CREATING AN ENERGY EFFICIENT MORTGAGE FOR EUROPE
BUILDING ASSESSMENT BRIEFING: SPAIN
This briefing was produced by the Green Building Council España with the support of WorldGBC’s Europe Regional Network. Its purpose is to assist actors interested in piloting an energy efficiency mortgage product to understand and navigate technical and regulatory aspects of energy efficiency and environmental performance of buildings in Spain. It has been produced as part of the EU Horizon 2020 funded ‘Energy Efficient Mortgages Action Plan’ initiative.

www.energyefficientmortgages.eu

INTRODUCTION

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INTRODUCTION

The purpose of this briefing is to provide an overview of the building performance assessment ‘state of play’ relevant to green mortgages in Spain, and to highlight the opportunities and barriers this may present. The target audience are the stakeholders and actors who may play a role in implementing green mortgages. In the first instance this is likely to be financial institutions and other operators close to the financing of deep energy renovation. The briefing will help these actors in two ways:

- The first so that the situation in Spain can be understood from a European perspective and serve as the country’s reference for developing a first proposal for energy efficient mortgages.
- The second is to help the dialogue with the banks at national level, and this can be completed with their position and products regarding energy efficient mortgages, in order to integrate them in the final definition of the European energy efficient mortgage model, and its Spanish version.

It can also serve as a communication tool to other stakeholders and the general public, in order to create interest, until a final product sees the light.

The following data provide an overview of some of the specific characteristics of buildings in Spain. The data are extracted from the analysis of the residential buildings stock in Spain and its regions\(^1\), which studies the situation based on the 2011 census, and its evolution from the previous one of 2001. This work was done to provide information for the Urban Vulnerability Observatory. In this sense, one essential aspect of this study was to define intervention priorities.

The number of conventional family dwellings in Spain in 2011 was 25,208,623 units, for a population of 48,815,917 inhabitants. This represents an increase of 20% dwellings (4,262,069 units) versus a 14.6% increase of population (nearly 6 million) in the same period.

In terms of key characteristics, the Spanish residential building stock is:

- Underutilized: 71.7% is principal dwellings, 28.3% secondary dwellings
- Primarily owner-occupied: 78.94% of the principal dwellings are owned by the occupants, 13.48% are rented and 7.58% are occupied under another form of tenure. This is a key, very distinctive property situation in Spain.
- Relatively recent: 77.23% built after 1960, with nearly 4 million built between 2001 and 2011. 34.2% of the total is built before 1980, which means these have no insulation at all.
- Mostly collective housing: 68.6%, versus 31.4% single family dwellings, with varying percentages in the different regions.
- Mostly urban, with above 60% in cities of 20,000 inhabitants or more, with the maximum increase in cities of between 20,000 and 50,000 inhabitants
- Often poorly accessed: 3.4 million dwellings of four stories or more without elevator.
- Often of poor quality: With 1.8 million dwellings in a poor state of repair, 71,000 dwellings with no access to sewage, and 50,000 “infra-dwellings” of less than 30 m\(^2\).

This suggests that there could be a very large size and potential of the mortgage market.

Tenure status of households

\(^{\text{Source: "¿Cómo es España? 25 mapas para descubrirla km² a km²"}}\)
As early as 1989, the city of Zaragoza has been developing a building renovation and urban regeneration plan with numerous and successful interventions, under a financial scheme mostly based on public subsidies, leaving only some 25-30% of the cost to be paid (or to be privately financed) by the owners.

From civil society, an essential initial and preparatory contribution to renovation was the GTR (Grupo de Trabajo sobre Rehabilitación) 2011 report\(^1\), which defined a country vision suggesting a new housing sector based on habitability and renovation. This was followed by the GTR 2012 report, which proposed an action plan for the new housing sector. The third GTR report of 2014 specifically introduced financing directions addressed to the regions. In 2015, one of the working lines within the GTR, named GTR Finance, led by Peter Sweatman, carried out a study on barriers and challenges for the public and private financing of deep energy renovation of buildings, identifying the following needs: a) a new legislative framework to foster energy efficiency, b) accredited agents / technical tutors / project managers, c) standardization of solutions), and d) a simple financing kit, specifically designed for deep energy renovation and easy to understand.

Politically, the National Housing Plan of 2013-2016 (later extended to 2017) set the baseline for renovation, defining amongst other things, an economic horizon for the different types of interventions. In particular, it defines the Informe de Evaluación del Edificio (IEE) or Building Evaluation Report, which is an essential document for Building Technical Inspections (ITE), and must include an analysis of the conditions of conservation, accessibility and energy efficiency, with an evaluation of the cost of the different solutions. Following this, mandatory interventions must take place on conservation and accessibility.

The Building Renovation and Urban Regeneration and Renovation Law (RRRU) of 2013, and its consolidated revision of 2015, introduced financial mechanisms to increase the viability of the deep energy efficiency interventions establishing means for instance of an increased buildable area, a space that has not been adequately explored yet. This national law was transposed relatively quickly to the regional codes of some regions (as they are the competent administrative level on housing), starting with Castilla y León, although introducing limitations to the public support that in practice made renovation impossible. Based on the experience, some of these drawbacks have recently been redressed.

As part of the National Energy Efficiency Action Plan (NEEAP) of 2014-2020, the National Fund for Energy Efficiency is the basic source of national subsidies to energy-efficient renovation of buildings. Any type of building
is eligible (see the description of PAREER below). It had been suggested by the GTR that this fund could very efficiently act a guarantee to deep energy renovation of buildings, but this possibility is still untapped.

RenoWiki is a resource created within the BUILD UPON project coordinated by GBce and WorldGBC. It is a tool that aims to be an easy to digest executive summary of all the key initiatives related to building renovation. There is a specific section devoted to financial initiatives.

There are several initiatives from the Spanish Government that aim at financing energy efficiency via subsidies:

- **PAREER**: Subsidies Programme for energy-efficient renovation of existing buildings, from the Ministry of Industry, Energy, Tourism and Digital Agenda (MINETAD) and managed by the Institute for Diversification and Saving of Energy (IDAÉ). It aims at promoting deep renovation of buildings to help meet the 2012/27/EU Directive and NEEAP objectives. The total budget is €200 million.

- **Clima Projects**: Aims to support and promote low-carbon activities through the acquisition of the verified reduction of generated emissions.

- **ICO Fund for Companies and Entrepreneurs**: Financing oriented to autonomous workers, small enterprises and private and public entities realizing productive investments. Also, individuals and property communities exclusively for the energy renovation of their homes. Finance is provided through banks and credit entities.

In relation to the updated Spanish National Renovation Strategy (ERESEE 2017), the BUILD UPON project issued its “12 Recommendations” in Spain in March 2017, one of which was on a new accountability for deep energy renovation. BUILD UPON advocates establishing a ‘New Economy’ in Spain for the ‘Implementation of a new revised accounting, with dynamic treatment of money (especially public money) flows, and introduction of leverage procedures to increase viability by immediate guarantee coverage of risks, so that a “virtually endless money flow” can take place’. The ERESEE 2017 incorporated other BUILD UPON recommendations.

Some remarkable energy renovation initiatives affecting financing have recently taken place in cities. In an extraordinarily difficult demographic situation, a very interesting management and financial process has been put in place in Santa Coloma de Gramenet. The city of Santa Coloma does all the project management in close collaboration with the citizens, and advances the payment of the cost, which is registered as a debt of each resident of the city, which can be paid in installments until its complete cancelation or remain as a property-related charge if the owner cannot pay. The number of unpaid loans has so far been very limited.

The initiatives described above are the most relevant ones, but there are many other examples that are interesting for the purpose of this report.
The energy performance certificate is known in Spain as the Certificado de Eficiencia Energética de los Edificios (henceforth CEEE), and was originally enforced by the first Spanish law on CEEE (Royal Decree 47/2007), in transposition of the European Directive 2002/91/CE (the initial Energy Performance of Buildings Directive). After a long period of delay in the fulfilment of the EU obligation, it has lately experienced a relatively quick advance in Spain thanks to the Royal Decree 235/2013. This update of the prior decree unifies the procedure and establishes the obligation to produce the CEEE (with a validity of ten years), and submit it in every commercial rental or sale transaction, as well as in every publication or commercial advertisement of the dwelling or building.

The conditions of the CEEEs, and how they must be registered, are clearly defined by the MINETAD and Ministério de Fomento (MFOM). Since January 2016, only CEEEs generated using the documentos reconocidos or approved documents (these software tools include HULC, CE3, CE3X and CERMA). VERDE, GBCe’s rating tool, incorporates all this, adding a quality supervision (see below).

There are three reports so far on the situation of the CEEEs in Spain issued in a relatively short space of time: the first in July 2014, the second in January 2015. According to the third, and most recent, report17, also released in 2015, the total number of CEEEs in Spain as of 1st July 2015, is roughly 1.5 million (1,515,628), of which 23,211 are new finalized buildings and 1,492,417 buildings are existing buildings.

In spite of the relatively large numbers of CEEEs, the social acceptance is low regarding their usefulness (it is mostly seen as a “new tax” – as this article in the newspaper El País suggests18 – and an obligation with no perceived benefits). They have a relatively poor reputation in terms of their quality, mostly due to extreme low-costs, in some cases going down to offers in the range of €35 per certificate. The low reliability of the CEEEs is especially worrying for existing dwellings, where having a valid CEEE is a legal obligation in any rental or sale transaction. This may also be related to the quality control procedures: for new construction and CEEEs related to a renovation process it is established, theoretically, that all the certificates from A to E must be officially verified. For the other levels the controls are less intense and done randomly; however, for the CEEEs done for existing buildings there are not clear quality control measures established.

In the following table, the percentages of A to G labels suggest an encouraging trend to better levels of performance in new-builds, but show an overwhelming weight of poor, or very poor certificates (E and G as the highest percentages) in existing buildings:

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEW BUILT</td>
<td>1,734</td>
<td>3,714</td>
<td>3,538</td>
<td>6,711</td>
<td>7,357</td>
<td>41</td>
<td>117</td>
</tr>
<tr>
<td>EXISTING</td>
<td>3,117</td>
<td>9,580</td>
<td>50,755</td>
<td>175,473</td>
<td>692,911</td>
<td>196,287</td>
<td>364,264</td>
</tr>
</tbody>
</table>

Distribution of CEEEs in Spain according to the CO₂ emissions

In the following diagram, the Energy rating of buildings (2015) shows the distribution of CEEEs in Spain according to the CO₂ emissions.
One of the main purposes of the CEEEs, that prospective buyers know the energy label of a building before purchase, does not appear to be explicitly acknowledged. For example, in the popular real-estate market portal Idealista.com, which initially focuses on the obligations and procedure, with a relatively poor explanation of the information it provides and how it can differentiate the offer. More explicit information on the subject of green financing is beginning to appear in some of these types of portals, as pisos.com demonstrates.

A recent study of the correlation between the awareness of the certificates, and people’s willingness to pay a certain amount to improve the rating, identified a very poor basic understanding of the purpose of the certificate amongst older people and amongst young people with low awareness. However a willingness to pay up to around 30€/month to go from class E to A, was exhibited once the certificate is understood.

As housing is a competence of the Regional Governments, the CEEE databases are distributed in the seventeen regional administrations of the CCAA (Comunidades Autónomas). For example, the regional databases of Castilla y León, Andalucía, or Basque Country.

A 2014 study by the Environmental Sciences Association (ACA) evaluated the access to energy certification information (both general conceptual information as well as results) by the citizen in three ways: web, phone or writing (be it by email or regular postal mail). The access to the energy certificates is possible in all the regions with a public database, but not all of them have one. Regarding the calculations behind the certificate, these are only available in some regions such as Catalonia. Overall, the best, according to this study done in 2014, were Navarra, Castille and León and the Basque Country.

The access to the labels is not direct though and only some CEEE web pages, such as Catalonia’s, managed by the Catalanian Energy Institute (ICAEN), Navarra’s or Andalucia’s, have a clear and direct link to it.

With the introduction, in January 2016, of the unified certification tool (HULC), a digital file is generated in XML format, which contains all the data of the certificate and that must be provided at the time of the registration of the certificate. This has been done to facilitate the statistical treatment of the data included in the certificates and should lead to more accessible information. This digital file also contains the access to the calculation file. This could improve the quality control of certificates.

The CEEEs are Asset Ratings (theoretical energy calculations), being the Operational Ratings (measurement from meters or invoices) contemplated only as a desirable aspect “to be seen after”.

The documentos reconocidos or approved documents are the software tools used to generate CEEEs and are based on CEN standards that support the Directive 2010/31/EU for the Energy Performance of Buildings. They include the calculation of the following metrics:

- Total primary energy demand: Weighting factors applied to the calculated building energy needs according to EN 15603 or EN 52000-1
- The building envelope (energy needs): This is the starting point for calculation methods developed according to EN ISO 13790 and EN ISO 52016.

There are relatively detailed national databases of data relating to the energy efficiency of buildings such as with the IDEA database of primary energy consumption by building type. Complementary information can be found at the Odysee database of the H2020 Odysee-Mure project. The following section includes some further information about the correlation between CEEEs and other relevant metrics.

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There is abundant information, even in the general media, about excessive energy bills, taking the CEEE as reference. The gap between predicted and actual energy consumption remains a major issue in sustainable building, with differences frequently in the range of 40% or above, both in new and renovated buildings.

The difference is exacerbated since the CEEEs express non-renewable primary energy in KWh/m²·year and CO₂ emissions according to the regular energy sources. Primary energy includes any losses in the delivery network, whereas these are not reflected in the actual measured consumption at the building. Additionally, the standard conditions assumed in the calculation may not agree with the specific conditions of the building, and the final energy bill will depend on operation and also include other uses such as lighting or appliances.

There is much uncertainty and uneasiness about energy usage. Among the general public, electricity is the most poorly appreciated service, with a lot of confusion about the relationship between consumption and price, and little understanding of the limitations for energy savings in fixed price contracts. Such uncertainties could create distortion in the prediction of the final pay-back and make renovations appear less desirable.

There are some examples of renovation schemes in Spain to help homeowners carry out the renovation of their buildings in a comprehensive way. One notable regeneration initiative named Plan MAD-RE is taking place in the city of Madrid. This addresses energy poverty as a central problem to be solved, based on a vulnerability definition and mapping, with subsidies that can go up to 90% depending on the families’ needs. This initiative is based on neighbourhood communications and is proving to be very successful, with nearly 30,000 dwellings expressing interest in renovation.

Another example is the Puntos de asesoramiento energético or Energy Advisory Points in Barcelona, which have provided more than six thousand consultations in 2017.

Finally, there is a mobile application created by the Fundación Laboral de la Construcción within BUILD UP Skills Spain, which allows a prediction of the energy consumption through an energy demand simulation of the renovation.
Spain is very delayed with regard to the installation of individual smart meters as part of the transposition of articles 9 to 11 of the EU Energy Efficiency Directive 2012/27, which became mandatory from 1st January 2017. Property energy consumption data, such as those from smart meters, are considered to be private when there is a direct and unequivocal connection between the person and the data. As such they are regulated by the Organic Law on Personal Character Data Protection (LOPD), which sets out how such data should be stored and accessed. Such data for individual households can therefore only be accessed with explicit authorization, and with robust security procedures. Only once the data is aggregated and depersonalised is it possible to make it public.

There are real concerns about data privacy. It is likely that building owners may be unwilling to share data with banks as part of a mortgage transaction, unless it was legally supported.
Energy efficiency should not be the only aspect taken into account when assessing the performance of a building. Broader environmental sustainability features are increasingly appreciated by homeowners and users. Among them are health factors, such as the quality of drinking water, as well as thermal, visual and acoustic comforts. These could be taken into account in order to go beyond the energy efficiency paradigm in a green mortgage. There are a number of tools that could help move this aspect forward.

In Spain, VERDE14, GBCe’s rating tool has two schemes, one for residential (Res), and another for non-residential facilities and public buildings (Equi). Within these, new buildings, renovations and existing buildings can all be evaluated.

Of particular relevance to energy efficient mortgages, is the renovation design aid tool called VERDE RH. This has a simplified calculation method that is based on the CEEEs, but which could also serve to introduce other criteria beyond energy.

VERDE represents a step forward in the evaluation of energy efficient building interventions of the CEEEs, adding clarity to the information provided by them. It incorporates the results of the primary energy and CO₂ emission estimates conducted using standard software (documentos reconocidos: HULC, CE3, CE3X, CERMA, as described above and even others such as DOE’s Energy Plus), and uses a simplified method which clearly redistributes the CO₂ figure of the CEEEs in three segments: the part related to the building envelope (demand criterion), the part related to the building systems (non-renewable energy consumption criterion) and the part related to CO₂ emissions (renewables criterion), broadly in the line with the accepted definition of Net Zero buildings.

The new version VERDE Omega Res goes further by including three quality control checks for the CEEEs:

1. simple verification that the information in the CEEE is correct,
2. a posteriori verification of the building, for example using thermographic analysis and air-tightness tests, and
3. verification of actual consumption in use.

Depending on the mortgage type, all three steps may not need to be implemented for an energy efficient mortgage, but the possibility of having all of them in place is important.

There is evidence of a correlation between energy performance and property. According to the real estate valuation consultancy TINSA (Tinsa Certify) in the PREI15 project, an increased value of 25% was found for dwellings with a deep energy renovation, taking them from a G to an A (50% above the cost of the intervention). This was despite negative market conditions at the time in 2013 and 2014.

Despite frequent initial reluctance to undertake a renovation, the majority of renovation interventions have good output in terms of comfort, as was found for example during a very large renovation in Torrelago in Valladolid, within the EU project CityFied, coordinated by Cartif. In this case, besides achieving a 38% reduction of the energy consumption and 94% reduction in CO₂ emissions, the average internal summer and winter temperatures were improved, providing higher thermal comfort to the residents.

Aspects of building performance related to health, particularly acute in connection with energy poverty, are acquiring a growing importance, but are not yet evaluated in the CEEEs, despite their relevance from a financial point of view. VERDE was one of the first rating tools to evaluate environmental impact, and other aspects of social character, starting with comfort and wellbeing. VERDE will continue to evolve along the lines defined in the EU’s pilot programme of harmonized sustainability indicators, LEVEL(S), and its six macro-indicators. These are energy efficiency, water, materials lifecycle, health, climate change adaptation and costs and financing.

This last point, which combines the consideration of the building as an environmental asset with aspects like reduced energy consumption and potentially decreased maintenance costs, is of particular importance regarding a European energy efficient mortgage.

A model for a simple VERDE compact tool for comprehensive and reliable financial evaluation and verification purposes is being proposed by GBCe to the Spanish banks. The consultation process is underway and will culminate in our national workshop in March 2018. Depending on the results of this consultation, the full tool could be developed during 2018 in parallel to the development of EeMAP. Additionally, a simplified version of this tool could be used for educational purposes by banks, helping them understand the subject of building energy efficiency, and contributing to the desirable situation where banks become a sales point for deep energy renovation of buildings.
Energy efficiency is a relatively new subject for private banks, and is especially difficult in the area of buildings.

Compared to other energy interventions banks may have financed, such as hydroelectric, wind or photovoltaic generation, risk analysis may be more difficult. Reasons for this include the comparatively small size of most individual investments, the many variables these may present, and the legal status of the borrowers if they are gathered under a collective form such as the Comunidades de Propietarios or Community of Owners. These collectives are considered inadequate to jointly share the responsibility in case of default, although they nevertheless have a reputation for reliable repayment.

Many banks have already financed building renovations, which in many cases has led to upgraded loans and mortgages thanks to an increased value of the asset due to its improved usage quality and updated image. Some valuation companies such as Cohispania Tasación y Valoración do take into account energy efficiency as positive, both in terms of the market value of the building in question and its future projection, as well as regarding the risk evaluation for the affordability calculation. This cannot be said to be a common practice though.

As a general rule, in cases when renovations include energy efficiency characteristics, this would normally be justified with reference to the CEE energy ratings or even a certification with one of the wider rating tools such as GBCe’s VERDE, LEED, BREEAM, Passivhaus, DGNB or others. This is usually considered as an interesting and positive characteristic, but with little or no effect on the terms of the loan. It would appear, in fact, that the banks prefer not to take it into consideration at all.

This also applies to the case of new construction, where highly energy efficient buildings on paper, would have a similar evaluation to regular buildings. Energy efficiency attributes are considered to offer a guarantee up to point. However, the inability to evaluate the likelihood of this translating into real performance in use, leads to a neutral interpretation of it. Thus is does not ultimately make a difference in terms of risk or value analysis.

In the private banking sector, there are a few exceptions. Typically, much smaller banks with an explicit sustainable and ethical orientation, such as TRIODOS Bank. TRIODOS, which only finances investments with a high sustainable profile, are looking at new loan and mortgage products with improved conditions such as a preferential interest rate and possibilities for a higher loan or mortgage amount for new or renovated buildings. There is evidence of further movement in this direction, with some banks leading a trend which will hopefully be followed by others.

An analysis of what the banks are currently offering in terms of products related to sustainability, and more specifically for buildings has been performed. The analysis was based on a review of the web pages of a series of Spanish banks, to identify any relevant information currently available.

The data collected includes the following items:

- **Type of Bank**
- **Territorial scope**
- **“Sustainable” banking products available**
  - List
  - What do they finance?
  - Criteria that define “sustainable”
- **Specific Green Mortgage offers**
  - Product name
  - Eligibility conditions
  - Criteria that define “sustainable”
  - Benefits over a standard mortgage
- **Specific financing lines for “sustainable” building renovation**
  - Product name
  - Eligibility conditions
  - Criteria that define “sustainable”
  - Is there specific reference to community ownership?

14 banks have been analysed, with a short list of those who presently do finance energy efficiency in buildings in an explicit, differentiated way.

Leading this list is TRIODOS Bank. Under their unique mortgage product, Hipoteca Triodos, the interest rate they offer to their customers is based on the energy performance of the homes. TRIODOS claims that “the most sustainable homes get a better interest rate”. The interest rates currently offered are shown in the table below:

<table>
<thead>
<tr>
<th>Anualidad</th>
<th>Tipo fijo inicial 10 años</th>
<th>Tipo fijo inicial 15 años</th>
<th>A partir de 10/15 años diferencial</th>
<th>TAE Variable 10 años</th>
<th>TAE Variable 15 años</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>2.00%</td>
<td>2.25%</td>
<td>1.00%</td>
<td>2.21%</td>
<td>2.65%</td>
</tr>
<tr>
<td>A</td>
<td>2.06%</td>
<td>2.31%</td>
<td>1.06%</td>
<td>2.27%</td>
<td>2.71%</td>
</tr>
<tr>
<td>B</td>
<td>2.09%</td>
<td>2.34%</td>
<td>1.09%</td>
<td>2.30%</td>
<td>2.74%</td>
</tr>
<tr>
<td>C</td>
<td>2.12%</td>
<td>2.37%</td>
<td>1.12%</td>
<td>2.33%</td>
<td>2.78%</td>
</tr>
<tr>
<td>D</td>
<td>2.15%</td>
<td>2.40%</td>
<td>1.15%</td>
<td>2.36%</td>
<td>2.81%</td>
</tr>
<tr>
<td>E</td>
<td>2.18%</td>
<td>2.43%</td>
<td>1.18%</td>
<td>2.39%</td>
<td>2.84%</td>
</tr>
<tr>
<td>F</td>
<td>2.21%</td>
<td>2.46%</td>
<td>1.21%</td>
<td>2.42%</td>
<td>2.87%</td>
</tr>
<tr>
<td>G</td>
<td>2.24%</td>
<td>2.49%</td>
<td>1.24%</td>
<td>2.45%</td>
<td>2.90%</td>
</tr>
</tbody>
</table>
The interest calculation is directly based on the CEEE. Best conditions are granted for A+ certification, which is A certification with, in addition, one of the following building sustainability assessment labels: BREEAM, LEED, VERDE or PassivHaus.

In terms of pure residential energy efficient mortgage products, this is the only one available in Spain presently. Beside this, there are other ways of financing energy efficiency in buildings by means of specific loans. The following products have been found during the webpage analysis:

Abanca also offers an Energy Efficiency Loan (Préstamo eficiencia energética), specifically financing the improvement of the energy efficiency of companies through building renovation and the replacement of energy systems. Up to €100,000, with a personal guarantee.

Bankia, one of the biggest banks in Spain, also has its own product: the Sustainable Credit for individuals (Crédito Sostenible). This credit, apart from financing new high efficient appliances and electric and hybrid vehicles, also focuses on housing renovation interventions that improve energy efficiency. Eligible measures include the installation of solar energy panels, or condensing boilers, etc., up to €60,000, with improved interest rates.

Caja de Ingenieros has a similar product: the “Eco Loan” for individuals and for professionals, with different conditions for each. This credit, apart from financing new highly efficient appliances and efficient vehicles, also finances energy efficiency interventions in homes and premises through the improvement of thermal insulation, efficient heating, energy efficient lighting and renewable energies. Up to €30,000 can be loaned for 5 years for individuals and up to €120,000 over 10 years for (freelance) professionals.

Banc Sabadell has a specific Credit for the renovation of buildings (Crédito para la rehabilitación de edificios). This is not strictly an energy efficiency product, but a building renovation loan. Building renovation in general can be financed, which in many cases includes energy efficiency interventions. The loan offers no specific benefits in such instances. Nevertheless, this is a positive step forward in the awarding of financing collectively to Comunidades de Propietarios for the renovation of their residential buildings.

Finally, Caja Rural de Navarra, a regional savings bank, which is very active in the energy efficiency arena, both at the sustainable bonds and domestic levels, included, in its 2017 Sustainability Bond Framework eligibility criteria for energy efficiency in buildings. The framework has a detailed description on how to tackle this, mostly based on the CEEE, but also aiming at Net Zero levels.

It should be noted that this analysis is only focused on the information available on the banks’ websites and specifically on the products commercially available at present that finance sustainability in buildings. Consequently, this does not include other advancements or achievements in other sustainability areas, nor the specific products the banks may be developing at the moment in this specific space, or those which are expected to be triggered by the EeMAP project.
CONCLUSIONS

- As the numerous references (which are not exhaustive) indicate, there is much activity around building renovation, with some remarkable initiatives. However, the sector is not working in a functional way yet and this is preventing upscaling.

- Building renovation has not reached the user fully; the demand is low but increasing awareness can be perceived; adequate mortgage products could contribute to a “virtuous circle” to popularize energy efficiency investments. The public financial support available nationally, and at regional level is not sufficient, nor in most cases (with a few notable exceptions) well-structured.

- The energy performance certificates, or CEEEs as they are referred to here, provide useful information, but have not reached the quality and acceptance level to properly serve to justify energy financing.

- So that this can be upscaled, a normalized energy and financing assessment procedure which is robust but simple is needed.

- The energy performance is considered important, but the increased value of the dwelling may be a more powerful driver. Post-renovation measurements, although mandatory, are not considered to be a practical solution so far but in the end actual energy performance may become central.

- Our aim for the national workshop, in March 2018, is to really understand the situation and needs of the banks in relation to deep energy renovation of buildings, and facilitate the provision of the means, via a simplified mechanism based on GBCe’s rating tool VERDE or by other means leading to an increased confidence, so that it can become part of their common practice.

- Overcoming the traditional barriers, there is a small but meaningful trend represented by a number of banks who presently offer specific products for financing building renovation, which may include energy interventions. So far, this circumstance only leads to a differentiated treatment, with improved conditions and a preferential interest in a few cases, and there is only one case in the form of a mortgage.
02 – ¿Cómo es España? 25 mapas para descubrirla km² a km² http://www.ine.es/ss/Satellite?L=0&c=INEPublicacion_C&Aid=1253945920521&op=1254735108727&appparam=&PTSSessionDetails=  
03 – Grupo de Trabajo sobre Rehabilitación (GTR) y sus informes. GTR Finance. Link: http://www.gbc.es/es/pagina/gtr-fines-y-objetivos  
09 – How much does the energy class of our dwellings matter to us? An analysis of the level of understanding of EPCs, willingness to pay and reasons for payment in Barcelona. Revista Hábitat Sustentable Vol. 7, N.°. 1. ISSN 0719 - 0700 / Págs. 54-65; accepted for publication June 27, 2017. Link: https://doi.org/10.22320/07190700.2017.07.01.06; Link to the summary: https://dbjnet.uniofjja.es/servlet/articulo?codigo=6045630  
10 – Estado de la información sobre certificación energética de edificios; Análisis de la información disponible y ofrecida sobre la certificación energética de edificios por parte de las administraciones autonómicas, Asociación de Ciencias Ambientales (ACA), Prefieres webpage, February 2014, Link: http://www.prefieres.es/images/articulos/Biblioteca-43.pdf  
12 – Plan MAD-RE, Plan Madrid Recupera, Recupera tu casa , Recupera tu Barrio, Recupera tu ciudad, City of Madrid webpage link: http://www.madrid.es/portales/munimadrid/es/Inicio/Vivienda-y-urbanismo/Plan-MAD-RE/vgnnextfmt=--defaultvgnextfmt--&vgnVnextID=e0000cb5e09935109f50c100000144a9b0aRCDR&vgnnextchannel=593e313b286e4100VgnVCM1000001d4a900aRCRD  
13 – Puntos de asesoramiento energético del Ayuntamiento de Barcelona, ESEficiencia, Portal de Eficiencia Energética, October 26 2017, link: https://www.eseficiencia.es/2017/10/26/puntos-asesoramiento-energetico-barcelona-visitados-mas-6-000-visitas#WF86HV5VmDG.twitter  
14 – VERDE, herramienta de certificación de sostenibilidad de los edificios. GBCe, coordinated by Paula Rivas Hesse. GBCe’s webpage link: http://www.gbce.es/es/pagina/certificacion-verde  
15 – Proyectos PREI (Proyectos Piloto de Rehabilitación Energética Integral), ANERR, Asociación Nacional de Empresas de Rehabilitación y Reforma, link: http://www.anerr.es/2012/01/13/proyecto-prei/  

Further resources consulted in preparing this document and other useful links can be found in this document.
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