



Deliverable 6.1 – City Selection Report

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At the inception of the EuroPACE project, the EuroPACE Consortium conducted a preliminary legal and fiscal analysis of the EU28 countries to identify the most suitable legal/fiscal set up and the highest potential demand for EuroPACE implementation. As a result, two reports have been produced comparing the countries with respect to their property-related taxes and charges, possibility to introduce an on-tax/home-based¹ financing mechanism and legislative capacity of the local and/or national governments to put in place new legislation to enable this financing tool. Seven EU countries (Austria, Belgium, Italy, the Netherlands, Poland, Portugal and Romania) were selected for further analysis. Spain was already pre-selected as a suitable country, on the basis of previous analysis. Following this selection, social and economic conditions of households, social preferences and environmental awareness of homeowners, as well as the prevalent level and type of energy used, existing retrofit programs and incentives were examined for each of the countries. This has led to the selection of four countries, namely **Belgium, The Netherlands, Portugal and Spain**, where the implementation of EuroPACE has been deemed to be the most feasible. Over the course of next 16 months, and after multiple discussions and meeting with local actors and experts from various cities such as London (UK), La Louviere (BE), Deventer (NL), Rotterdam (NL) the original selection was further narrowed down to four cities; **Mouscron and the Walloon Region (BE), Lisbon (PT), Valencia (ES) and Porto (PT)**. The relevant conditions and data pertaining to these cities has been assessed in this report, so as to give the reader a clear insight in the reason each respective city was selected as well as present the context that is unique to each city.

As a result of the selection of these four cities, **City Working Groups (CWG)** have been established in these leader cities, with the aim of holding a workshop to discuss the feasibility of EuroPACE implementation. These CWGs consist of key legal, financing, building renovation, policy experts bringing insights on administrative, social and political context. Each CWG intends to explore two main elements of EuroPACE: innovative home-based financing and OSS set up involving technical assistance. The findings based on the CWG workshops will be presented in the Deliverable 6.2.

Additionally, the City of Barcelona, Menorca, Palma de Mallorca and Ibiza participated in EuroPACE replication. These cities didn't follow the standard CWG process. Instead, the relationships with these cities developed through more indirect manners, which will be described in more detail in their respective sections, and which have resulted in scalable and commercial initiatives.

¹ Note that the initial focus of the EuroPACE project was the implementation of an on-tax mechanism akin to the PACE mechanism deployed in the US. As the project's activities progressed and legal and administrative possibilities in European cities and regions became clearer, this focus shifted towards the concept of home-based financing, due to its better viability within the aforementioned frameworks.





Key Leader Cities	
Lisbon, PT	<ul style="list-style-type: none"> • Sara Freitas, <i>Project Lead Lisboa ENOVA</i> • Maria Rodrigues, <i>Technical and Financial Director Lisboa ENOVA</i> • Rui Dinis, <i>Senior Project Lead Lisboa ENOVA</i> • Ivone Rocha, <i>Telles Lawyer</i> • Margarida Ramires, <i>PBBR Lawyer</i>
Porto, PT	<ul style="list-style-type: none"> • Rui Pimenta, <i>Executive Director at AdEPorto</i>
Valencia, ES	<ul style="list-style-type: none"> • Ana Sanchis, <i>Project Lead IVE</i> • Alejandro Gomez, <i>Energy Innovation Officer VCE</i> • Miriam Navarro, <i>RDI and Financial Manager IVE</i>
Mouscron and Walloon Region, BE	<ul style="list-style-type: none"> • Magali Viane, <i>PAED Project Lead, Energy Unit at the City of Mouscron</i> • Thierry Van Cauwenberg, <i>Walloon Region Policy Advisor to the Minister of Energy</i> • Alexandra Pardou, <i>Trialys Lawyer</i> • Gerald Stevens, <i>Trialys Lawyer</i>
Additional Leader Cities	
Barcelona City, ES	<ul style="list-style-type: none"> • MES Barcelona Programme: Josep LLuis Villasante Tapias, <i>Ajuntament de Barcelona Economist</i>
Menorca, ES	<ul style="list-style-type: none"> • Paula Ferrando, <i>Island Director of Housing</i> • Irene Estaun, <i>Island Director of the Biosphere Reserve</i> • Rafael Muñoz, <i>CIME Technical Professional</i> • Mayca Gonzalez, <i>CIME Economist</i>
Palma de Mallorca, ES	<ul style="list-style-type: none"> • Josep Maria Rigo Serra, <i>Island Director of Housing</i> • Jose Velazquez, <i>Palma Coordinator of European Funds</i>



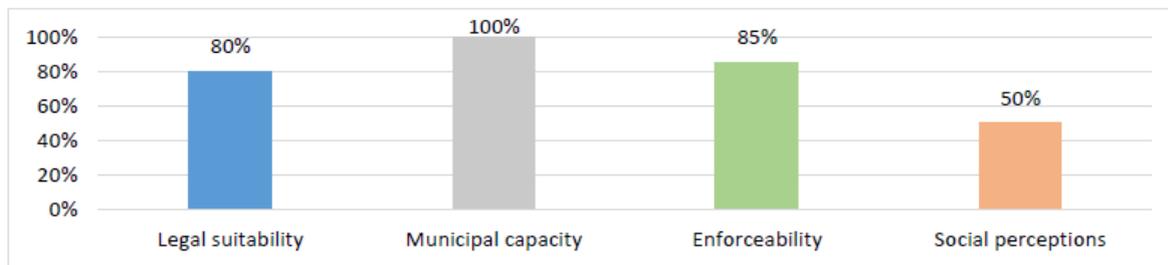
Ibiza, ES	<ul style="list-style-type: none"> • Aitor Morras, <i>Ibiza Second Deputy Mayor</i> • Solange Montarce Segal, <i>Ibiza Municipal Technician</i>
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Leader City 1: Lisbon (Portugal)

With regards to fiscal and legal considerations, based on the previous research conducted by the EuroPACE project and summarized in the Deliverable 2.1, Portugal is a suitable country for exploration of home-based financing. However, since the report only preliminarily assessed the suitability, the City Working Group meetings are poised to shed more light on the feasibility of home-based implementation.

Portugal

Very adequate country for EuroPACE implementation – overall grading for suitability: 82.14%



Overview of Portugal's scores on EuroPACE suitability factors

Furthermore, in terms of social and economic considerations, Lisbon is the governmental capital and financial and commercial centre of Portugal. At the national level, the city records the highest average levels of income per capita, with an increasing rate of business activities across the region. In the past two decades, there has been a massive effort to renovate the old historic centre and local homes, leading to a re-discovery of the charm of the city centre.

Today, Lisbon has a burgeoning residential sector and has become a **prime destination for property investment**, attracting investors in real estate and tourism. The historic atmosphere of Lisbon attracts many tourists each year, in fact foreigners tend to buy and renovate buildings in older neighbourhoods. In 2019, Lisbon has been hailed as the #1 market to watch in PWC's² emerging trends in real estate in Europe, with a focus on modernizing the country in the last couple of decades. Furthermore, the city of Lisbon won the **European Green Capital Award** for 2020.³

Lisbon's Location	Lisbon City and Metropolitan Demographics
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² <https://www.pwc.at/de/publikationen/branchen-und-wirtschaftsstudien/pwc-emerging-trends-in-real-estate-europe-2019.pdf>

³ <https://ec.europa.eu/environment/europeangreencapital/lisbon-is-the-2020-european-green-capital-award-winner/>



	Lisbon population	2,942,000 ⁴
	LMA population	1.3 million
	Lisbon Density	29,554 per square kilometer
	GDP ⁵ GDP per capita ⁶	€69.9bn in 2017 €20,105.23
	Number of residents per building ⁷	An average the household had 2.6 persons
	Number of dwellings ⁸ Number of households	5,878,756 dwellings 4,048,205 households

However, urban regeneration in **Portugal is lagging**, with a high percentage of buildings in need of repairs. In 2011, about 535,000 (15.1%) residential buildings needed repair of the walls and/or windows and 490,000 (13.8%) had inadequate roof insulation.⁹ This issue is reinforced by the obsolescence of central dwellings and the lack of adequate financing mechanisms. The Metropolitan Area is home to 2.8 million inhabitants, representing 27% of the Portuguese population¹⁰. Notwithstanding the fact that Portugal has around 3.5 million buildings, mainly private residential buildings comprised of one dwelling (3 million or 87% of total), Lisbon witnesses a high percentage of property ownership, with 38.5% of dwellings that are owner-occupied without outstanding mortgage or housing loan, and 36.7% are owner-occupied, but with mortgage or loan.

The Portuguese building stock presents a poor thermal performance and most of the dwellings require significant heating or cooling energy expenditure to guarantee minimum comfort conditions; as such, Portuguese households struggle to keep their homes sufficiently cool during the summer.¹¹ According to Eurostat's EU survey on income and living conditions (2017), Porto is the fifth worst ranked country in the EU28 in terms of thermal comfort within homes. Still, in Portugal, Energy Performance Certificates (EPCs) are mandatory as of 1 December 2013. They have an expiration date of 10 years.¹²

Over a half of the Portuguese building stock¹³ (53.4%) was **built before 1980**. Very old buildings, constructed

⁴ <https://www.macrotrends.net/cities/22167/lisbon/population>

⁵ <https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/base-profile/lisbon>

⁶ <https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/base-profile/lisbon>

⁷ Statistics Portugal (INE) - Population and Housing Census 2011 and UCP (* estimated), 2011

⁸ Statistics Portugal (INE) - Population and Housing Census 2011 and UCP (* estimated), 2011

⁹ Statistics Portugal (INE) - Population and Housing Census 2011 and UCP (* estimated), 2011

¹⁰ INE, 2011

¹¹ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Energy_consumption_in_households#Use_of_energy_products_in_households_by_purpose

¹² <http://bpie.eu/wp-content/uploads/2015/10/Energy-Performance-Certificates-EPC-across-the-EU.-A-mapping-of-national-approaches-2014.pdf>

¹³ Source: Statistics Portugal (INE) - Population and Housing Census 2011 and UCP



before 1945, represent only 14.4% of the building stock. In fact, a large percentage (40.6%) of the building stock was built between 1980 and 2005, which was a 25-year period characterized by very dynamic building activity. Still today, property prices across Portugal have experienced a 12% increase¹⁴, suggesting that during the COVID-19 crisis, Portugal's housing market remains resilient.

ENOVA (Agência Municipal de Energia e Ambiente) or the Energy and Environment Agency of Lisbon is a private non-profit association whose purpose is to promote the sustainable development of Lisbon and its metropolitan area.¹⁵ It is a reputable local agency working directly with the city, providing support to the public authority, developing initiatives on energy poverty as well as the possible incorporation of grants and subsidies available through the public administration. From a EuroPACE perspective, it is a practical consideration to principally work with ENOVA rather than with solely the city itself, as ENOVA possess extensive expertise in home renovation, financial aid and energy renovations.

In conclusion, Lisbon was selected as a Leader City to explore the suitability of EuroPACE thanks to the favourable political climate and the active participation and engagement of ENOVA, who have demonstrated their willingness to identify mechanisms supporting home renovation in Lisbon.

¹⁴ <https://www.euroweeklynews.com/2020/04/21/portugal-sees-significant-growth-in-property-prices-in-the-face-of-global-uncertainty/>

¹⁵ <https://energy-cities.eu/members/lisboa-e-nova-local-energy-agency-of-lisbon/>



Leader City 2: Porto (Portugal)

The city of Porto is situated near the sea along the river Douro and is the second largest Portuguese city, after Lisbon, with almost 240,000 inhabitants. The city forms one of the two main metropolitan areas in Portugal, the Porto Metropolitan Area (PMA), together with 16 other municipalities, amounting to a total population of around 1.7 million.¹⁶ Located in the Northern region, Porto belongs to the northernmost administrative and most populous region in Portugal. It is a global, well-connected city listed by UNESCO as a World Heritage site since 1996¹⁷, attracting a growing number of international tourists every year.¹⁸

Porto's Location	Porto City and Metropolitan Demographics	
	Porto population PMA population	237,591 ²⁰ 1.7 million ²¹
	Porto density	5,181 persons/km ² ²²
	PMA GDP (of national GDP), Northern Region GDP (of national GDP)	15.8% ²³ , 29.4% ²⁴
	Porto international tourism: guests in hotel establishments' compound annual growth rate	13.2% (2014-2017) ²⁵
	Number of dwellings, Number of households	138,000*, 101,000* ²⁶

The city's **residential building stock** consists of a majority of single-family buildings as opposed to multi-family building types, thus simplifying the decision-making to undertake home renovation.

There is great need and opportunity for deep renovation projects in order to improve the buildings' conditions and the local citizens' quality of life. One effort in the city consisted in a **deep renovation project** in the Rainha Dona Leonor neighbourhood, which was completed in 2014 and funded by the City of Porto. In addition, EUR 17.3 million was invested in renovating buildings that covered a space of about 5,000m², which resulted in a 70%

¹⁶ <https://www.fitchratings.com/research/international-public-finance/fitch-affirms-city-of-porto-at-bbb-outlook-stable-28-08-2020>

¹⁷ <https://whc.unesco.org/es/list/755>

¹⁸ [https://www.ey.com/Publication/vwLUAssets/ey-attractiveness-survey-2019-portugal-regional/\\$FILE/ey-attractiveness-survey-2019-portugal-regional.pdf](https://www.ey.com/Publication/vwLUAssets/ey-attractiveness-survey-2019-portugal-regional/$FILE/ey-attractiveness-survey-2019-portugal-regional.pdf)

¹⁹ https://toursmaps.com/wp-content/uploads/2016/06/map-of-porto-portugal_3.gif

²⁰ Statistics Portugal (INE) – Population and Housing Census 2011 and UCP, 2011

²¹ <https://www.fitchratings.com/research/international-public-finance/fitch-affirms-city-of-porto-at-bbb-outlook-stable-28-08-2020>

²² <https://www.ellenmacarthurfoundation.org/assets/downloads/Focus-City-Porto-Portugal.pdf>

²³ <https://www.fitchratings.com/research/international-public-finance/fitch-affirms-city-of-porto-at-bbb-outlook-stable-28-08-2020>

²⁴ <https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/base-profile/north-region-portugal>

²⁵ [https://www.ey.com/Publication/vwLUAssets/ey-attractiveness-survey-2019-portugal-regional/\\$FILE/ey-attractiveness-survey-2019-portugal-regional.pdf](https://www.ey.com/Publication/vwLUAssets/ey-attractiveness-survey-2019-portugal-regional/$FILE/ey-attractiveness-survey-2019-portugal-regional.pdf)

²⁶ Statistics Portugal (INE) - Population and Housing Census 2011 and UCP (*estimated), 2011

decrease in energy costs for the residents of these buildings, as well as in a reduction of CO₂ emissions of 12.9 tons annually.²⁷

Porto is a very innovative, progressive city with several initiatives put in place. In 2008, Porto was among the first cities to join the **Covenant of Mayors** as a key part of its sustainable development policy. Furthermore, Porto has already had high ambitions over the last years towards a more sustainable energy use, which was demonstrated by **Porto's Sustainable Energy Action Plan (SEAP-P)** with the goal of a CO₂ emissions reduction of 45% by 2020 and an energy efficiency increase by 20% as compared to 2004.²⁸

The city is gaining more attraction for the real estate market and urban development projects, both from private and public investors.²⁹ With its one-stop-shop for investors, **InvestPorto**, the City Council of Porto provides strategic support and brings together different private and public stakeholders both on national and international levels to strengthen the local economy and boost the competitiveness of the region.³⁰ Another example of Porto's openness and commitment to the city's development is the **Fifth Façade Project (PQAP)**, which works on including green roofs into the city's urban development agenda in order to reduce energy use in buildings and increase resilience towards climate change impacts, among other benefits.³¹ Other development projects in Porto include affordable housing projects such as the **Monte da Bela**, **Lordelo do Ouro** and **Quartel de Monte Pedral**.³²



AdEPorto – Agência de Energia do Porto, the local energy agency of Porto, was founded in 2007 and acts as a private, non-profit association for the Municipality of Porto, supported by the Intelligent

Energy Europe Program. After the adhesion of most municipalities of the Porto Metropolitan Area, AdEPorto covers around 10% of the population and a territory of more than 800 km² with its operations in Portugal. With its mission to promote innovation with best practice examples for the municipality and contribute to an environmentally friendly, sustainable development by the means of implementing renewable energy sources, AdEPorto aims to serve as a leading organization in relation to energy issues at municipal level. In general, the energy agency is committed to shifting the energy system towards a more efficient and sustainable path.³³ In addition, AdEPorto is a suitable actor to engage with, as it was already involved and responsible for the design and implementation of the aforementioned Porto's Sustainable Energy Action Plan.³⁴

²⁷ <http://energy-cities.eu/best-practice/fighting-energy-poverty-through-deep-renovation-of-buildings/>

²⁸ <http://energy-cities.eu/best-practice/fighting-energy-poverty-through-deep-renovation-of-buildings/>

²⁹ [https://www.ey.com/Publication/vwLUAssets/ey-attractiveness-survey-2019-portugal-regional/\\$FILE/ey-attractiveness-survey-2019-portugal-regional.pdf](https://www.ey.com/Publication/vwLUAssets/ey-attractiveness-survey-2019-portugal-regional/$FILE/ey-attractiveness-survey-2019-portugal-regional.pdf)

³⁰ [https://www.ey.com/Publication/vwLUAssets/ey-attractiveness-survey-2019-portugal-regional/\\$FILE/ey-attractiveness-survey-2019-portugal-regional.pdf](https://www.ey.com/Publication/vwLUAssets/ey-attractiveness-survey-2019-portugal-regional/$FILE/ey-attractiveness-survey-2019-portugal-regional.pdf)

³¹ <http://www.greenroofs.pt/en/pgap>

³² [https://www.ey.com/Publication/vwLUAssets/ey-attractiveness-survey-2019-portugal-regional/\\$FILE/ey-attractiveness-survey-2019-portugal-regional.pdf](https://www.ey.com/Publication/vwLUAssets/ey-attractiveness-survey-2019-portugal-regional/$FILE/ey-attractiveness-survey-2019-portugal-regional.pdf)

³³ <https://energy-cities.eu/members/adeporto-local-energy-agency-of-porto/>

³⁴ https://mycovenant.eumayors.eu/docs/seap/301_258_1302551401.pdf

In conclusion, these findings show great potential of Porto in terms of EuroPACE adoption and AdEPorto provides an optimal opportunity to fully explore the possibilities, thanks to their extensive reach in terms of population and territory. Thus, Porto has been selected as one of the Leader Cities to explore possible roll-out of the EuroPACE project, because of the municipality’s strong political commitment to climate and sustainable energy goals, specifically related to the built environment, as well as due to the great need identified for home and building renovation as part of the city’s clean energy transition plan.

Leader City 3: Valencia (Spain)

As Spain was already deemed a suitable country to implement the EuroPACE mechanism from a legal perspective, and given its successful pilot programme in Olot, the inclusion of an additional Spanish city through the Leader City process was considered to be a logical next step. EuroPACE partners anticipated that the similarities between the Catalanian and Valencian legal framework would allow for a relatively smooth replication of the Olot financing and program structure, furthermore anticipating at the time that a law amendment of the national Spanish law on Climate Change sought after by EuroPACE partners, which would facilitate the roll-out of the EuroPACE concept throughout the entire Spanish territory.³⁵

The Spanish Region of Valencia neighbours the Mediterranean Sea, making its climate mild and forming part of the Iberian mountain range. The data from the municipal register of the last eleven years shows a continual upward trend of the population, exceeding **5 million inhabitants currently**. The population of the region represents 10.64%³⁶ of the total Spanish population as it is the fourth most populous autonomous community after Andalusia, Catalonia and Madrid. Two main aspects to highlight are the concentration of population in the coastal regions (78.43% of the population) and the aging population due to the increase in life expectancy and the constant decline in birth rates.³⁷ Differences in income within the Valencian Community show a significant gap between areas, with considerable variations with respect to the average income of more than EUR 3,000 in some cases, such as La Marina Alta and El Baix Segura/La Vega Baja, which leads to a higher risk of energy poverty conditions for some Valencian areas as compared to others.

Valencia Location	Comunitat Valenciana Demographics	
	Comunitat Valenciana population	5,003,769 ³⁹
	Valencia population	2,565,124 million
	Valencia density	5,800 persons/km ²

³⁵ <https://www.larazon.es/economia/20210414/sufvie5jrnccdnldvg57p4ybye.html>

³⁶ <http://www.ces.gva.es/es/contenido/documentos/memorias-socioeconomicas/memoria-del-ano-2019>

³⁷ <http://www.ces.gva.es/es/contenido/documentos/memorias-socioeconomicas/memoria-del-ano-2019>

³⁹ <http://www.ces.gva.es/es/contenido/documentos/memorias-socioeconomicas/memoria-del-ano-2019>

38	GDP		115,557 M€
	GDP per capita		23,094 €/person
	Sector %	Primary	2,3
		Industry	18,5
		Construction	7,1
Services		72,1	
Dwellings composition		Multifamily: 407,000 (98%) Single-Family: 8,000 (2%)	

The city’s residential building stock was mainly built between the decades of 1951 and 1980 totalling a 59.8%⁴⁰ of total dwellings. Then, between 2021 and 2030, around 114,760 additional homes, 27.3% of the total stock will reach an age of 50 years being in need for renovation upgrades considering the requirement for those building types. It consists of a majority of multifamily buildings around 407,000 (98%) dwellings compared to 8,000 (2%) single family houses.⁴¹ The social and economic impact of the COVID-19 pandemic in Valencia has been considerable. The region is placed in the 6th position of confirmed COVID cases with a total amount of 30,866⁴².

Promotion of energy generation through renewable sources as well as the adoption of measures to promote self-consumption is key in post-COVID-19 recovery. At the national level, aside from regulatory and legislative measures that are directly connected to the improvement of energy efficiency within the building sector, the policies relating to objectives of energy savings and efficiency are mainly laid out in the **Energy Savings and Efficiency Strategy** 2004-2012 (E4) and through the **Energy Efficiency Action Plans** (PAEE 2008-2011 and PAEE 2011-2020), prepared by the IDAE.

Valencia joined the **Covenant of Mayors** and, therefore, has a Sustainable Energy and Climate Action Plan (SECAP) in place. According to this SECAP, Valencia aims to reduce CO₂ emissions in the city by at least 40% by 2030, with respect to the year 2007 (which amounts to 1,073,649.75 tons of CO₂), to reach at least 27% share of renewable energy consumption (which amounts to 40,982.25 MWh of renewable energy generated), and to

³⁸ <https://www.researchgate.net/publication/331929953> The Evolving Vineyard%27s Age Structure in the Valencian Community Spain A New Demographic Approach for Rural Development and Landscape Analysis/figures?lo=1

⁴⁰ [https://www.valencia.es/ayuntamiento/vivienda.nsf/0/CF75350A89C738CBC12583EE002A2740/\\$FILE/20190501%2520Plan%2520Estrat%25C3%25A9gico%2520de%2520Vivienda%25202017-2021.pdf?OpenElement%26lang%3D1&sa=D&ust=1601029096927000&usq=AFQjCNGXhjlX-ar8P_3C8B2JGCGnui9YAq](https://www.valencia.es/ayuntamiento/vivienda.nsf/0/CF75350A89C738CBC12583EE002A2740/$FILE/20190501%2520Plan%2520Estrat%25C3%25A9gico%2520de%2520Vivienda%25202017-2021.pdf?OpenElement%26lang%3D1&sa=D&ust=1601029096927000&usq=AFQjCNGXhjlX-ar8P_3C8B2JGCGnui9YAq)

⁴¹ Sav€ the Homes: One-Stop Shops as Citizens' Hubs to support the decision-making process for integrated renovations

⁴² <https://www.statista.com/statistics/1102882/cases-of-coronavirus-confirmed-in-spain-in-2020-by-region/>



improve energy efficiency of at least 27% (which amounts to 2,618,424.2 MWh). Among the actions included to mitigate climate change, there is a specific section focused on the **residential sector**, which includes measures such as awareness campaigns, renovation of residential buildings, tax benefits in permits for renovation of buildings, visits to evaluate energy efficiency and consumption at homes, etc. These measures imply the reduction of 171,540 tCO₂/year by 2050, and energy savings of 453,444 MWh/year by 2050.

Valencia Institute of Building or The Valencian Building Institute (IVE) is a public interest foundation, established in 1986, promoted by the Second Vice-Presidency and the Department of Housing and Bioclimatic Architecture. It is governed by a Board of Trustees that brings together the group of professionals involved in the building and urban process: The administration, professional associations, manufacturers' associations, developers, builders, users and educational and technological centres.



Fundación Valencia Clima i Energia is a municipal foundation of the Valencia City Council and which depends on the Regidoria d'Emergencia Climatica i Transicio Energetica. The fundamental axes of its work are information and training on climate change, as well as the transformation of the city into a resilient city capable of facing the present and future challenges of global warming. It currently manages l'Obssservatori del Canvi Climatic, an informative educational facility, and l'Oficina de l'Energia, a one stop location to support citizens in the energy transition.

Both the Valencian Building Institute and the Valencia Clima I Energia Foundation are collaborating with EuroPACE partner GNE Finance in the Save the Homes project, another H2020 project that seeks to increase the rate of sustainable residential renovation projects in Europe.⁴³ As such, the EuroPACE Leader City workshop forms a bridge between two projects with similar goals, as well as the basis for a sustained relationship between the parties involved.

The aforementioned characteristics of the area and the existing expertise related to Spain by EuroPACE Consortium Partners, make Valencia a key region to further deploy EuroPACE and create a collaboration with local actors to this end. Valencia is selected as a Leader City and Region because of the region and city's importance (based on population and economic weight) and strong political commitment to EU climate and energy goals, specifically related home renovation. Since the HolaDomus pilot was rolled out in Olot, Spain, under the auspices of the EuroPACE project, there already exists significant experience and insights in the relevant national Spanish legal framework. In order to implement EuroPACE in the region, Valencia Institute of Building and Fundación Valencia Clima i Energia are the main actors.

⁴³ <https://savethehomes.org/>

Leader City 4: Barcelona (Spain)

Given Spain’s pre-selection as a suitable country for EuroPACE implementation, as well as the successful pilot deployed in Olot during the EuroPACE project, tackling the biggest city in Catalonia was a logical next step in terms of EuroPACE Leader Cities.

Barcelona is located on the northeastern coast of Spain. Barcelona is the capital and largest city of the Autonomous Community of Catalonia, as well as being the second most populous municipality of Spain. Over 1.660.000 people live in Barcelona city, which is divided into 10 city districts. With regards to policies on the Spanish level, also see *Leader City 3: Valencia (Spain)*.

Barcelona has the oldest housing stock in Spain⁴⁴, indicating that the need for the renovation of homes and buildings is particularly essential and urgent if the city wants to reach its climate goals. The city’s residential building stock, which counts over 800.000 homes⁴⁵ is responsible for almost 30% of the city’s energy consumption and more than 20% of the city’s CO₂ emissions.⁴⁶

Barcelona Location	Barcelona Demographics ⁴⁷		
	Barcelona population		1.664.182
	Barcelona density		16.420 persons/km ²
	GDP		78,817.6 M€
	GDP per capita		€48,500/person
	Sector %	Agriculture	0,02
		Industry	8,06
		Construction	3,63
		Services	88,27
	Disposable Household Income per capita		± €20,800

Barcelona clearly signals its willingness to have an exemplary role in terms of sustainability and decarbonisation of its building stock, having been committed for some time to a model that puts sustainable development at the centre of its municipal policy. To this end, Barcelona has signed several international declarations that aim to increase protection for the environment, and the city has joined the **Covenant of Mayors** in 2008. Besides,

⁴⁴ https://cronicaglobal.elespanol.com/business/barcelona-parque-vivienda-envejecido-espana_161939_102.html

⁴⁵ <https://www.idescat.cat/emex/?id=080193&lang=es>

⁴⁶ https://energia.barcelona/sites/default/files/documents/balanc_energia_2014-r.pdf

⁴⁷ <https://www.idescat.cat/emex/?id=080193&lang=es>

Barcelona has pledged to reduce greenhouse gas emissions per capita by 40% by 2030 as compared to 2005, and to become a carbon-neutral city by 2050.

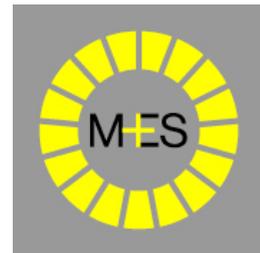
In addition, the city has taken its own initiative to develop plans and measures to achieve such objectives, such as 2011-2020 Barcelona, Energy, Climate Change and Air Quality Plan, the measure to promote land usage and green roofs in Barcelona (2014), the programme to promote solar energy generation in Barcelona (2017-2019) and various neighbourhood plans.

In order to increase its residents' quality of life, Barcelona has set ambitious goals with its Agenda 2030 – setting social, economic and environmental targets for the city to be achieved over the next 10 years. A more sustainable built environment is an essential part of this plan. The Pla Clima (2018-2030) also recognises the renovation of the building stock as a major challenge to achieve sustainability goals; it envisages the energy renovation of 20% of residential buildings that are over 40 years old.

The City Council is a driving force in terms of energy rehabilitation. Barcelona City Council has an annual subsidy line for building renovation, with the following objectives⁴⁸:

- 2008-2011 term: average of 31,741 dwellings per year
- 2011-2015 term: average of 10,219 dwellings per year
- 2015-2019 term: average of 13,662 dwellings per year

In line with the objectives set out in the tools presented above, in 2021 the Barcelona Sustainable Energy Mechanism, or **MES Barcelona initiative**, was launched to drive the municipality's ambitious agenda to leverage a sustainable and green energy transition in the city and attract private investors.⁴⁹



GNE followed the homologation (approval) process to become one of the select companies offering services under the MES Barcelona programme. GNE was subsequently chosen to be one of the first companies homologated by the Ayuntamiento de Barcelona to take part in the MES Barcelona programme, which was created with the objective of catalysing the energy transition in the City of Barcelona.

GNE Finance, having developed the HolaDomus programme in Olot, which was built on the EuroPACE model involving: technical assistance, affordable financing and smart funding, put in place **HolaDomus Barcelona** initiative,⁵⁰ offering citizens and homeowner communities the possibility to implement sustainable measures in their homes and buildings. HolaDomus Barcelona is fully aligned with the city's sustainable goals, facilitating accessible and affordable assistance throughout the renovation processes needed to achieve better, energy-efficient homes and buildings. The holistic and long-term vision of the programme has been developed with the citizen in mind, responding to the needs of the market, communities and the environment.



⁴⁸ MdI MES Barcelona

⁴⁹ <https://ajuntament.barcelona.cat/agenda2030/ca/mesbarcelona>

⁵⁰ <https://www.holadomusbcn.com/>



Ayuntamiento de Barcelona or Barcelona City Council is regulated by virtue of its proper legislation, on the Municipal Charter. The Charter establishes two different levels: political, which defines strategy for the city, and executive, which is responsible for implementing specific policies in order to achieve defined goals. Ayuntamiento de Barcelona has competences in matters of urban planning and environment and housing, specifically with regards to the promotion of housing rehabilitation and residential energy efficiency.

In conclusion, the city of Barcelona **became a EuroPACE Leader City through the alignment of the city's ambitions, as set out in the MES Barcelona initiative, with those of the project, leading to the inception of HolaDomus Barcelona programme**, a sister programme of the legacy HolaDomus programme developed under EuroPACE. Given Barcelona's strong political commitment, demonstrated through objectives and plans outlined above, as well as their urgent need for building renovation, due to having the oldest building stock in Spain, HolaDomus Barcelona's homologation under the Ayuntamiento de Barcelona's MES Barcelona Initiative make it a prime EuroPACE Leader City.

Leader City 5: Balearic Islands (Spain)

The Balearic Islands are composed of three islands (Menorca, Palma (Mallorca) and Ibiza) situated to the east off the Spanish Coast. The total population on the Balearic Islands is of 550,000 with an estimated amount of 239,000 residences on the islands. The majority (over 60%) of the residential buildings on the islands were constructed between 1951 and 1990.⁵¹ Furthermore, a large number of these buildings, mostly multi-family buildings, were built to cover the booming tourist demand in the 1950s-1970s period and some were later converted to apartments for low-incomes families. These often resulted in obsolete infrastructure coupled with poor or non-existent facility maintenance, a lack of proper administration, and usually inhabited by a high concentration of vulnerable groups and people living in energy poverty. Archaic buildings constructed with inappropriate and unsuitable construction materials combined with poor building constructions due to the lack of technical capacity, lead to negative effect on the population and its living conditions and is therefore considered a risk to their health.

Balearic Islands' Location	Menorca, Mallorca, Ibiza Demographics and Data		
	Mallorca (Palma) population	941.470	
	Ibiza population	157.704	
	Menorca population	98.238	
	Balearic Islands total area	4,984 km2	
	GDP ⁵²	€32,542m (2018), which represents 2.7% of national GDP	
	GDP per capita	€30,200 (2018)	
	Sector %	Primary	0,6
		Secondary	8,3
		Tertiary sector/ Regional GVA	85,7

These islands are situated in a vulnerable geographical area to climate change, and thus they are prone to an increase in average temperature above global average, decreased average annual precipitation and more extreme weather events such as heat waves or heavy rains.⁵³

It is important to note that the Balearic Islands have already demonstrated their commitment to provide a sustainable plan to their residents through the approval of the Plan for Climate

⁵¹ Provided by Direcció General de Vivienda del Ajuntament de Palma in 2020

⁵² <https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/base-profile/balearic-islands>

⁵³ http://www.caib.es/sites/canviclimatic2/es/estudis_de_vulnerabilitat/archivopub.do?ctrl=MCRST297Z1290464&id=290464



Change Mitigation Action in 2014. It also shows that they have taken the step and set the scene for other European regions and islands. It is noteworthy to mention that the disjointed islands were familiar with the benefits of home-based financing and have a proven motivation to implement EuroPACE-based models, which greatly ease the programs development. These important efforts from the government, that has shown strong political willingness to address the issue of the islands' residential buildings, is demonstrated by their strategy to address financial and technical barriers to home renovation. This will help the Mediterranean islands to achieve the decarbonisation of the islands' residential buildings and is at the core of the post-COVID-19 recovery.

The three islands have specific yet common situations regarding their building stocks. They need suitable and sustainable solution to cope with the aging building stocks, poor quality housing and the islands exposition to harsher weather conditions resulting from climate change. Considering that most of the islands' dwellings were built 30 to 70 years ago, in poor construction standard and for short-term tourist-related purposes, it is becoming evident that the building stocks are in a critical need for renovation. In addition, it is noteworthy to mention that islands need more permanent housing as there is an increasingly larger numbers of permanent residents seeking housing. This demonstrated the need for sustainable renovation to improve the comfort, health and wellbeing of the island's residents. EuroPACE model can serve as an actionable model for building renovation on the islands.



Ajuntament de Palma

Ajuntament de Palma de Mallorca or Palma's City Council is the municipality's local entity competent in municipal activities and public services for citizens. It has competences in matters of urban planning and environment and housing, specifically with regards to the promotion of housing rehabilitation and residential energy efficiency. The Council has an ideal position due to its network of local contractors and relevant stakeholders, to leverage the project results to increase the rate of home renovation on the island of Mallorca. It facilitates further development of existing OSS services in combination with communication and engagement tools for scaling efforts.

Ajuntament d'Eivissa or the City Council of Ibiza is the administrative political organisation of the Ibiza Municipality, with powers in urban planning, the environment and housing policies. Ibiza's Council will be able to expand on experiences and learnings from the project to become experts in home renovation projects. Then, the focus is to scale the efforts across the full island.



CONSELL INSULAR
DE MENORCA

Consell Insular de Menorca or the Island Council of Menorca (CIME) is a public institution with powers in mobility and territorial planning, amongst other things. Menorca is a pioneer in terms of island sustainability and is highly focused on improving energy efficiency of buildings. CIME will be able to leverage its established networks with local authorities and

Menorca 2030 energy agencies to stimulate demand and investment in energy efficiency projects on the island of Menorca. The island will be able to build on the existing OSS office, serve as a local point of contact for related issues, and make renovation services accessible to the entire island.



It should be noted that while Palma and Ibiza are municipalities on the respective islands, CIME is a regional organization covering the full island of Menorca. CIME has been actively pursuing the implementation of the EuroPACE mechanism on the island, as evidenced by its inclusion in the Menorca2030 Strategy.⁵⁴

The previously mentioned characteristics of the Islands (aging building stocks, strong political willingness, knowledge already acquired by the government and the existence of a strategy to cope with Climate change), the pre-existing relationship of each Islands with GNE Finance, enabling EuroPACE financing, combined with the national legal framework make the Balearic Islands suitable candidates for a replication of the EuroPACE program while fostering collaboration with local stakeholders. As result, the three Islands are selected as a Leader City and Region.

⁵⁴ <http://www.biosferamenorca.org/documents/documents/5416doc12.pdf>



Leader City 6: Mouscron (Belgium)



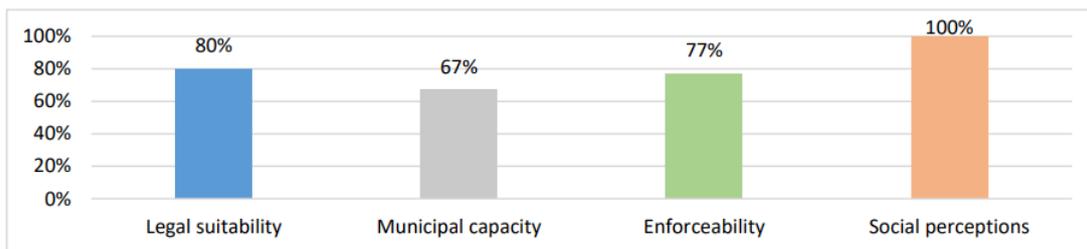
Mouscron is a city in the French speaking Walloon Region of Belgium with almost 60.000⁵⁵ inhabitants, having seen an increase of its demography by 5.000 habitants in the last six years. In terms of surface area and demography, it is the smallest of the selected EuroPACE Leader Cities. EuroPACE is working directly with the Mouscron

municipality and more specifically its Department of Energy to explore the possibility to replicate EuroPACE, whilst also involving players representing the Walloon Region in the process, as energy and built environment policy fall under the regulatory umbrella of the regions in Belgium.⁵⁶ As such, the Service Public de Wallonie and cabinet of the Walloon Minister of Energy are represented in the Leader City Workshop.



Belgium

Moderately adequate country for EuroPACE implementation – overall grading for suitability: 78.57%



Overview of Belgium's scores on EuroPACE suitability factors

The graph above features the adequacy of Belgium to implement EuroPACE. On a legal and fiscal level, it must be noted that a possible implementation of the EuroPACE mechanism in Mouscron would follow a significantly different path as compared to the Spanish approach, given the substantial differences in legal and fiscal context, and the fact that Belgium has received a rating of being 'moderately adequate' for EuroPACE implementation, as described in D2.1. A preliminary fiscal analysis has indicated that public-private mechanisms similar to the EuroPACE concept have not been tested in the country yet, and as such the Leader City Workshop will provide a unique opportunity to explore this mechanism further with local experts and political representatives.

Mouscron's Location	Mouscron Demographics and Data	
	Mouscron population	59.622

⁵⁵ <https://fr.wikipedia.org/wiki/Mouscron>

⁵⁶ <https://gouvernement.wallonie.be/home/competences.html>



	Mouscron population density	1.441 persons/km ²
	Mouscron total surface area	40,08 km ²
	% buildings	48,41%
	% agricultural area	49,86%
	% wooded area	0,01%
	% other	1,72%
	Avg. income per resident	€ 14.855 (2015)
	Unemployment rate	15,5%

Mouscron has been identified as a suitable candidate for EuroPACE replication due to its clear political will and experience with implementing projects that seek to renovate the building stock and pave the way for a greener Mouscron. The town established its first PAED (Plan d’Action Energie Durable) or **Sustainable Energy Plan** in 2012, setting targets to be reached in 2020.⁵⁷ This plan has been set up as a result of joining the **Covenant of Mayors** earlier that same year; the village was one of the first Walloon Region communities to become a member of the Covenant of Mayors. By extension, the entire Walloon Region has demonstrated its commitment to renovate the built environment.⁵⁸

To achieve the targets set out by the Covenant of Mayors and its PAED, Mouscron authorities put in place an Energy Department (Cellule Energie) in 2014, which has already taken concrete actions and set up mechanisms to provide support for citizens in relation to their energy costs and energy companies.⁵⁹ As a reward for its efforts, Mouscron received the **1st European Prize for the best planning of communal energy policies for villages of more than 50.000 inhabitants**. In 2018, the PAED was adjusted to reflect a more extensive set of climate goals, inserting fresh goals into the plan such as a reduction of 40% of CO₂ emissions by 2030.⁶⁰

Mouscron has also been very active in terms of supporting a green transition and providing **guidance to homeowners** seeking to renovate their homes by providing services such as energy audits and support in terms of facilitating access to subsidies. Furthermore, the city is a part of the Belgian **BE REEL project**, which seeks to implement sustainable initiatives and foster building renovation throughout the country to fight climate change. For Mouscron, this means a specific goal of thoroughly improving the energy performance of 900 homes by providing support tools and technical assistance to Mouscron citizens willing to renovate.⁶¹ To increase building renovation in Mouscron is urgently necessary, as the majority of the building stock is obsolete:

⁵⁷ <https://www.mouscron.be/ma-ville/administration/cellule-energie/pdf/paedmouscron2013.pdf>
⁵⁸ <https://energie.wallonie.be/fr/la-politique-energetique-de-la-wallonie.html?IDC=6238>
⁵⁹ <https://www.mouscron.be/ma-ville/administration/cellule-energie>
⁶⁰ <https://www.mouscron.be/ma-ville/administration/cellule-energie/pdf/gazetteenergie1.pdf>
⁶¹ <https://www.mouscron.be/ma-ville/administration/cellule-energie/pdf/gazetteenergie1.pdf>

Year built	Number of homes
Before 1900	2.997
1900 - 1918	2.578
1919 - 1945	7.264
1946 - 1961	1.822
1962 - 1970	1.382
1971 - 1981	2.367
1982 - 2001	247
Total buildings built before 2001	18.657
2001 - 2014	3.230
Total	24.693

⁶²

Apart from renovating the existing building stock, regulations have been put in place that stipulate that all new buildings from the beginning of 2021 on need to be nearly-zero-energy buildings, in line with the EU Directive of Energy Performance in Buildings.

In conclusion, through its active and consistent participation in various initiatives aimed at creating awareness and improving the building renovation rate and the very strong political will currently observed in the area, Mouscron – and by extension the wider Walloon Region – has been identified as a highly suitable EuroPACE Leader City. The Consortium will work directly with the city representatives.

⁶² FOD Financiën/SPF Finances – Study on built environment, <https://finances.belgium.be/fr>



The EuroPACE project is well-connected with other European Commission-funded projects. Specifically, synergies were identified with the Sav€TheHomes and FITHOME projects.

The Sav€TheHomes project kicked off in September, 2020. GNE Finance is a partner in the Sav€TheHomes project. The Sav€TheHomes project intends to develop two renovation hubs in Valencia and Rotterdam. Such hubs would offer technical assistance and facilitate financing. GNE, IVE and VCE agreed to collaborate under the auspices of the Sav€TheHomes and the EuroPACE projects. Thus, Valencia would become a leader city under the EuroPACE project, while the City Workshop Group will support the tasks in the Sav€TheHomes project. Since there is already a relationship of trust and common goals between the partners, the workshops are expected to be especially fruitful.

As for FITHOME, which launched in June, 2020, the EuroPACE project will closely watch the development and implementation of the on-tax financing in Wijk bij Duurstede in the Netherlands. In Fact, GNE is a partner in the FITHOME project and thus can foster future synergies. The goal of the FITHOME project is to bring together innovative financing, digital end-to-end solutions, and homeowner engagement to drastically stimulate home renovation in the Netherlands.

Two-part workshops will be held with each of the respective Leader Cities that were selected through the standard Leader City selection process. The first part of these workshops will be directed at delving deeper into the legal and fiscal framework in each city to identify potential avenues for implementation of home-based financing mechanism. In the second part, a more practical analysis is done of the set-up of local one-stop-shops and services to be provided there, as well as customer and contractor engagement strategies.

To ensure maximal impact of both parts of the workshop, public authority representatives, relevant political representatives, and legal and technical experts will be invited to participate. The goal is to stimulate thorough discussions about the implications of setting up EuroPACE in each city. For each two-part workshop, the result will be a report with acquired insights and conclusions, presented in D6.2.

As for the Leader Cities that became involved in implementing the EuroPACE mechanism through a more organic process, different procedures were followed. The integration of the EuroPACE solution into the Balearic Islands, via a H2020 PDA proposal development, and Barcelona, through a homologation procedure put in place by the city. This will be described in more detail in D6.2.

