	3,000	60 (20)	20	5	15	30-50%
Shopping Centers (1)	10,000	20,000	1,000	40	45		15	30-35%
Hotels (2)	15,000	22,000	1,000	45	15	25	15	30-35%
Sports Centers	19,000-30,000		*100-200*	35 (10)	20	5	40	30-50%
Hospitals (3)	800	25,000	500	40	35	20	5	45-55%
Public Administration			*2,000*	*55 (25)*	*20*	*5*	*20*	*45-55%*
Public Schools	14,000	45,000	200	75	20		5	10-30%
Public High schools	4,000	30,000	50	*70*	*20*		*10*	15-30%
Universities	75	16,000	150	40 (10)	30		30	20-30%
TOTAL Commerce, Services and Public Admin.			10,000					35-50%

1. Refers to the retail area
2. Includes all residences used in the Tourism Industry
3. ¿? Surface: 48.274 m2
information and very approximate.

NB: *Italic and Blue* numbers are those which GTR has least

Graph by the GTR, data sources: Evaluación del potencial de climatización con energía solar térmica en edificios, IDAE (2011)

E4, IDAE (2004)
Seguimientos energéticos sectoriales. web IDAE (estudios, informes y estadísticas)
Balances energéticos anuales. web IDAE (estudios, informes y estadísticas)
PAEE 2011-2020

Non residential sector strategies, summary

Passive measures need to be supported to allow for deep rehabilitation

- **Key Differences from Residential Sector**
- **Buildings are often considered a financial asset**
- **A sector where many opportunities lie**
- **A Sector with its own Natural Barriers**

Capítulo 5 Regulatory Framework in Spain

The need for a change in the regulatory framework

An Appropriate Framework for the Renovation Sector will Stimulate Activity

- **The current regulatory framework of the Spanish Buildings Sector was conceived solely to regulate the construction of new buildings**
- **A specific regulatory framework for Rehabilitation activity is needed**
- **Spain's new law 8/2013 for Urban Rehabilitation, Regeneration and Renovation (3R) is a clear step forward**
- **A proactive strategy and new agency is required to allow for the development of a new regulatory framework**
- **Needs more than Just a Regulatory Framework**

State of the Regulatory Framework for the Renovation of Buildings

Spanish Legislators are taking steps, but More Leadership and Coordination is Required

Assessment of Intersection and Impact of Laws with Sector Needs Relevant Spanish Legislation	Facilitation	Economics	Standards and Policing	On-site Production	Engagement and Alignment of Resources
	• of Administrative Procedures • Procurement and Budgeting • Access to Data • On-Bill Repayment • EPCs	• Saving Energy Saves Money for Investor – alignment of interests with energy sector • Monetizing Green Value	• Establish cost optimal standards and ensure compliance through verification and fines • ESCO definition and standard contracts	• Clear unambiguous signals • Move toward "net positive" buildings	• Engagement of various actors • Energy Supply Obligations and National Energy Efficiency Fund, and Fiscal Policy
Sustainable Economy Law *(Ley 2/2011 de Economía Sostenible) (Capítulo IV del Título III)*	+				
Technical Code for Construction *(Código Técnico de la Edificación (CTE)* found in RD 314/2006)	+			+	+
Commonhold Property Law *(Ley de Propiedad Horizontal) (Law 49/1960)*	+				
Land Act *(Ley de Suelo) (RDL 2/2008, June 20th)*	+	+	+		+
Law 8/2013 of Rehabiliation and Regeneration *(Regeneración y Rehabilitación)* **And 2013-2016 Housing Plan**	+	+	+		+
2013 Energy Reform and proposed legislative approach to on-site production		-		-	
Building Management Act (L 38/1999 of 5th November) *Ley 38/1999, de 5 de noviembre, de Ordenación de la Edificación*	+	+			
Fiscal Policies		+		+	

The Energy Efficiency Directive Mandates Renovation

Spanish Legislators are taking steps, but More Leadership and Coordination is Required

Article 4: National Renovation Roadmaps

"Member States shall establish a long-term strategy for mobilizing investment in the renovation of the national stock of residential and commercial buildings, both public and private"

Long-term strategy that bring actors together

Involvement of all stakeholders (including cities)

- **Ensure local initiatives supported into coherent framework**
- **Ownership from stakeholders in the long-term**

Inventory of Full Building Stock: typology

Policies specific to national conditions

- **Useful to cities: know their potential**
- **Potential to group buildings – access to Structural Funds**

Source: Renovate Europe (2013)

Key Articles from the Energy Efficiency Directive

ARTICLES

- 5 **3% Renovation Rate of Public Buildings**
- 4 **National Renovation Roadmaps**
- 7 **Energy Supply Obligations**
- 8 **Energy Audits**
- 3 **National Indicative 2020 targets**

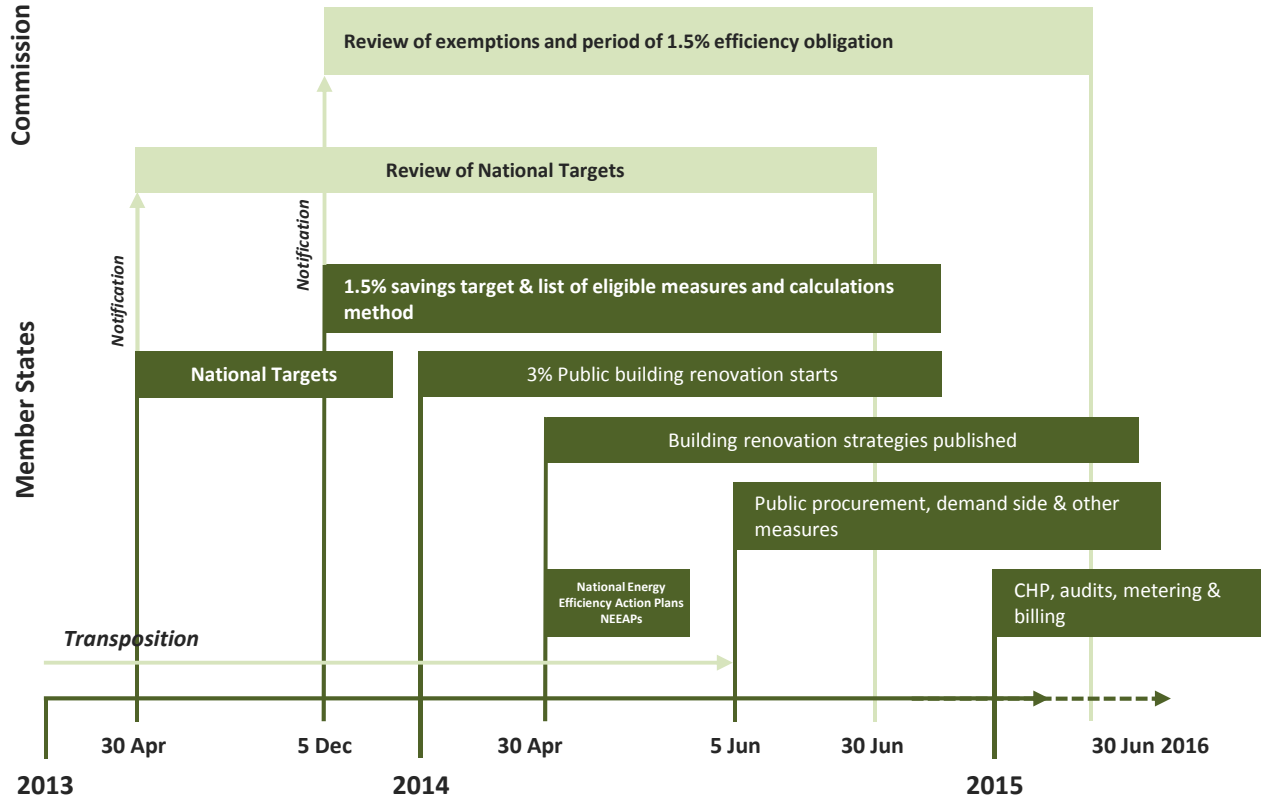
Stand as a coherent framework capable of delivering value through Energy Efficiency

Chart by GTR, Data Source: Renovate Europe (2013)

Transposition of the Energy Efficiency Directive in 2014

Timescales for its Transposition and Implementation before Summer 2014

EED's Relevant Deadlines and Targets



Source: The Coalition for Energy Savings (2013)

Laws and Policies to address the needs of the sector

Legislation and Objectives, degree of Impact

GTR Assessment of the potential impact of each Law on the four key Development needs of the sector

○ Nothing

◔ Little

◕ Plenty

● Decisive

	Quality Objectives	Economic Needs	Organizational Needs	Information and Participation Needs
	• Technical quality • Functional quality • Environmental quality	• Valuation and transferability on energy savings • Security and stability for long-term conditions	• Role of Stakeholders • Establishment of responsibilities • Definition of ESE and standards	• Quality information available • Transparency
Ley 38/1999, November 5th, Building Management Law *(Ley de Ordenación de la Edificación (LOE))*	◕	◔	●	◕
Technical Code for Construction *(Código Técnico de la Edificación (CTE)* found in RD 314/2006)	●	◕	◔	○
Commonhold Property Law (Ley de Propiedad Horizontal) (Law 49/1960)	◔	○	◕	●
Land Act (Ley de Suelo) (RDL 2/2008, June 20th)	◔	○	◔	◕
Law 8/2013 of Rehabiliation and Regeneration (Regeneración y Rehabilitación) And 2013-2016Housing Plan	◕	◕	◕	◔
2013 Energy Reform and proposed legislative approach to on-site production	○	◔	◔	◔
Regional and municipal regulation	◕	◕	◔	◕
Fiscal Policy	○	●	◔	◕

Renovation, to be defined by the Regulatory Framework

Spanish legislation must Facilitate a New business Model and Deliver Resources

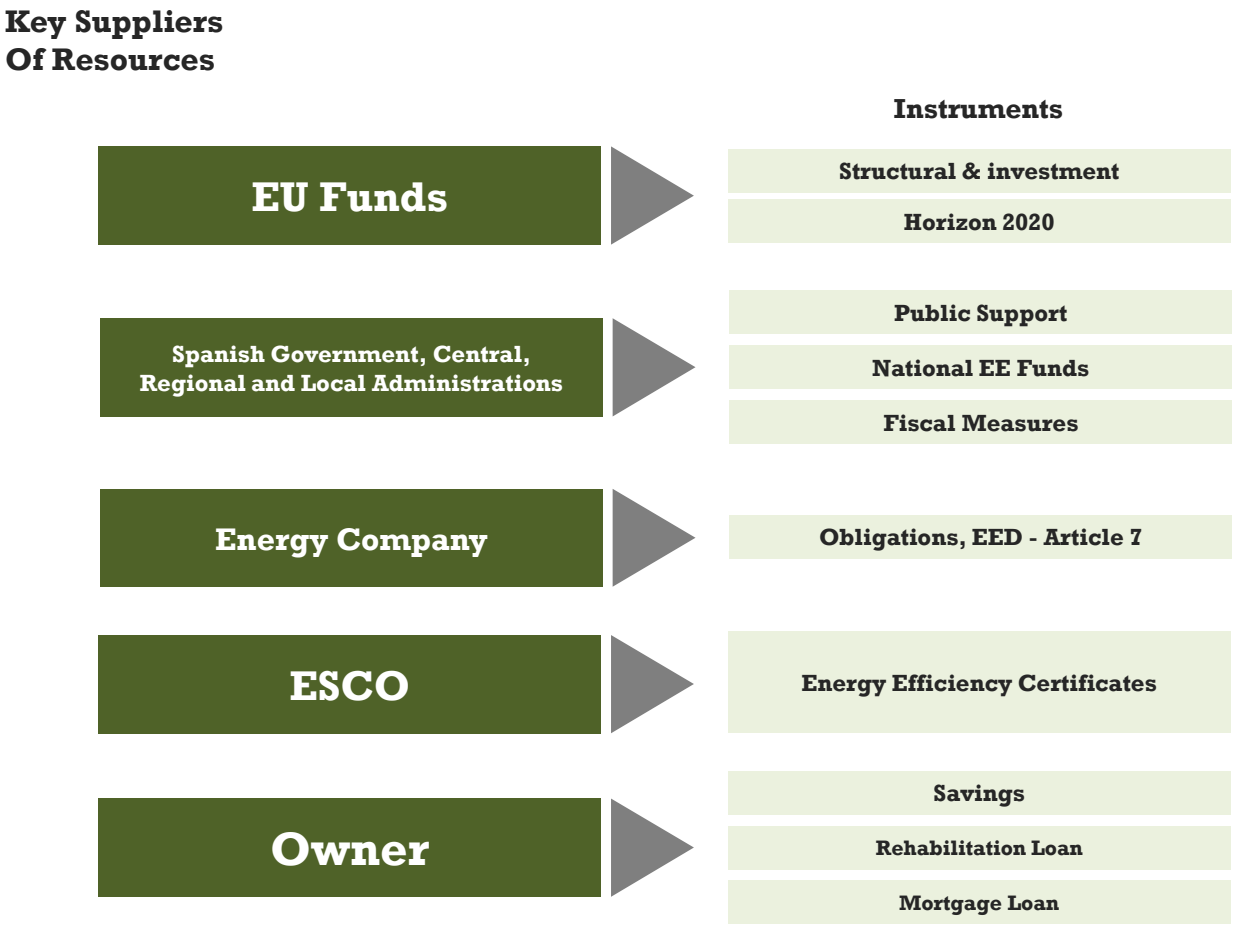
- **An Action Plan with clearly defined objectives**
- **A defined intervention within the regulatory framework**
- **Coordination among all regulatory areas, with a clear leadership**
- **A strategy to adjust regulatory standards based on experience**
- **Government Agency and National Energy Efficiency Fund to**
- **concentrate resources, expertise and focus**

Capítulo 6

Financing the Energy Efficient Renovation of Spanish Buildings

Renovation, Financing Sources

New and Innovative Finance mechanisms for the renovation of Buildings



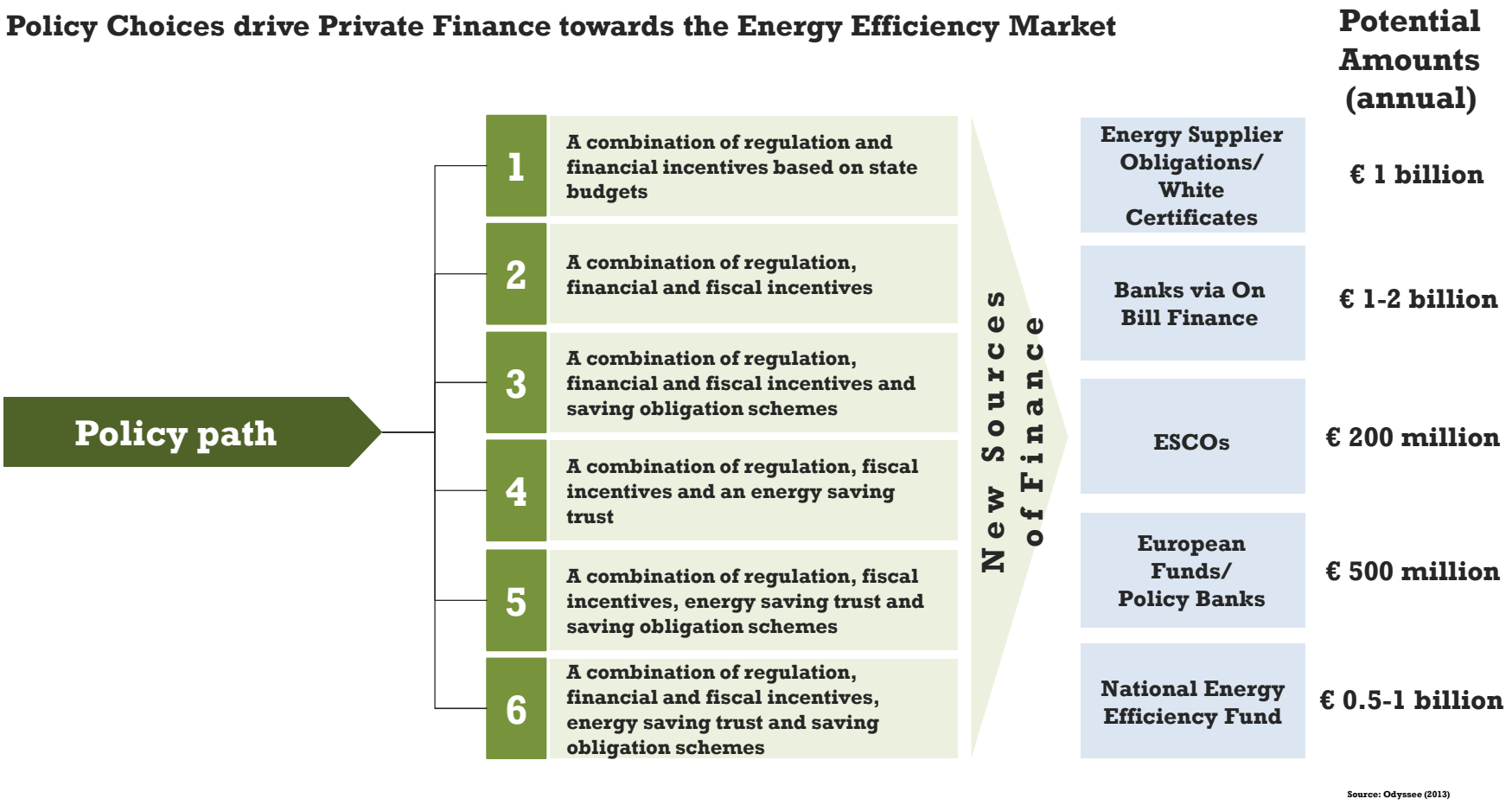
Reasons why Energy Efficiency Finance is not "Easy"

Financing Energy Efficiency is an Emerging Market with a Series of Hurdles

1	Financing "a saving" /reduced cash out flows
2	Split incentives
3	Aggregation Challenge
4	Perceived Higher Risk
5	Multiple Sources of Finance
6	Concentration of Banking Risk In Real Estate
7	Lack of Knowledge and capacity

Public-Private Financing is Appropiate

Yet, the amount and availability of private financing depends on the regulatory framework

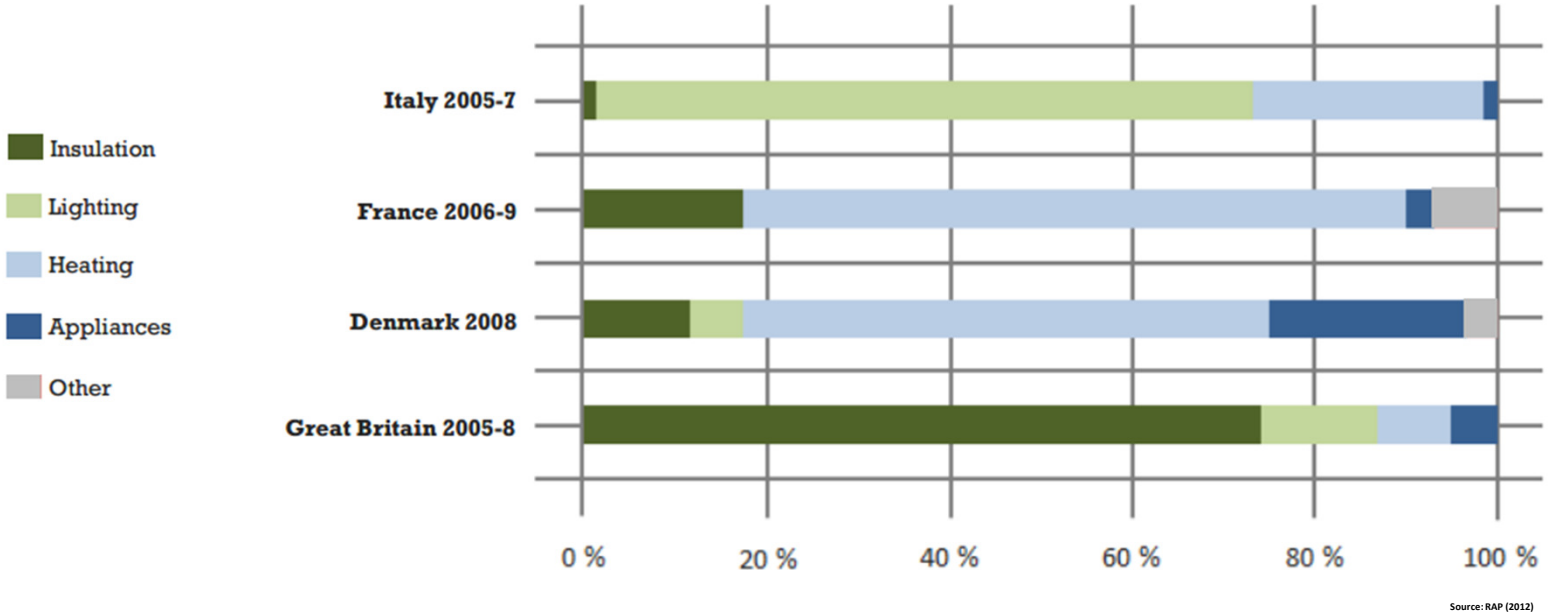


Source: Odyssee (2013)

Efficiency, Energy Companies are key Stakeholders

Obligation Schemes for Energy Suppliers have a substantial impact on savings

Residential Energy Savings by End-use



Source: RAP (2012)

The Design of an Obligation Scheme is Key

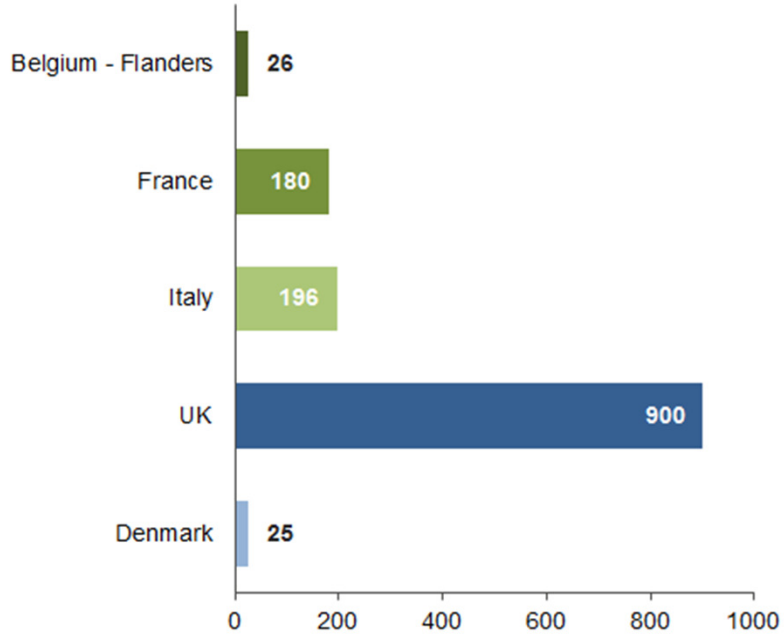
The Results and Amount of Resources invested by Energy Companies depend on the Regulatory Framework

Retail Energy Suppliers or Distribution Utilities are the "Obligated Entities"

Country	Obligated Company	Eligible Customers	Target set by	Administrator
Belgium - Flanders	Electricity distributors	Residential and non energy intensive industry and service	Flemish government	Flemish government
France	All suppliers of energy	All (including transport except EU ETS)	government	government
Italy	Electricity & gas distributors	All including transport	government	Regulator (AEEG)
UK	Electricity & gas distributors	Residential only	government	Regulator (Ofgem)
Denmark	Electricity, gas & heat distributors	All except transport or covered by EU ETS	government	Danish Energy Authority

Source: RAP (2012)

Amount of Resources Invested in EE by the Energy Sector by Country, 2008 – 2009 Est. (€M)



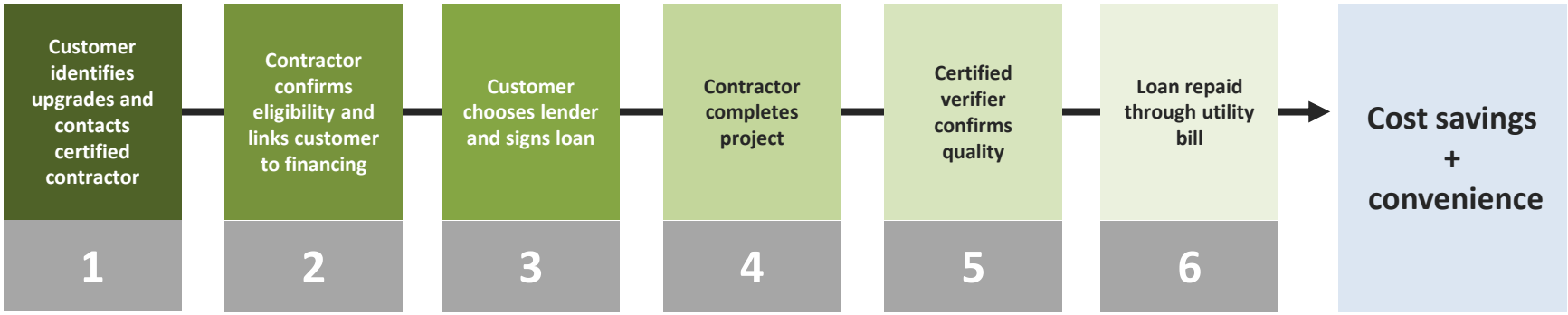
Graph by GTR. Data Source: RAP (2012)

An "On-bill" Repayment Channel can Attract Banks

Assuring repayments can be achieved through an on bill channel

Engaging third party financing sources can significantly speed up rehabilitation in Spain. These sources would be paid directly through an established consumer channel.

On-Bill Repayment Program, 6 Steps

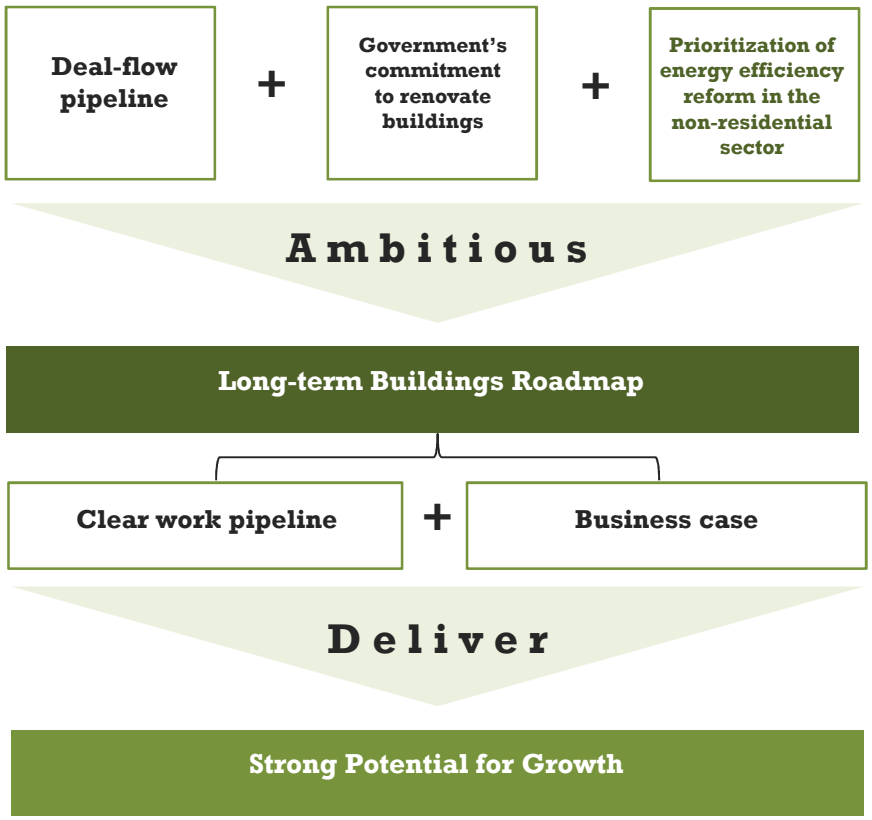


Graph by GTR; Source: EDF (2013)

New Financing Sources for Rehabilitation

Assuring repayments can be achieved through an on bill channel

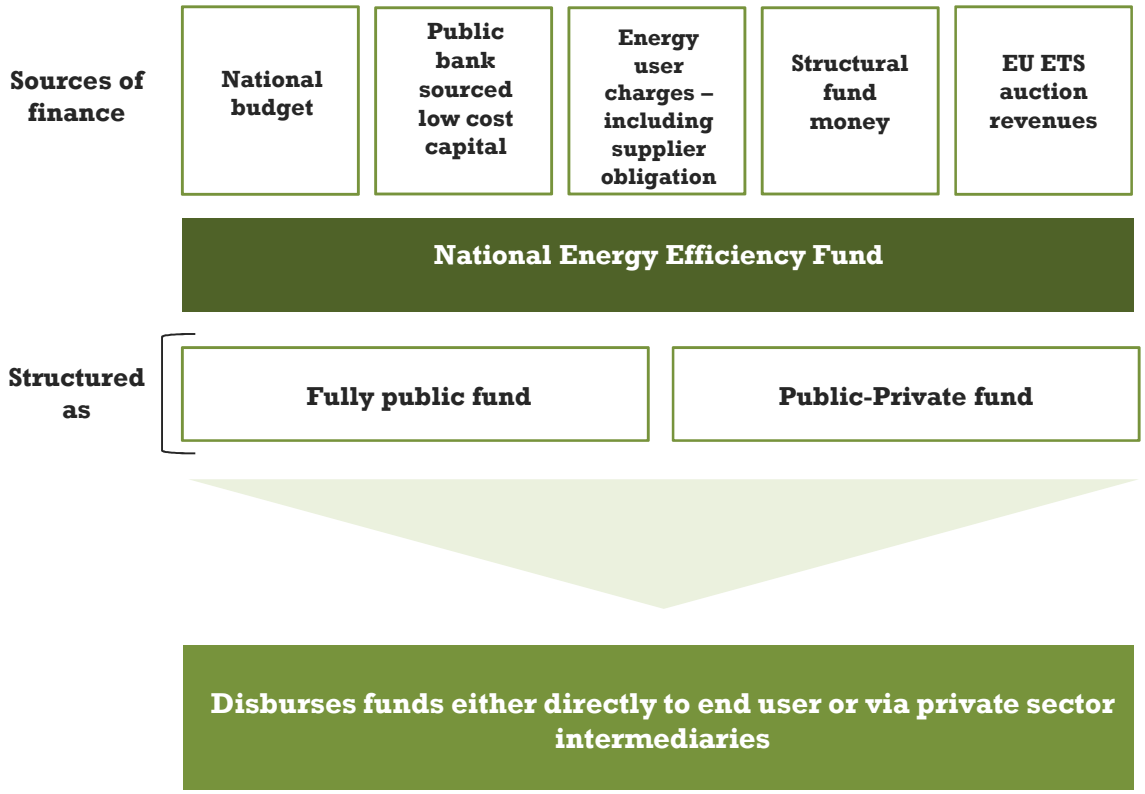
Appropriate Roadmap for ESCOs



Possibilities of an Energy Efficiency Fund

How an Energy Efficiency Fund can Stimulate Renovation

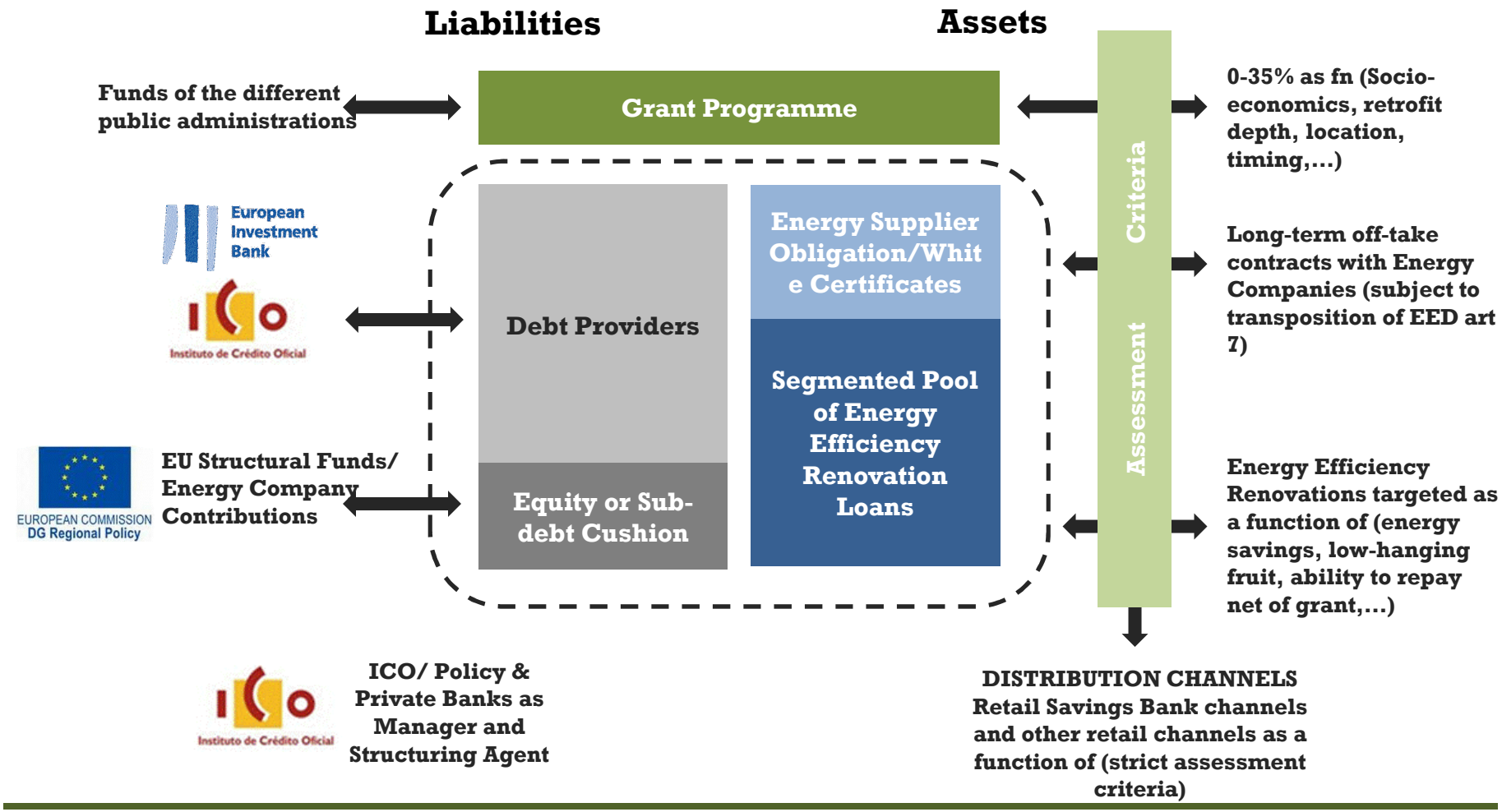
Design Criteria for a National Energy Efficiency Fund



Source: The Coalition for Energy Savings (2013)

Fund for Energy Renovation

Designed to Provide Long-term Low Cost Transformation of Multi-Family dwellings



Key Design Elements of an Energy Efficiency Fund

A Series of Critical Elements will allow a National Fund to Deliver Results

1	National Energy Efficiency Fund must be additional and fill the market gap for Long-term (20+ years) and low cost Buildings Renovation Finance.
2	Application Procedures Aligned to Deliver "One-Stop" Shop via various (and many) Retail Distribution Agents.
3	Ability to monetize White Certificates (or equivalent) directly with the Obligated Parties (eg. Long-term off-take agreement).
4	Accessed and Processed through the Retail Distribution Networks of various Sector Stakeholders (eg. Banks, Energy Companies and other Accredited Parties).
5	Opens and Accesses "On-Bill" Repayment Channel.
6	Designed to be use in combination of Structural and Investment Funds (2014-2020) with other public and private finance sources.

Financing is not the solution, but it is an essential Step

Challenges in the financial field to launch the Buildings Renovation Sector

	Present		Future
1	There is not enough money to renovate Spanish buildings and obtain the positive benefits this offers	TRANSFORMATION	The optimal transformation of Spanish buildings creates a market with investment growing from 2-10 billion Euro per annum to 2050
2	The energy efficient renovation of Spanish homes needs low cost 20+ year finance		Structural Funds, Government instruments (EIB and ICO) and a National Fund for Energy Efficiency are created to support sector
3	Any financing needs to be compatible with direct financial public support and fiscal measures through "One Stop" distribution		Centralized structures with large distribution networks (branches, invoices, installer network) as well as simple and accessible "One Stop Shop" costumer packaged products and services
4	The economic interests of the energy companies need to be aligned with the delivery of optimal energy refurbishment		An ambitious implementation of art 7 obligations on Spanish energy suppliers creates demand for optimal renovation
5	Spanish legislation needs to support optimal investment in the energy efficient refurbishment of multi-family dwellings		Legislative amendments support transparent energy data, incorporate "on-bill" payments and expedite decision-making
6	Instruments inherent to: National, regional, private sector, ESCOs, fiscal and funds must be coordinated to function and operate properly		An unprecedented level of coordination between public administration and the private sector to produce a user friendly service which is easy to understand and operate for consumers

Capítulo 7

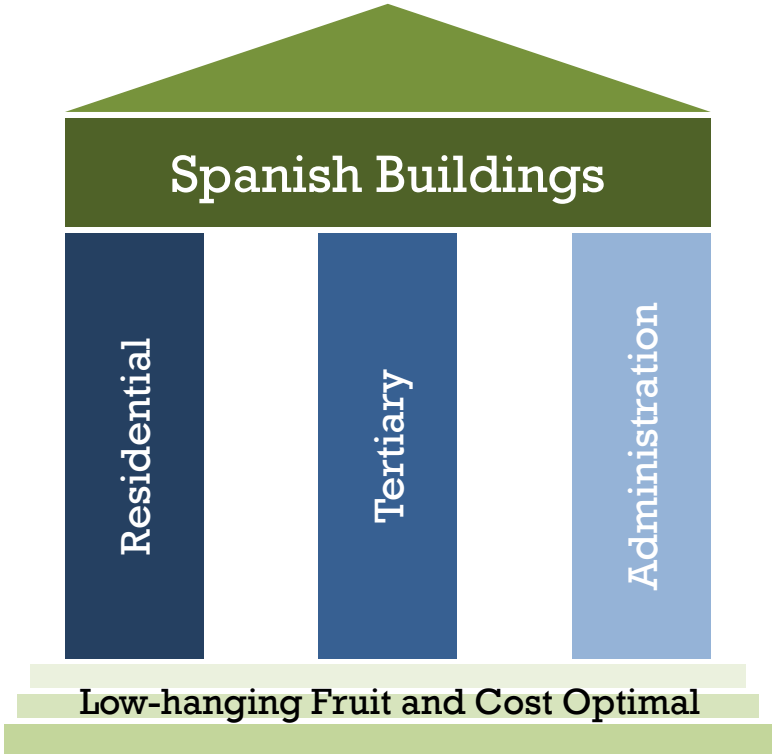
Operational Framework for the Buildings Renovation Sector in Spain

The organization of the sector can produce the required results

How to refurbish 2 million residences and 20% of Tertiary Buildings before 2020

Before 2020

- **2 million homes rehabilitated**
- **35-50% energy savings across the existing tertiary building stock.**



Sector Organization to Deliver the Transformation of Buildings

Different Stakeholders bring Different Elements of the Renovation Process

Intersection/ impact of "key capacities" for buildings renovation sector stakeholders

	Utilities	Buildings Owners	ESCOs	Contractor/ Installer	Public Administration
	• Energy Suppliers • Obligated Parties • Energy Retailers	• Buildings Owners • Buildings Tenants • Neighbour Communities • Public Administratetion	• Buildings Services • Equipment Manufacturer • Public Sector Contractor • Independent	• Construction • Local Installer • National Installer	• Central Govt • Regional Govt • City Town Hall
Access to Data	◕	◑	◔	◔	◔
Regulatory Targets	◕	◔	○	○	◑
Buildings Regulations	○	●	◔	◑	◑
Retail Distribution Channel	●	○	◔	◔	◑
Decision, Permission and Contracting	◑	◑	◑	◑	◔
Access to Finance	◕	◑	◔	◔	◕
Project Execution Resources	◔	○	◕	●	◔

○ None

◔ Slight Intersect

◑ Partial Intersect

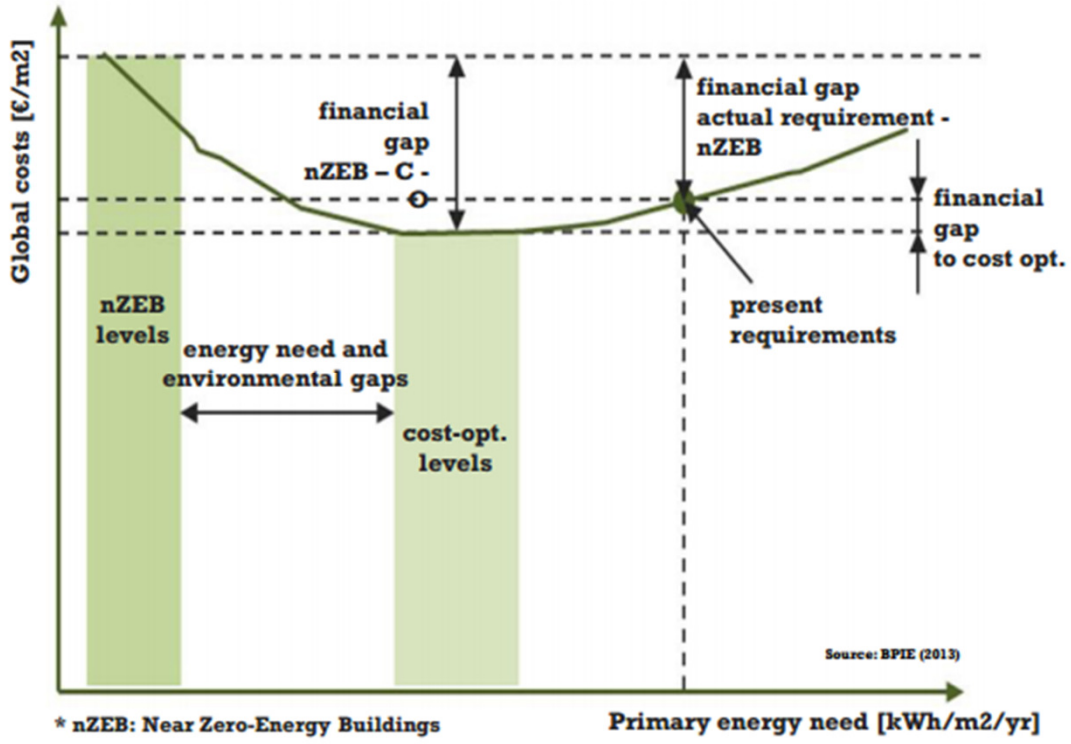
◕ Strong Intersect

● Full Intersect

The Transformation of Buildings must be "Cost Optimal"

Application of the "Cost Optimal" concept: example of a rule

Cost Optimal Intervention Can Deliver Better Social and Environmental Results



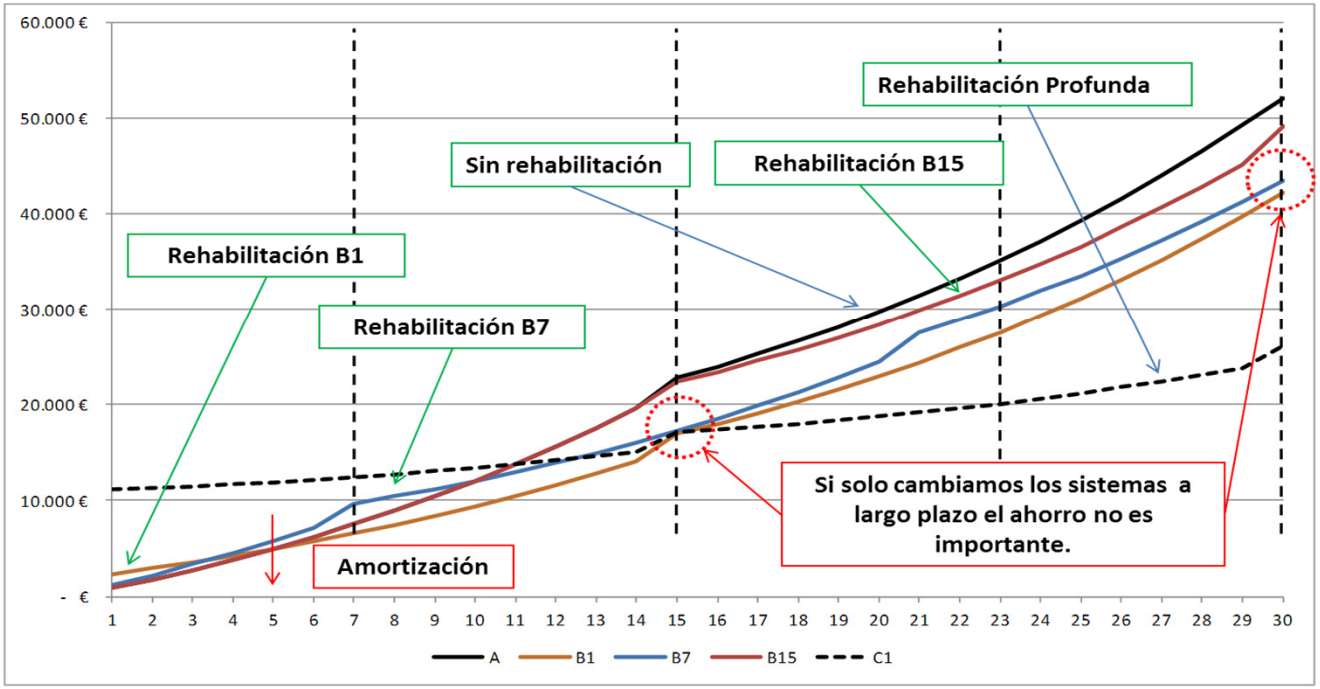
The Sector needs a Long-Term Horizon

Low cost savings policies ought to be avoided if they are not part of broader plans

It is essential to take into account a long term horizon to allow cost-efficiency measures to yield their best results

HOTSPOT D,E,F

Gráfico de coste acumulado durante 30 años, con un tipo de interés del 4,5%



"Bn": Change of boiler for a condensation boiler at n= year 1, 7 years, 15 years (afterwards, the new boiler always gets renewed at 20 years).

"Green Value" needs to be identified and valued

Pertains to energy efficient properties and their increase in value

Benchmark analysis conducted in 10 countries: Germany, Austria, Canada, Denmark, Italy, Netherlands, United Kingdom, Sweden, Switzerland and the USA, suggests that procedures/methodologies to assess and determine green value need to be further developed.

Quantifying "green value" is not trivial particularly in the residential sector, and while more advanced, commercial real estate is not a perfect market.

- **The lack of comprehensive, reliable, recognized data by real estate professionals and buyers / sellers / renters / donors is a major obstacle to the widespread recognition of green value in the assessment of housing prices.**
- **Countries have expressed their need for databases that encompass: location, rent, equipment buildings, energy efficiency, costs, etc.**
- **All encompassing databases being introduced in France *(bases notariales).***

Assessment practices do not rely on a environmental performance approach. Only examples that took qualitative data into account were identified.

Meta Research undertaken by French Energy Agency ADEME Revealed the range of "green value" premia which could be Identified in some countries:

There is green value for apartments and houses in certain countries:

- **Netherlands, around 2.5%**
- **Germany, 4 to 6%**
- **USA, 5%**
- **Switzerland, between 3.5% and 7%**

Factors that led to the emergence of the "green value", were linked to:

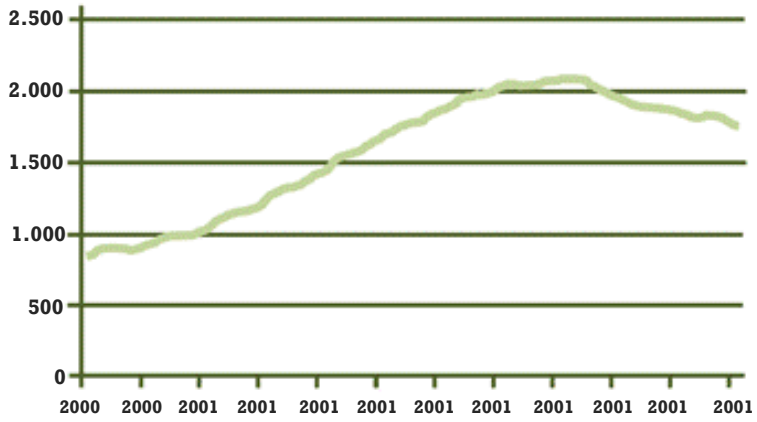
- **Markets**
- **Regulations**
- **Practices of real estate professionals**
- **Awareness of individuals and professionals**

Charts by GTR, Data Source: Ademe (2011)

“Green Value” will Become more Relevant with Time

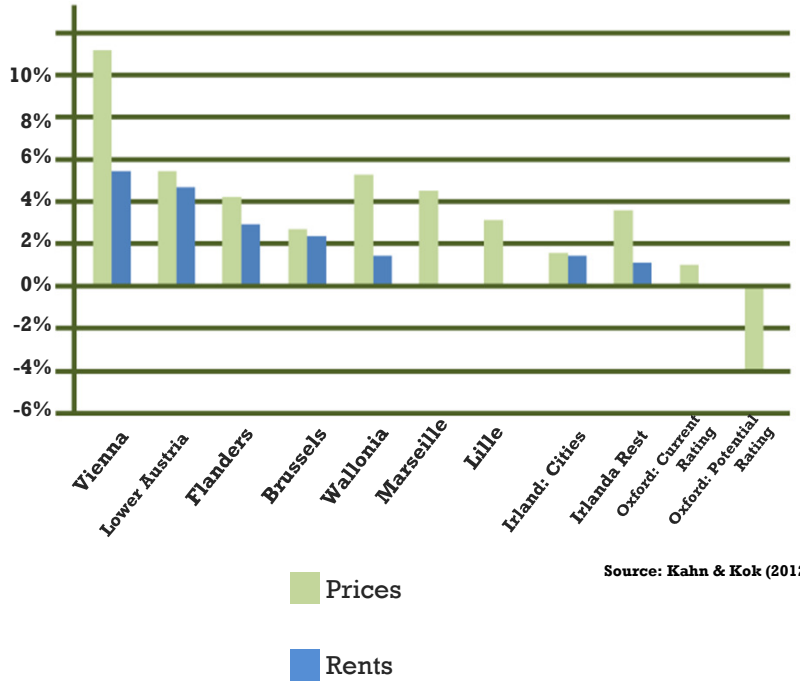
Energy Renovation can raise property value up to 10%

Evolution of Housing Prices in Spain (1995 base)



Source: Ministerio de Fomento (2013)

Effect of one-letter or equivalent improvement in EPC rating across a selection of European property markets



Source: Kahn & Kok (2012)

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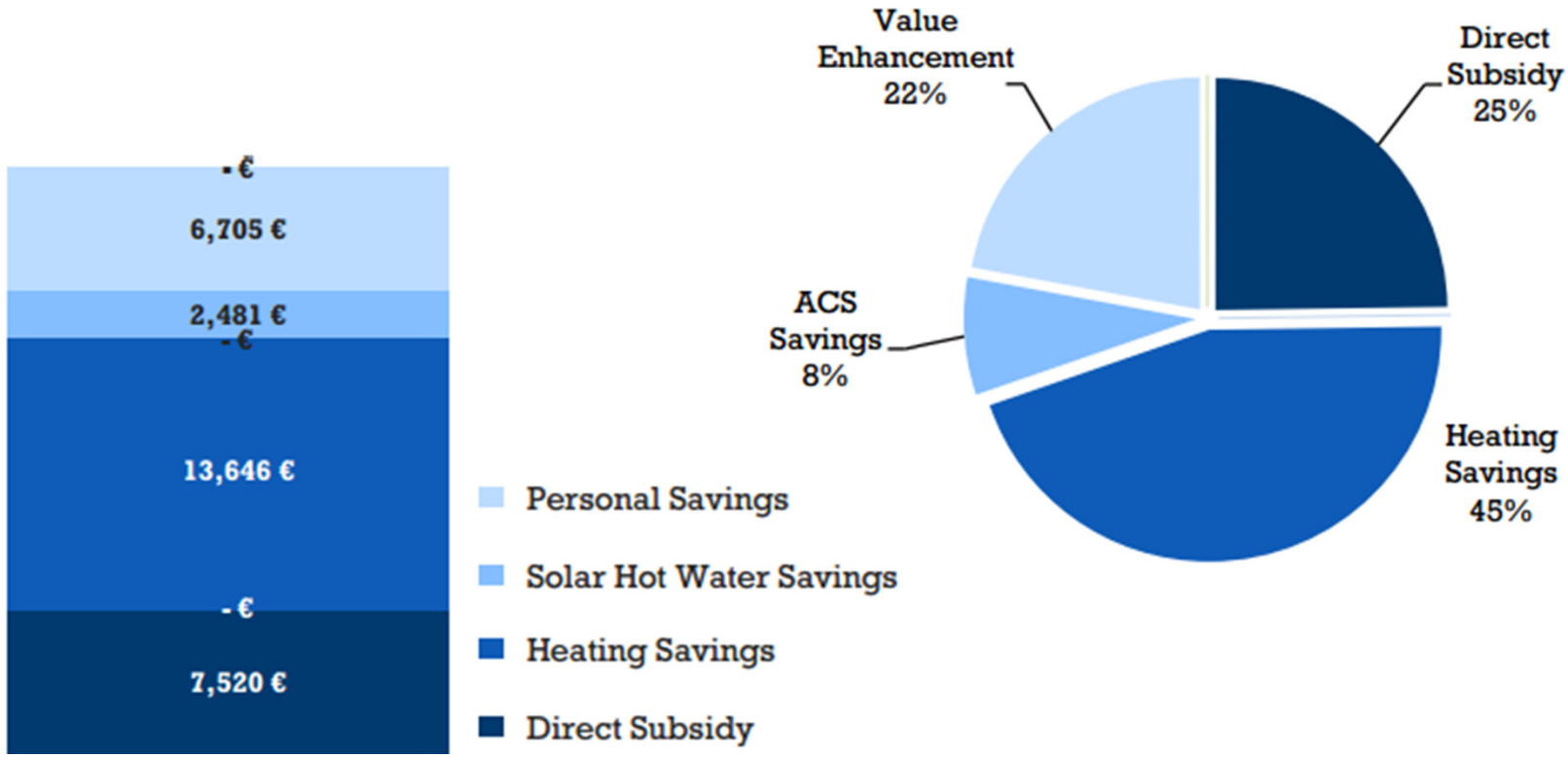
“Green Value” will Become more Relevant with Time

Energy Renovation can raise property value up to 10%

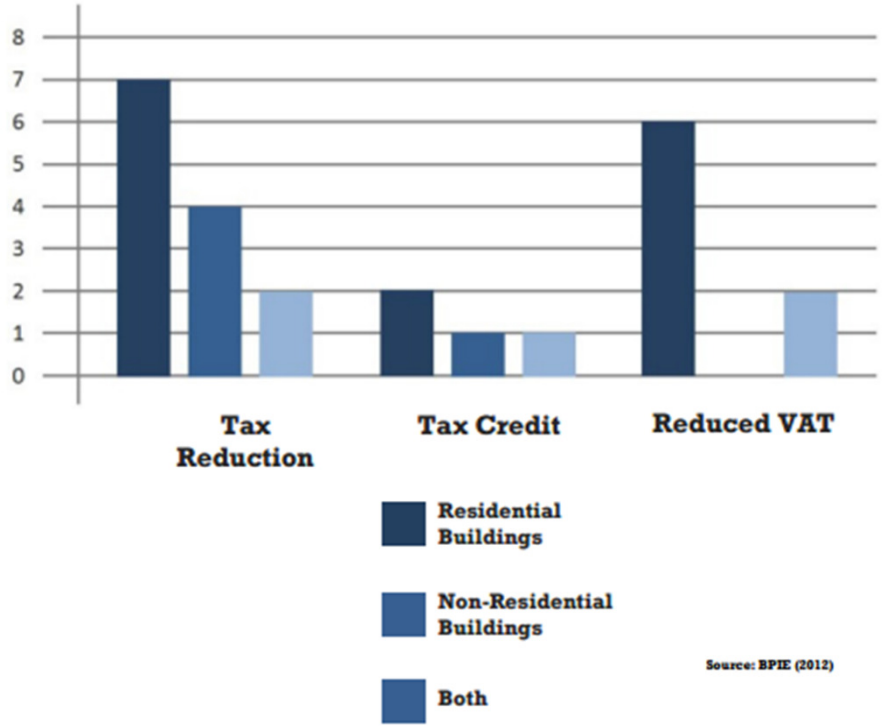
Example Composition of a Deep Rehabilitation Budget broken down by source of value



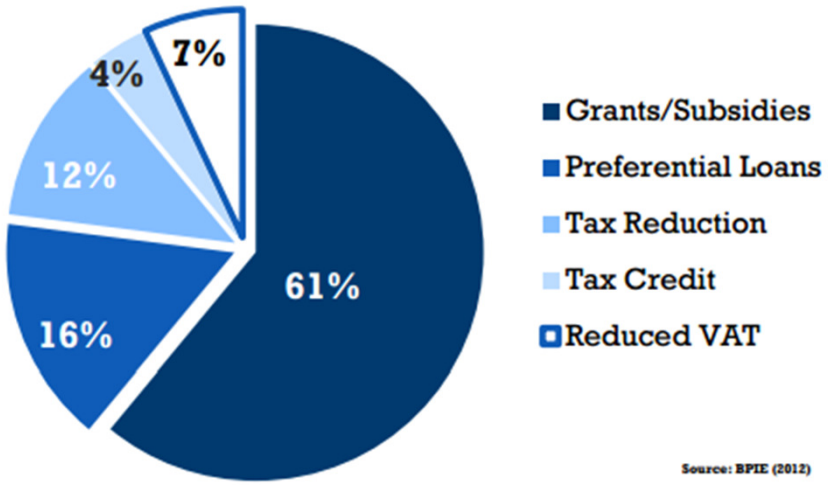
Fiscal Support for Energy Refurbishment is critical

12% of all EU Member States support financing policies are of fiscal nature

Number of Fiscal Incentives by Type of Building (Residential / Non-Residential)



The Use Of Financial Instruments At Member State Level



The renovation sector needs to transform itself

The Operational Framework has to deliver Optimal Refurbishments to its Clients

	Present		Future
1	There is confusion over models and operators, which generates distrust among final clients	TRANSFORMATION	Different operators will offer similar solutions (including financing) this will depend on the type of building and owner
2	Projects require multiple applications and have to comply with the criteria of different sources to be launched		There will be funds and financial solutions packages that approved operators could offer through a "One Stop" costumer service
3	The role of each entity (energy company, ESCO, bank, construction company) is not well defined, and they sell different products		There will be a legislative harmonization which will clarify the role of each entity and the products will tend to homogenize.
4	The pipeline of "ready" projects is small, therefore each project has a higher transaction costs and feels like a one-off		The proper implementation of Articles 4 and 7 of the Directive will result in the faster growth of the rehabilitation market
5	"Green Value" is not clearly evidenced in the market, but very clear from the physical pre- and post-refurbishment evidence		A clear "Green Premium" of 10% can be tracked and evidenced to help customers understand the value proposition of a deep refurbishment
6	Operators work independently, to different standards and with different interests		Sector Operators will come together through an ambitious transposition of the EED and identification of new shared business models and specific finance facilities

Capítulo 8 RECOMMENDATIONS AND CONCLUSIONS

GTR proposes legislative, financial and operation changes

A "Three Pillar" Strategy should be implemented with the aid of a strong Political Leadership

Regulatory framework needed to deliver the transformation of buildings

Regulatory measures aligned with the EED can benefit the renovation of buildings

1	An Action Plan with well defined objectives
2	A Regulatory Framework with well defined intervention objectives
3	Coordination among all policy areas, with clear leadership
4	A regulatory alignment strategy based on experiences
5	Support the identification of new business models and tailored finance streams through a Renovation Agency and with a National Energy Efficiency Fund.
6	Support ESCOs in the Tertiary Sector with clear models and approaches which define roles and responsibilities.
7	Coordinated package of facilitating legislation (ordinance, action plan, removal of barriers, state's public support, fiscal benefit) through a "one-stop" shop approach.

Financing Framework for the Renovation of Buildings

The Operational Framework has to deliver Optimal Refurbishments to its Clients

"Buildings Renovation Finance" needs to be fit for purpose

1. **Legislative Support for an On-Bill Repayment Channel**
2. **20+ year finance from National EE Fund (or similar)**
3. **Standard Renovation Loan Packages Developed**
4. **Easy, "one-stop shop" access via multiple retail channels**
5. **Energy Data Transparency**

Instrument

National Energy Efficiency Fund for Buildings Renovation

Can Provide

"One Stop" Focal Point for the New Sector

By developing appropriate

Mechanisms

- **Renovation Finance**
- +
- **Documentation**
- +
- **Distribution**

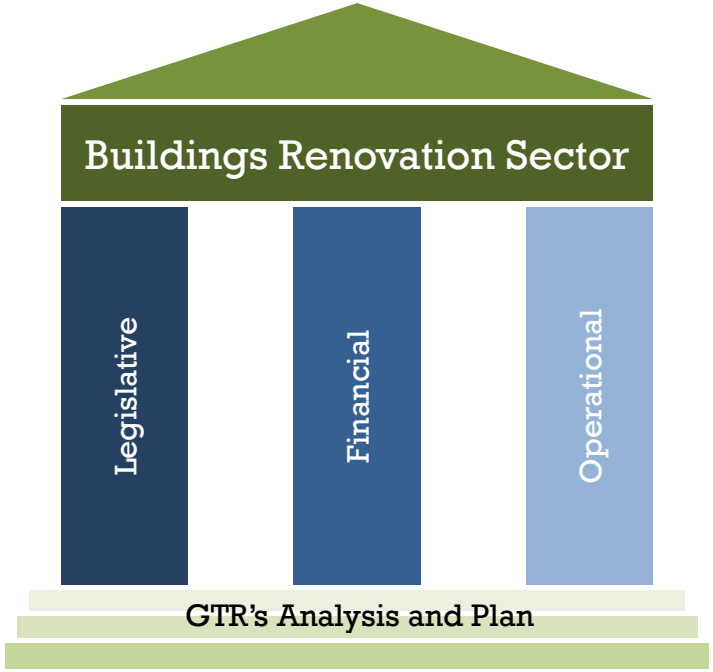
Recommendations for the operational framework

Clear Assignation of Responsibility and Alignment of Interests Required

1	Accredited Renovation Sector Stakeholders need access to the information
2	Energy Suppliers are a Key Source of Resources and Customer Access. Their interests should be fully aligned with the Renovation sector, and their role and responsibilities should be well defined
3	Buildings Codes and Standards can be used to gradually stimulate greater focus and interest in energy efficiency from buildings owners and occupants
4	Retail networks should be engaged to offer renovation products to homeowners and businesses
5	ESCOs and Installers can develop simple marketing tools to help buildings owners understand the value of renovation and finance packages delivered alongside their products
6	Establishment of a Buildings Renovation Agency with responsibilities for the Sector, to deliver targets and to provide a clear operational model for the renovation of public buildings
7	R&D should be co-invested alongside the different typologies of Spanish buildings in order to develop renovation

Three pillars of the Country Strategy for the Renovation of Buildings

The GTR has identified six key steps for a long term Roadmap in Spain



1	**Political Leadership** and Clear Articulation of a Buildings Renovation Strategy with Targets and Milestones
2	**An Action Plan** that organizes resources, outlines market margins, and orients the actions of the different stakeholders
3	Clear and **supportive legislative framework** faithfully transposing all elements of the Energy Efficiency Directive which facilitates and supports the activity of the new Buildings Renovation Sector
4	**National Energy Efficiency Fund** to deliver renovation financing through a network of collaborating public and private sector channels that guarantees investing security
5	A **Renovation Agency** whose objective is to implement the renovation strategy, as well carrying out the much needed coordination among stakeholders
6	**An Open data source system** available to stakeholders that allows for a clear market and **examples** which supply intervention models to the stakeholders and serve as a reference for regulatory and operational changes

Q & A

GTR 2014 REPORT

NATIONAL STRATEGY FOR BUILDINGS' RENOVATION

Key Steps to Transform Spain's Buildings Sector

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