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Technical developer for Building Energy Efficiency European Projects,  
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# **TIMEPAC 2023**

# **International Workshop**

**Vienna November 21<sup>st</sup>, 2023**



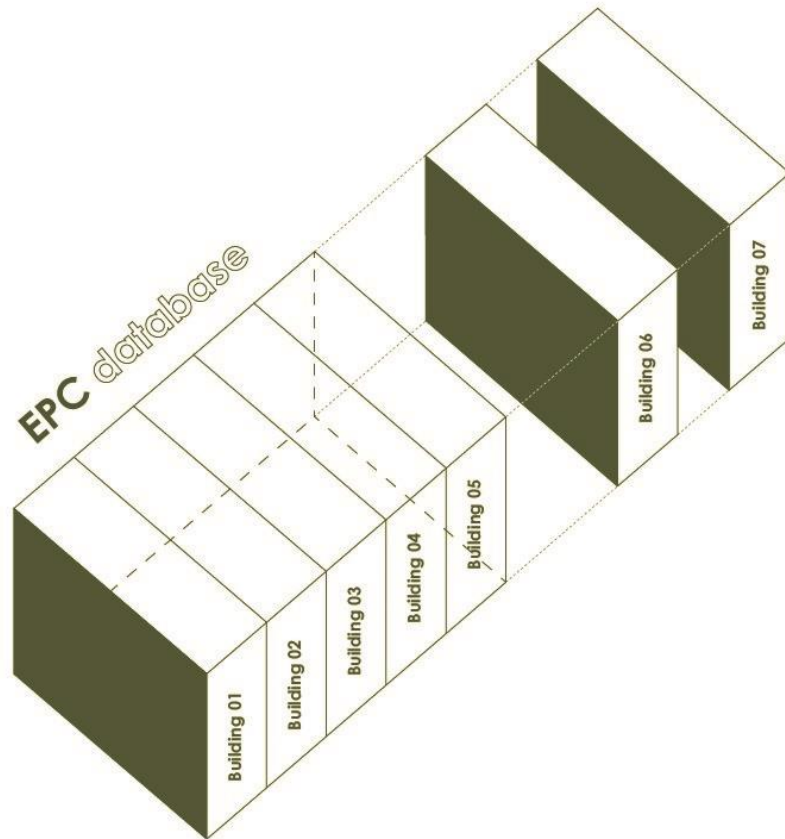
# Integration of EPCs in the Administration databases

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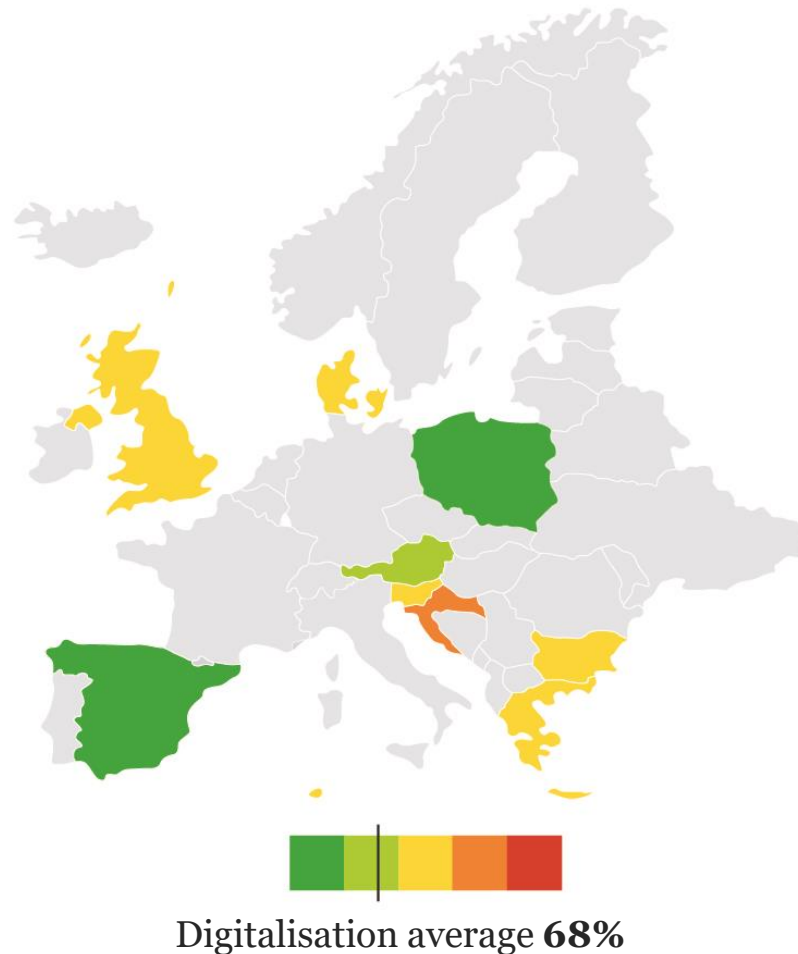
- The **Regional public Energy Agency** of Castilla y León (Ente público Regional de la Energía de Castilla y León-EREN) is the responsible of develop **energy planning** in the Castilla y León regional government, as well as the **promotion of sustainable projects and awareness**.
- EREN is responsible for **energy building certification procedure registry** in the region, and also for the control, verification, and monitoring of EPCs.
- It is the regional representative in the **National Assessment Commission for Energy Building Certification**.
- EREN has long experience of participation in **EU energy projects** from different programs (HORIZON, INTERREG, LIFE).



**Current status** of EPC databases

**Barriers** to the integration of EPCs in the Administration databases

**Potential** added value of the integration of EPCs in the Administration databases



## What have we assessed?

EPC registration process

General data broadcasting

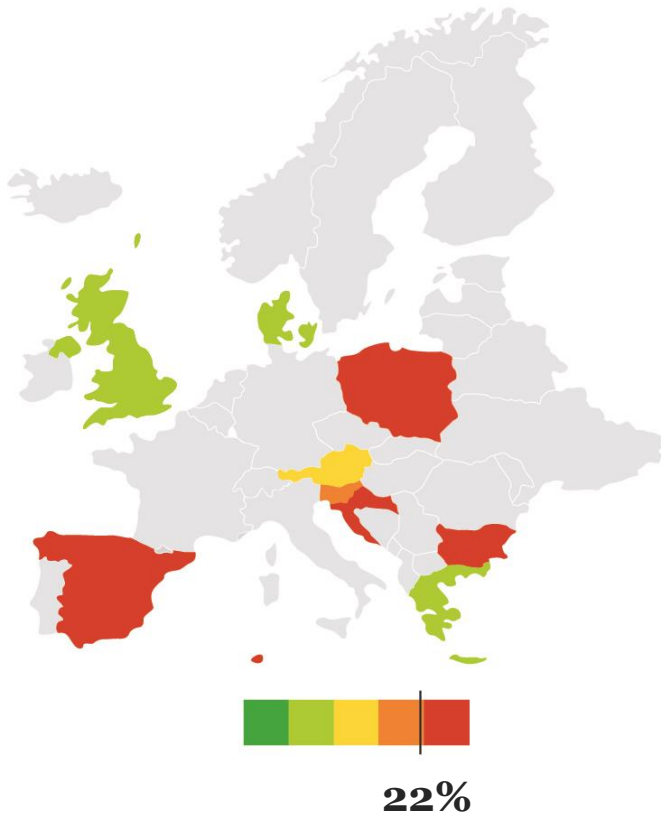
Disclosure of building elements

Disclosure of EP indicators

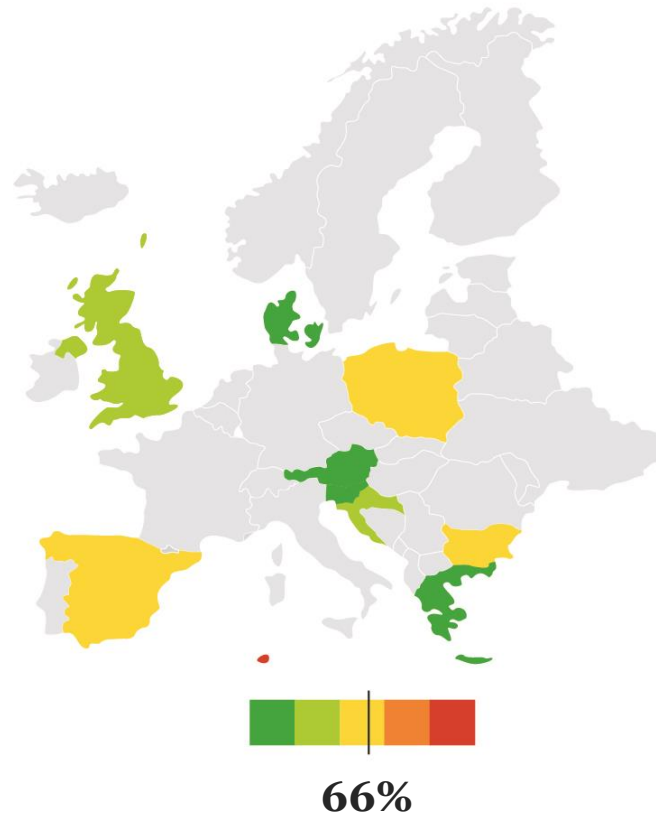
Disclosure of EE recommendations



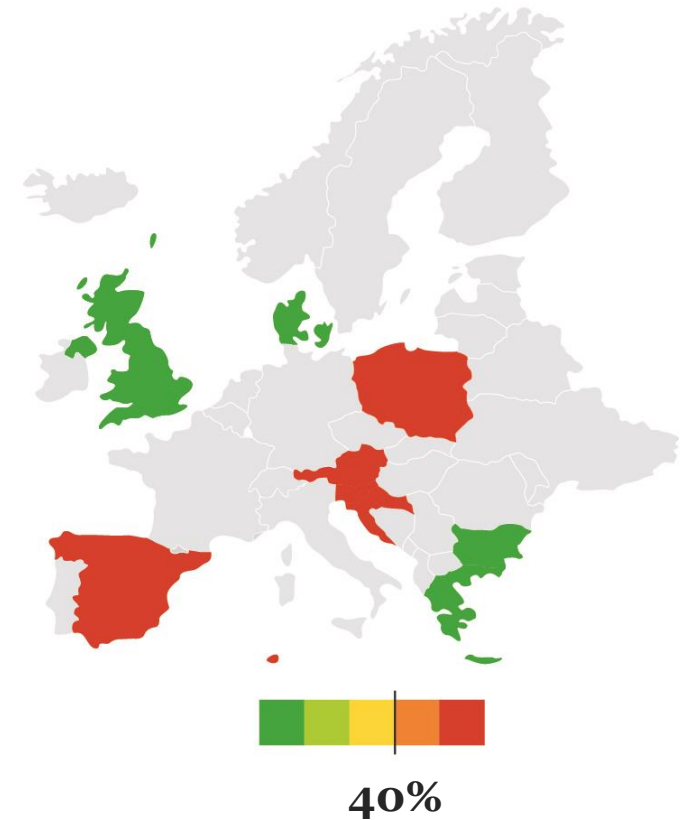
## Building elemets disclosure



## Energy indicators disclosure

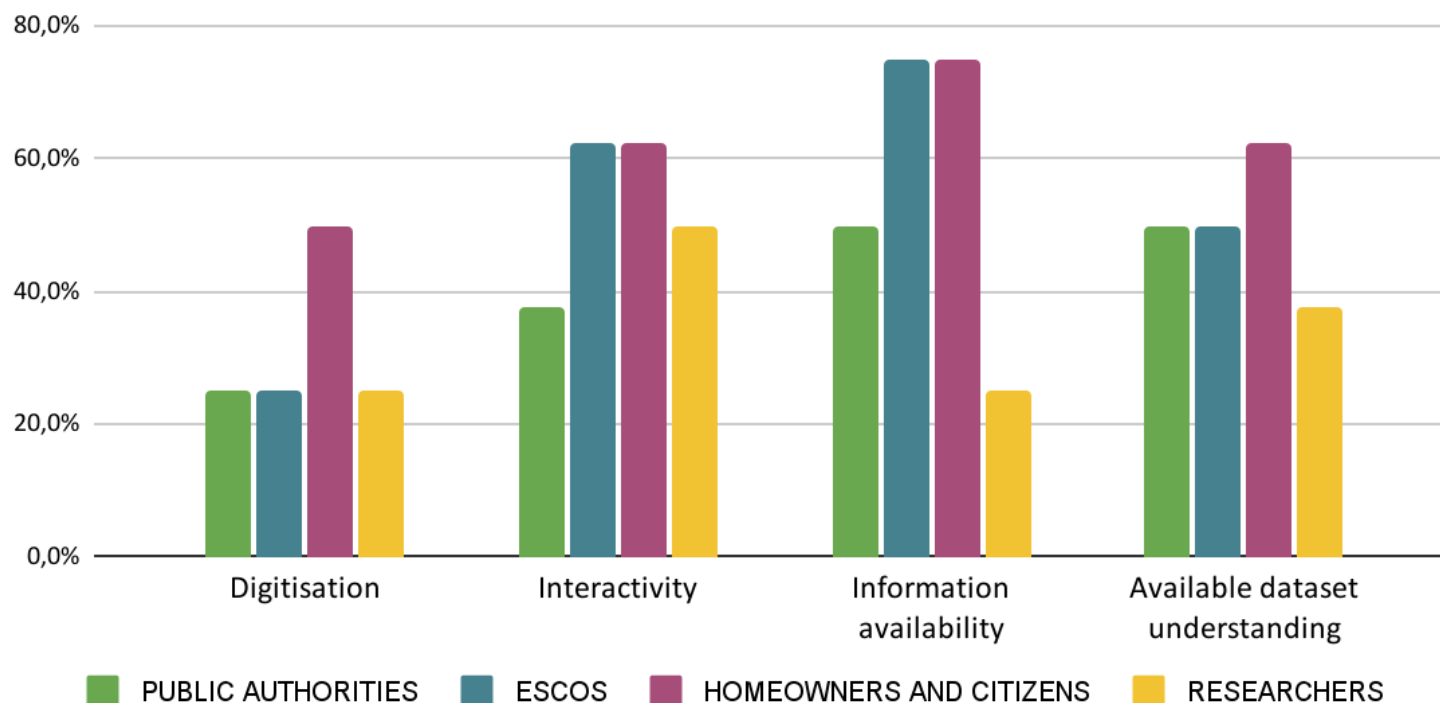


## Recommendations disclosure





Average of stakeholders' barriers



## How to achieve the goal of integration?

Enhancing EPC registration processes

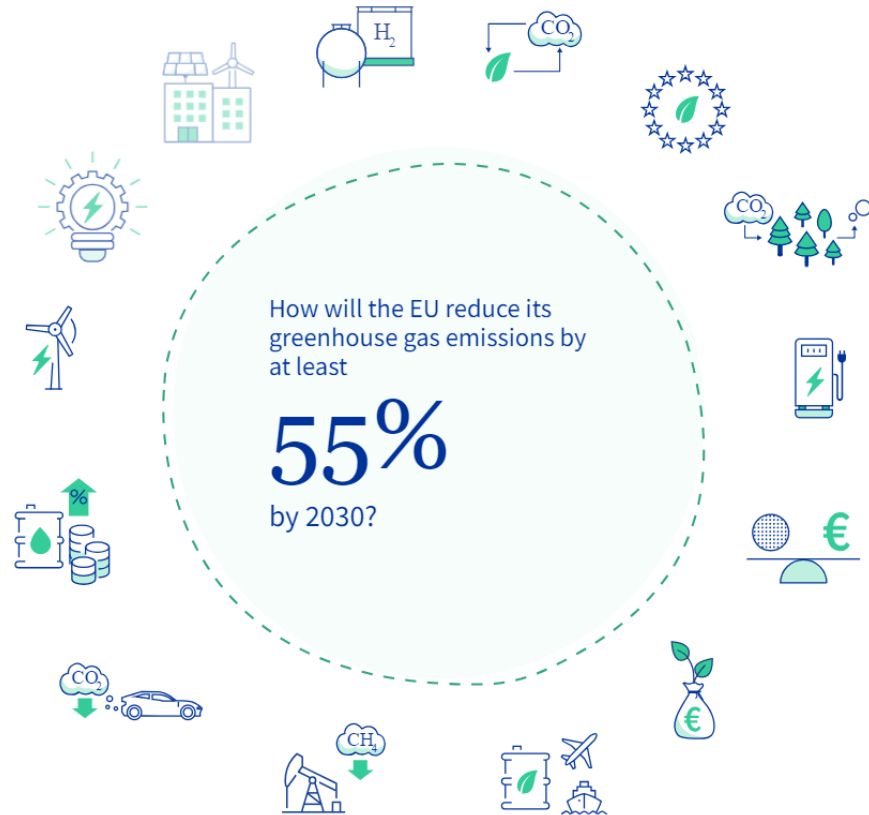
Improving digital tools/platforms

Exploiting the existing dataset

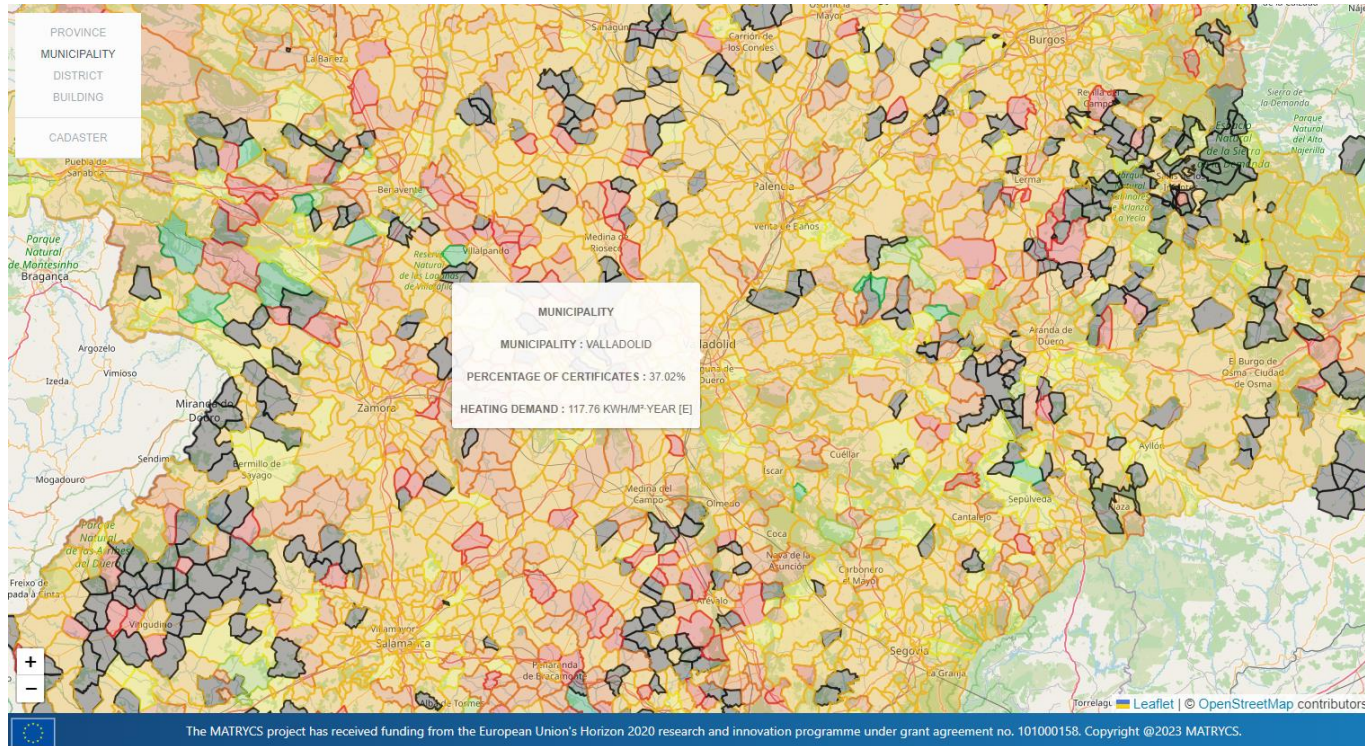
Boosting information campaigns

Developing financial incentives



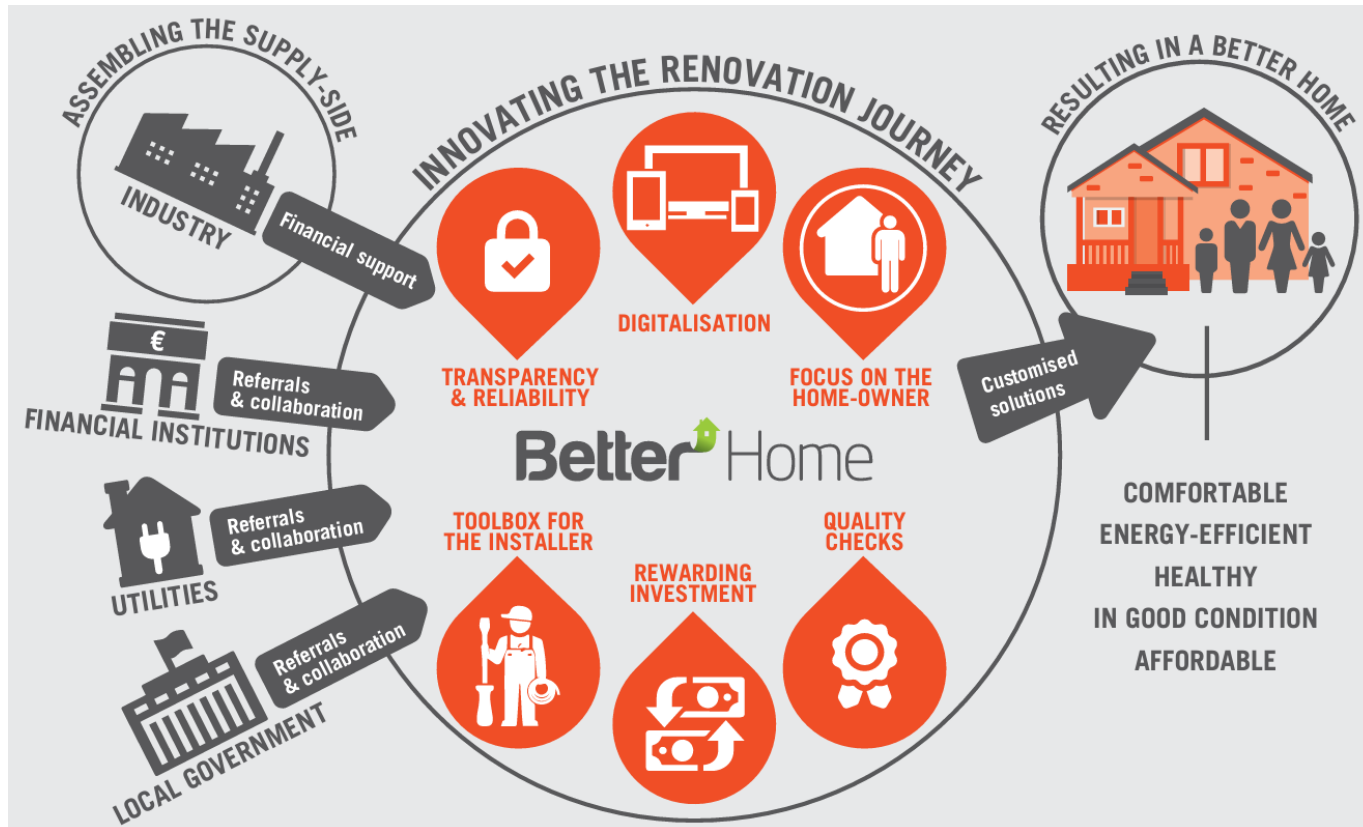


Fit for 55 through...



Fit for 55 through...

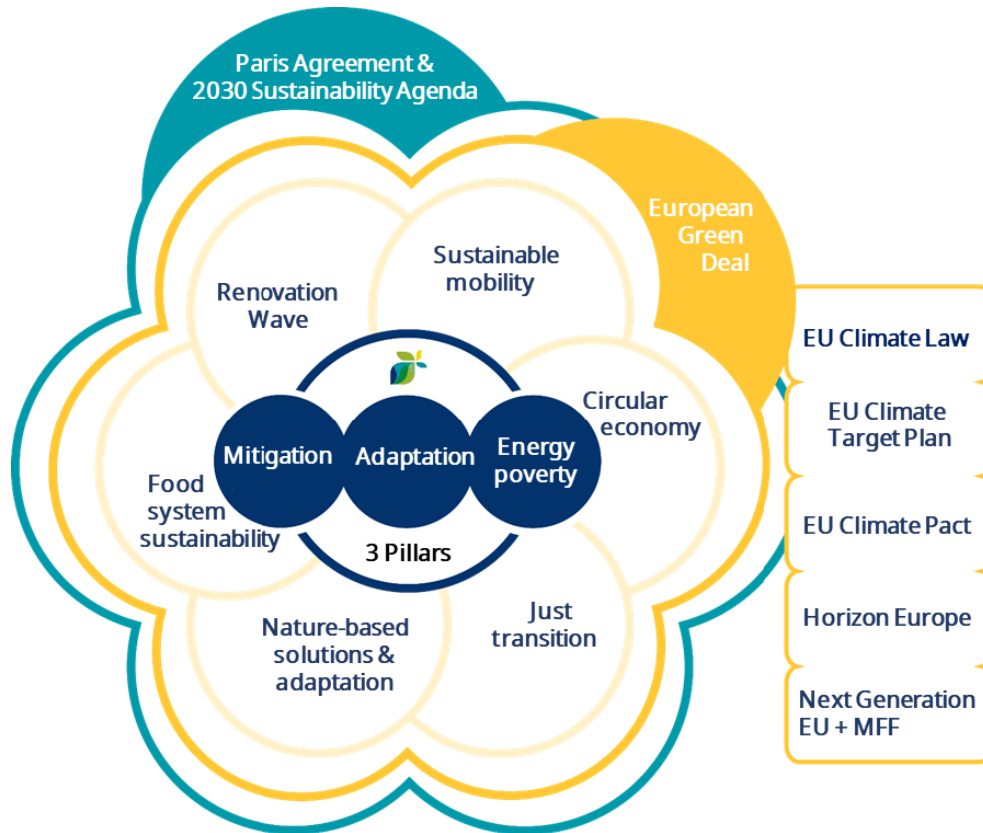
Energy demand maps



Fit for 55 through...

Energy demand maps

Local renovation roadmaps



Fit for 55 through...

Energy demand maps

Local renovation roadmaps

SECAP elaboration



## **Façade local renovation plan estimator [LRP]**

The integration of EPC databases as reliable sources for renovation roadmaps



## Data sources used for the Façade Local Renovation Plan estimator



## Construction year



■ 1961-1980 ■ 1981-2000

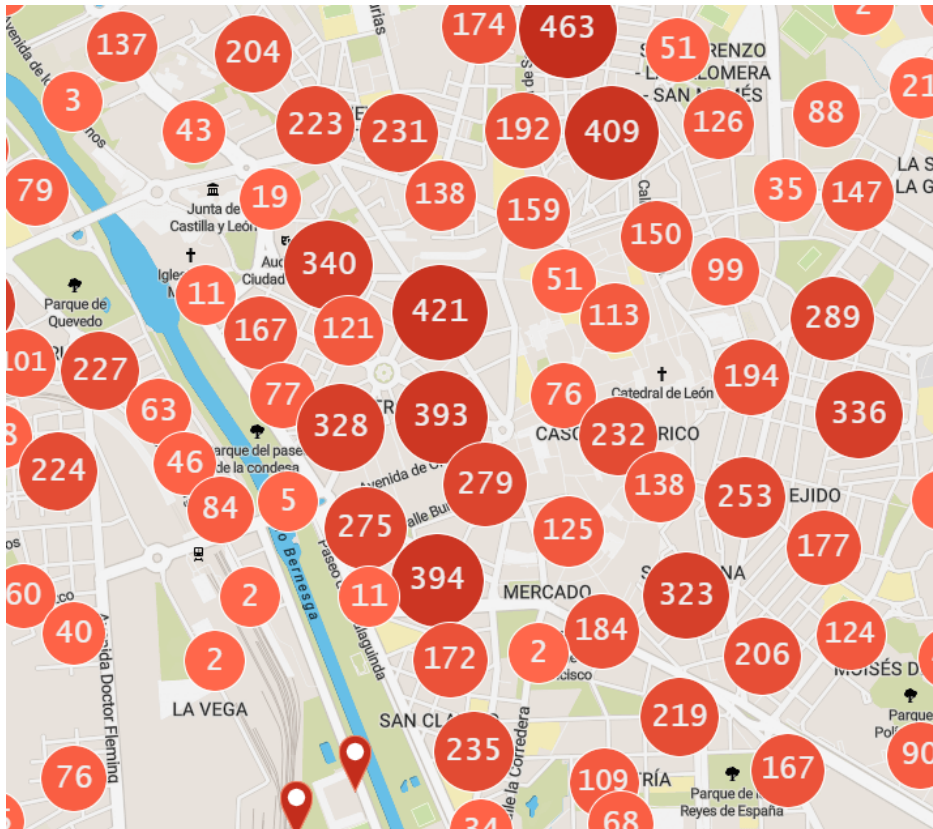
## Predominant building typology



■ Residential ■ Cultural



## EPCs Public Register of Castilla y León



Font: Interactive EPC map, EREN-JCyL  
<https://analisis.datosabiertos.jcyl.es/explore/dataset/certificados-de-eficiencia-energetica/map/>

## Building characteristics and indicators

Useful area

Heating demand ratios

Cooling demands ratios

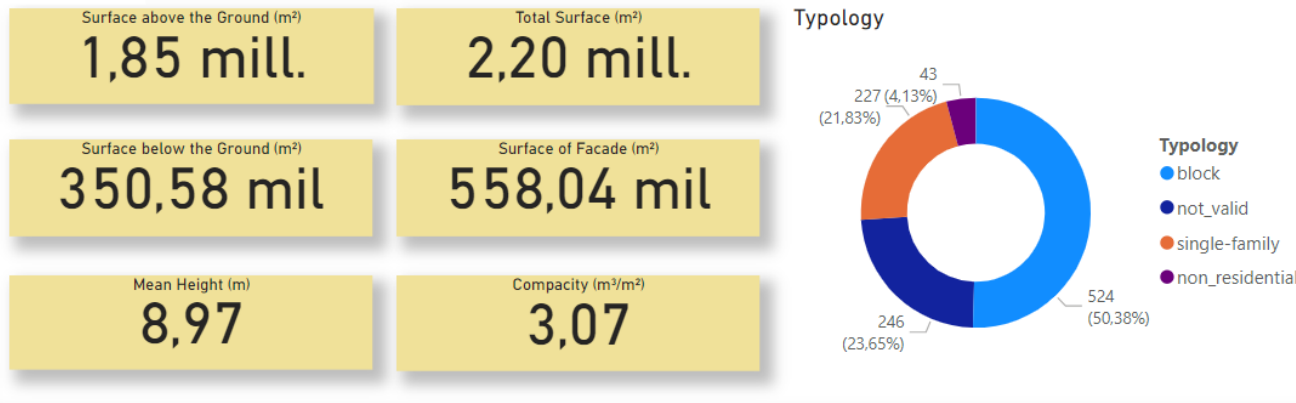
DHW demands ratios

But... only **99 housing blocks** have been registered





## Envelope surfaces estimations based on Cadastral data



Municipality	North Facade Surface	South Facade Surface	East Facade Surface	West Facade Surface	Party Wall Surface	Roof Surface
León	197.980,93	189.711,57	207.908,93	202.078,30	212.520,89	558.039,73
<b>Total</b>	<b>197.980,93</b>	<b>189.711,57</b>	<b>207.908,93</b>	<b>202.078,30</b>	<b>212.520,89</b>	<b>558.039,73</b>

Total façade surfaces values

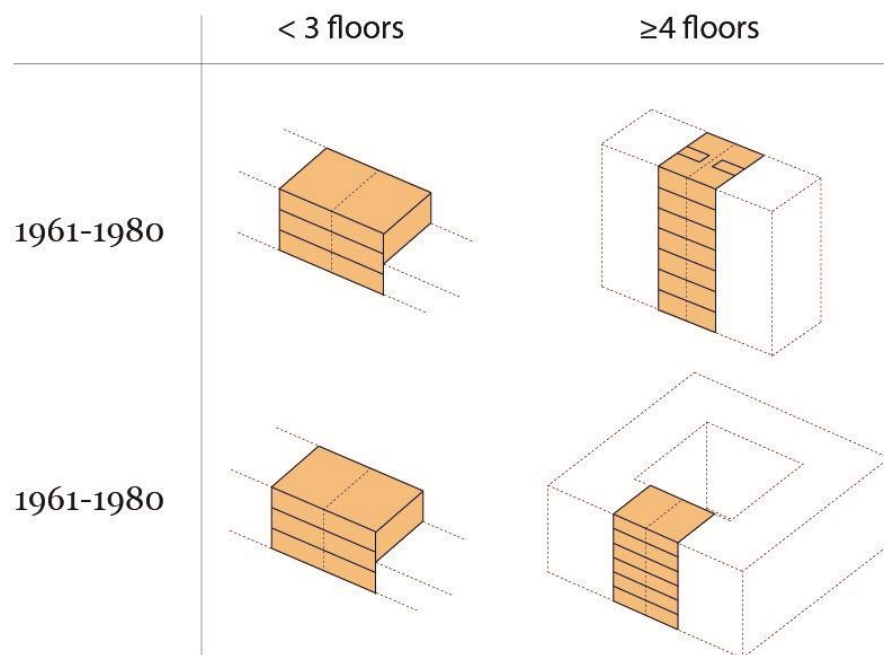
## Overall heating demands disclosure Cadastral data & EPC data



Heating demand map



## Housing cluster matrix, ERESEE 2020

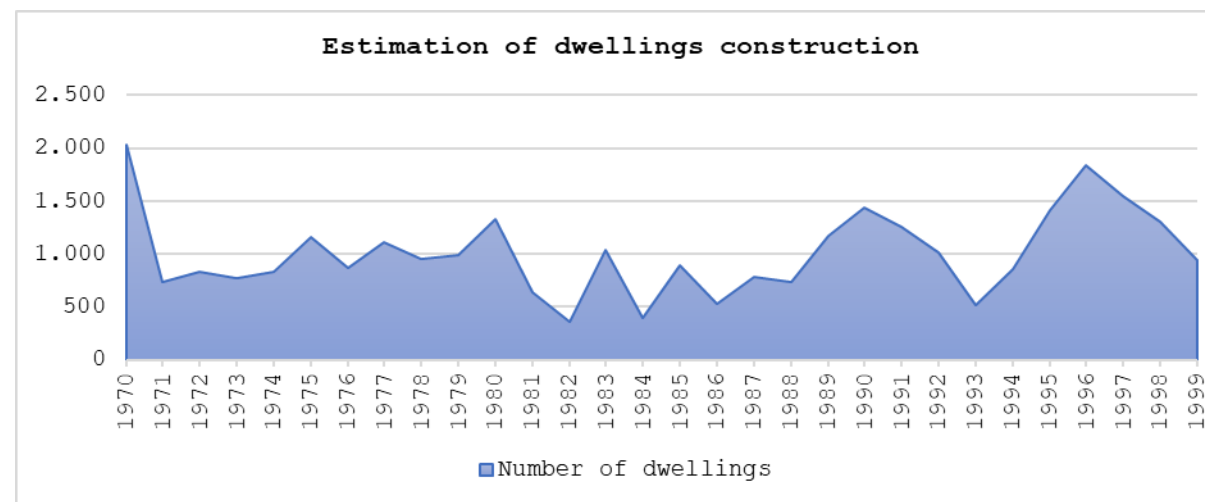


Average typology features



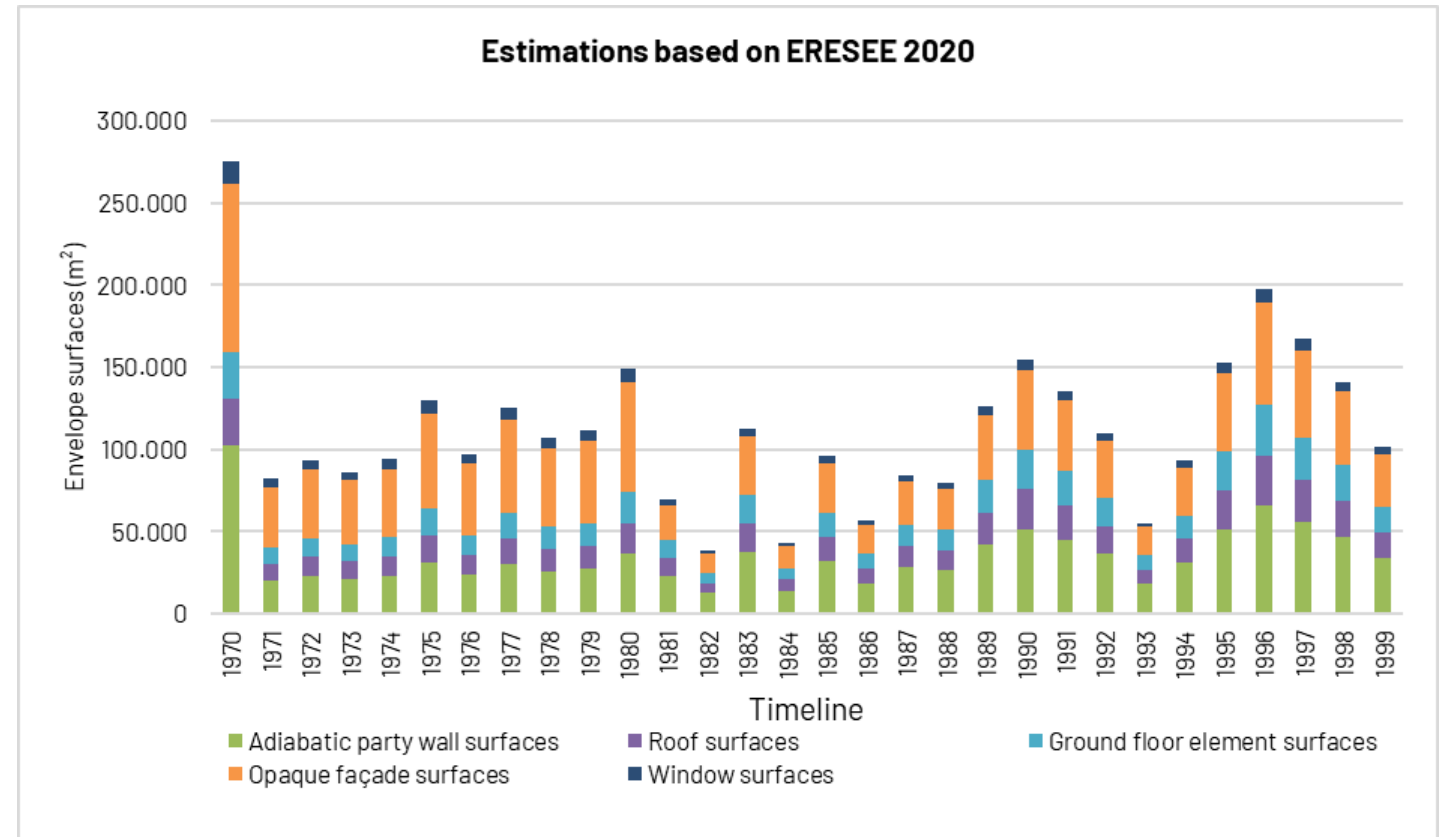
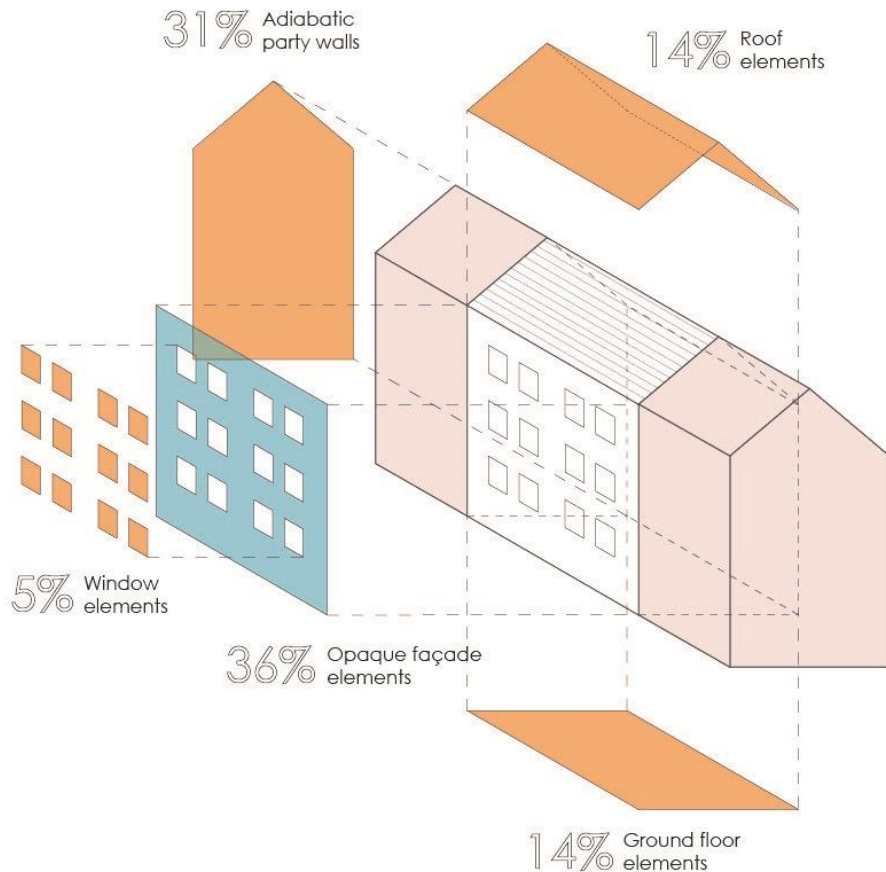
Complete housing stock

**30,263** dwellings for the whole city

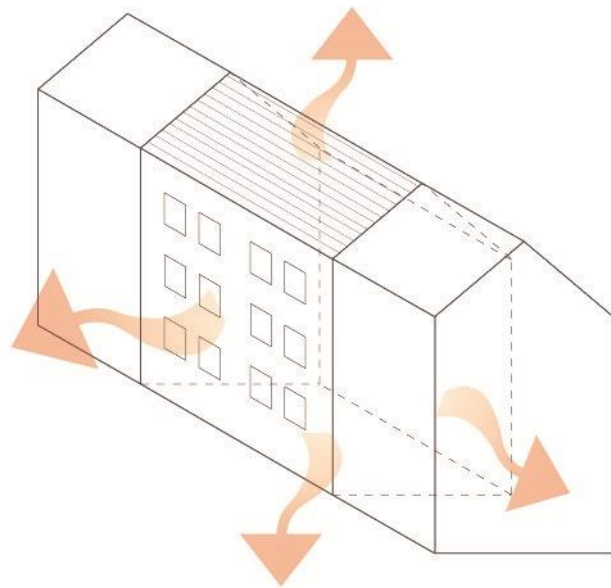




## Envelope areas of housing blocks (1970-1999, León)



## Housing blocks **heat losses distribution** in Spanish E1 climate zone

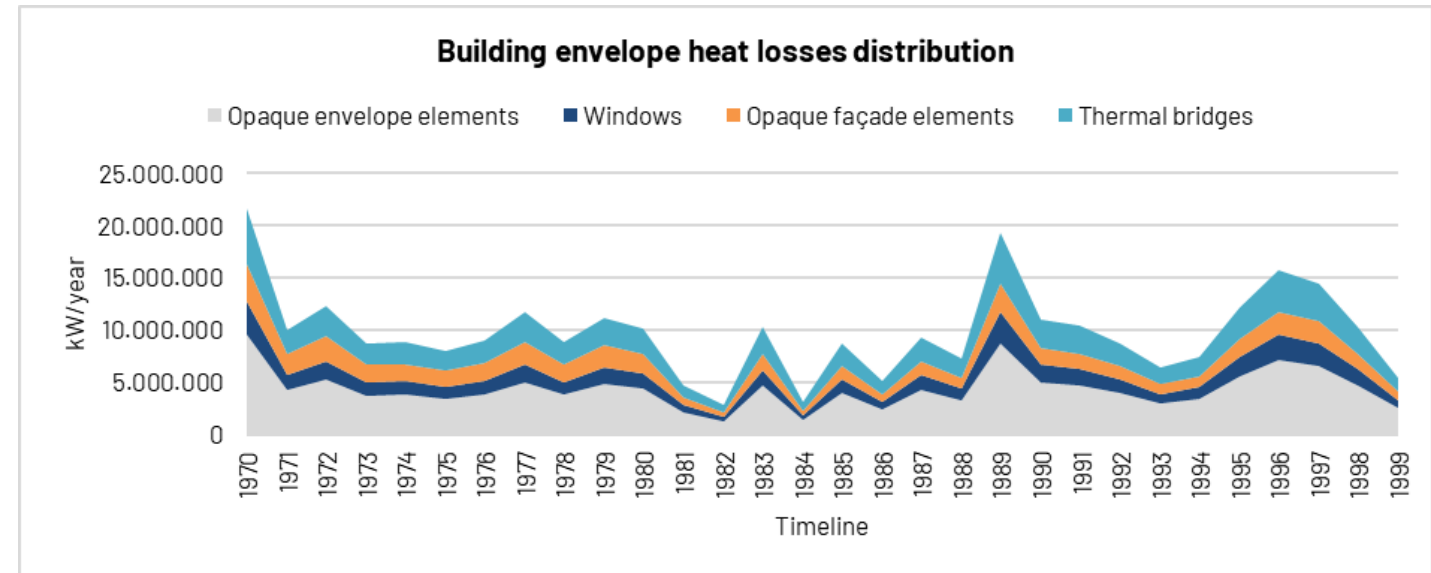


**45%** Opaque envelope surfaces

**25%** Thermal bridges

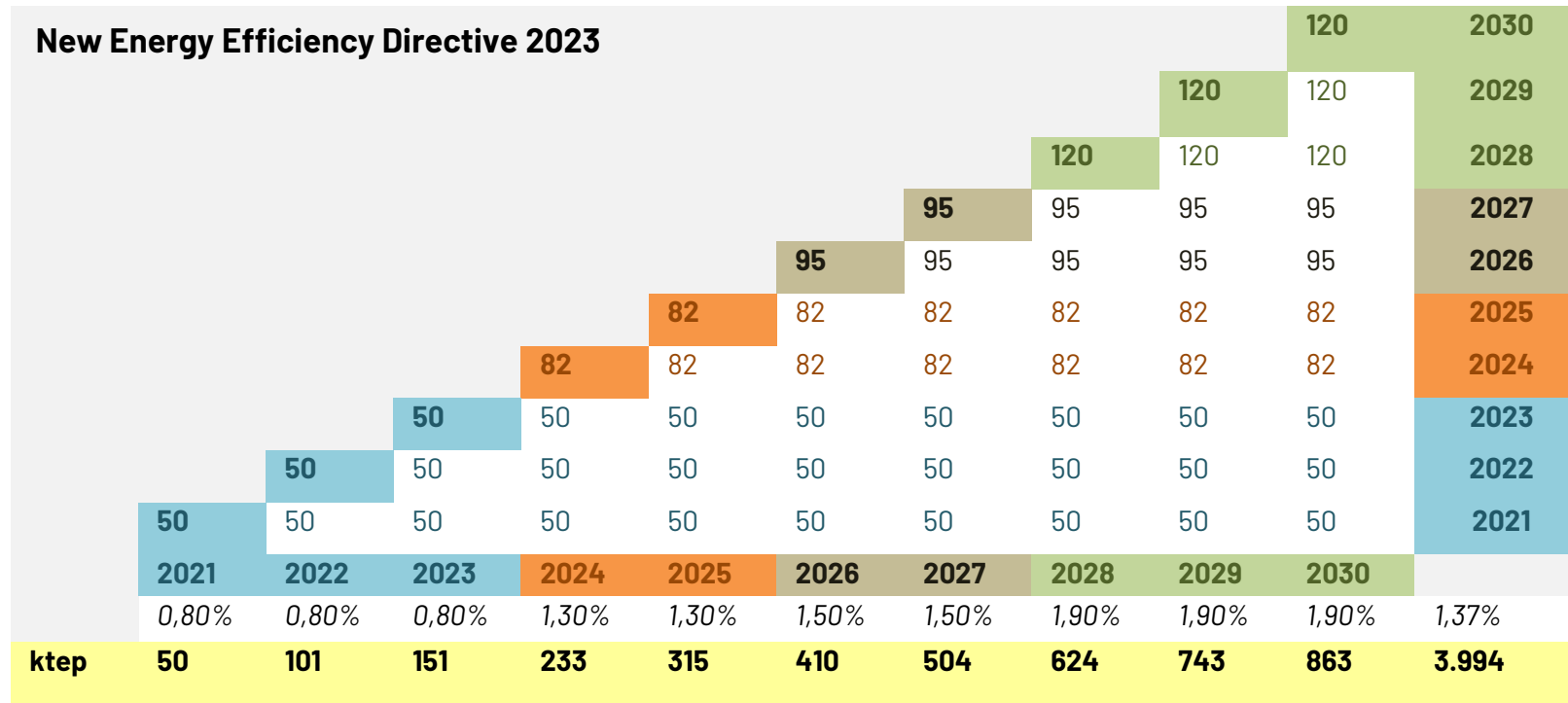
**15%** Ventilation

**15%** Windows





## Estimation of the energy savings for Castilla y León region based on the new EPBD



Average energy consumption  
**6,300 ktep/year**



## Proposal for the façade's local renovation plan of the municipality and the region

Investment timeline		Investment		Energy savings	Accumulated	CyL energy savings goals	Accumulated	Leon's percentage on CyL goals	Unitary intervention*
year	year	€	%	ktep	ktep	ktep	ktep	%	%
<b>2024</b>	1	12.706.275 €	11%	1,56	1,56	82	82	1,90%	15,76%
<b>2025</b>	2	12.706.275 €	11%	1,56	3,12	82	164	1,90%	15,76%
<b>2026</b>	3	16.171.623 €	14%	1,98	5,10	95	259	2,09%	17,32%
<b>2027</b>	4	16.171.623 €	14%	1,98	7,08	95	354	2,09%	17,32%
<b>2028</b>	5	18.481.855 €	16%	2,27	9,35	120	474	1,89%	15,67%
<b>2029</b>	6	19.636.971 €	17%	2,41	11,75	120	594	2,01%	16,65%
<b>2030</b>	7	19.636.971 €	17%	2,41	14,16	120	714	2,01%	16,65%
<b>7 years</b>		<b>115.511.593 €</b>	<b>100%</b>	<b>14,16</b>	<b>52,12</b>	<b>714</b>	<b>2641</b>		

**If you would like more information,  
please contact us at**

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Thanks for your attention!