1. OVERVIEW OF THE RESIDENTIAL BUILDING SECTOR

The construction sector in Spain has played a very important role in the national economy, especially in the years leading up to the 2008 financial crisis. As a result of the crisis, the sector suffered a sharp fall in demand and prices, from which it only started recovering in 2014. A proof of this is the fact that the sector went from accounting for 9.4% of the economy in 2006 to 5.5% in 2018. According to the European Commission’s Construction Sector Observatory, the revival of the industry will mostly rely on housing renovation, the availability of training to cover lack of skills, and sustainable construction – these are supported by several policy schemes and dedicated programmes.

In terms of the composition of the building stock, residential properties represent 62.2% of the total. Of this percentage, and six years after the implementation of energy certification for buildings, 47.5% get the E energy label, and 25% a G rating.

Figure 1 – Distribution of the residential building stock by energy label in Spain (Certicalia, 2019)
In Spain, although the **majority of the population lives in condominiums**, the residential building stock is mostly made up of single-family houses. In terms of ownership models, **Spain has traditionally been an ‘owners’ country**, but sociological factors have switched the trend: the percentage of renting households went from 19.4% in 2005 to 23.9% in 2018. The proportion of owner-occupied homes without outstanding mortgages stood at 46.9% in 2018, just below the 50.2% EU average.

**Figure 2 – Segmentation of the Spanish building stock by number of buildings**

![Figure 2 - Segmentation of the Spanish building stock by number of buildings](image)

**The Spanish energy sector**

The main generation sources in Spain are nuclear plants, wind farms, coal and hydroelectric plants. Spain is a net energy importer; it has very few reserves of fossil fuels, so its policy is to increase the amount of renewable energies in its power generation mix to become less dependent on energy from abroad.

There are three types of contracts that can be offered to a customer:

- The regulated market contract: the price varies according to supply and demand, and it is only available for customers with an installed power of 10 kW or less.
- The annual contract with a fixed price: the customer pays a fixed price over the 12 months.
- The free market: a fixed price which is written down on a contract, so customers know how much they are going to pay for each kWh consumed.

The Spanish electricity and natural gas market utilities have 29 million customers, of which 18 million are free market consumers. **Five companies hold 75% of the market share by volume and service 93% of consumers** (Naturgy, Iberdrola, Viesgo, Endesa, EDP), but lately smaller companies have been attracting clients from the incumbent ones.
2. REGULATORY FRAMEWORK

Of the more than 25 million homes in Spain, approximately 90% pre-date the Technical Building Code (approved in 2006) and 60% were built without any energy efficiency regulations. Because of this, several measures aimed at improving the energy performance of Spanish buildings have been approved.

Royal Decree 314/2006

Approving the Technical Building Code (CTE, by its Spanish acronym), is the regulatory framework that establishes the requirements that buildings must meet in terms of safety and habitability, established in Law 38/1999. The CTE is made up of Basic Documents (DB), which are technical texts that set out the limits and basic requirements regarding structural safety, fire safety, safety in use, health, noise protection and energy saving. As for the Basic Energy Saving Document (DB HE), Order FOM/1635/2013, requirement levels for minimum energy efficiency were raised and are now being applied in new buildings, expansions and the rehabilitation of existing ones: these have applied for building permits as of March 2014.

The DB HE in turn consists of six documents: the first four are oriented towards energy efficiency and the last two towards the incorporation of solar energy and renewable energy in buildings. Those relating to energy efficiency are as follows:

- **Document DB HE0** – Limitation of energy consumption: limits the consumption of non-renewable primary energy used in new buildings with a private residential purpose.
- **Document DB HE1** – Limitation of energy demand: hardens the insulation levels of facades, roofs and voids of the previous CTE and establishes criteria for interventions in existing buildings.
- **Document DB HE2** – Performance of Thermal Installations: the basic HE2 requirements are developed in the current Regulation on Thermal Installations in Buildings (RITE).
- **Document DB HE3** – Energy efficiency of lighting installations: establishes mandatory compliance with an energy efficiency value for lighting installations. It also incorporates obligations related to lighting control, especially the use of natural light in perimeter areas of a building.

Royal Decree 314/2006, in its last update in 2018, establishes the minimum requirements to be met by new builds and renovations.
Approving the Regulation on Thermal Installations in Buildings (RITE by its Spanish acronym), updated by Royal Decree 238/2013 modifying certain articles and technical instructions of the RITE: regulates the minimum performance requirements of thermal installations for heating, cooling, ventilation, production of domestic hot water and periodic inspection of energy efficiency, as well as design and sizing, assembly and maintenance.

Royal Decree 235/2013
Approving the basic procedure for the certification of the energy performance of buildings: it establishes the obligation to make available to purchasers or users of buildings an energy performance certificate which must include objective information on the energy performance of a building and reference values such as minimum energy performance requirements, so that the owners or tenants of the building or building unit can compare and assess its energy performance. It also develops the methodology to be followed for calculating the energy performance rating, considering those factors that have the greatest impact on its energy consumption, as well as the technical and administrative conditions for buildings’ energy performance certifications.

Law 8/2013
On urban rehabilitation, regeneration and renovation, subsequently amended by Royal Legislative Decree 7/2015 of 30 October, approving the consolidated text of the Land and Urban Rehabilitation Law. This law includes the obligation to have a Building Assessment Report made up of three documents, one of them being the energy certificate of the building. Mandatory buildings are those providing collective residential housing more than 50 years old, as well as buildings whose owners intend to benefit from public aid.

Directive 2010/31/EU
Makes it mandatory that by 31 December 2020 all new buildings have near zero-energy consumption, and that by the end of 2018, new buildings that are occupied and owned by public authorities are also near zero-energy buildings. Updating the Basic Energy Saving Document (DB-HE) and the requirements it contains is the first step towards achieving buildings of this kind.

3. POTENTIAL IMPACT OF BUILDING ENERGY RENOVATION ON THE MARKET

The Spanish building stock is quite aged, as 56.3% of the country’s buildings were built prior to 1980. This group should serve as the target for the implementation of a comprehensive rehabilitation action to ensure that energy efficiency targets are met. This is especially true in light of the fact that more than 10% of Spanish households (equivalent to 5.1 million people) declare themselves incapable of maintaining their dwelling at an adequate temperature during cold months, and thus fall under the energy poverty line.
Energy consumption in the residential sector is relevant for the design of energy policies and strategies due to its share of final consumption. In Spain, for example, it accounts for 17% of final energy consumption and 25% of final electricity consumption.

When it comes to the implementation of energy efficiency measures in the Spanish residential sector, the most common are window replacements and the substitution of existing hot water generators by more efficient installations.

The effect of incorporating more efficient equipment and solar installations, having previously improved building insulation levels with criteria close to that of passive homes, would further reduce energy consumption by more than 85% and CO₂ emissions per house by more than 82%, with respect to the scores the same buildings would have received without the improvements.

The Spanish National Action Plan for Energy Saving and Efficiency (PNAEE, by its Spanish acronym) 2017-2020 sets out a series of energy efficiency actions aimed at reducing energy consumption and costs in all economic sectors, with the aim of meeting Europe’s objectives of a 20% reduction by 2020 and 27% by 2030.

The Spanish strategy presented by the Ministry of Development in 2017, in addition to fully satisfying all the requirements of the Directive, was an important starting point for the promotion of energy rehabilitation of the building sector in Spain, as well as being a roadmap to guide the different agents involved in the rehabilitation processes in their respective spheres of activity.

The projected primary energy consumption in 2020 is 122.6 Mtoe, which represents a reduction of 24.7% with respect to the reference or trend scenario, across all sectors. Based on this forecast, the cumulative energy consumption reduction in the residential sector from energy renovations between 2018 and 2030 is projected to be 14.4%.

Figure 3 – Projection of the baseline and potential savings (Eurostat, 2020) (World Bank, n.d.)
Potential market impact

The renovation market, both for dwellings and other buildings, has seen the smallest decrease in construction activity as a whole; and is also among the sectors with the greatest potential for growth, given the demographic evolution in Spain (mainly the move from rural areas to cities) and the need to adapt the housing and equipment stock to the new environmental, energy and social requirements.

Certain key variables point to positive future development for the Spanish energy efficiency renovation market in the coming years. One is the renting boom: because of this, landlords tend to invest in their properties as rent prices can be increased by up to 30% for renovated flats. This also applies for the sale of second-hand homes, 70% of which are renovated before or after the transaction is closed.

In conclusion, the Spanish economic outlook together with the opportunities presented for landlords and the available subsidies suggest there will be a steady growth of the residential renovation sector.
4. FINANCING THE ENERGY RENOVATION OF BUILDINGS

In order to finance energy efficiency renovation across the residential sector, a wide range of public grants and subsidies are available, as well as more ‘traditional’ private financing schemes.

**PUBLIC GRANTS**

- **Plan de Vivienda 18-21**
  - Ministry of Development
  - **Field of Application**: Renovation of residential buildings constructed before 1996
  - **Details**: €1.443 billion will be allotted to this plan. The amount of the subsidy is up to 40% of the cost of the renovation or €12,000. If the beneficiary has a disability, the amount subsidised can increase up to €24,000.

- **Aid programme for the energy renovation of existing buildings (PAREER-CRECE)**
  - Institute for the diversification and energy savings (IDEA)
  - **Details**: €200 million per year to promote renovations through subsidies and low-interest loans (Euribor + 0%) is available. The subsidies can cover up to 30% of the cost of the renovation, and the loans up to 70%.

- **Loans to rehabilitate and improve the energy efficiency of buildings and dwellings**
  - Official credit institute (ICO)
  - **Details**: This funding can be applied for by individuals and communities of owners who want to carry out reforms to improve the quality of housing, residential buildings and their common areas. It is possible to refurbish both normal and second homes, as long as it is in the national territory, and tenants can also apply for this financing provided that their rental contract lasts at least the repayment term of the loan.

- **Value added tax (VAT)**
  - **Details**: It is possible to finance up to 100% of the cost of the renovation project, provided that the services are executed by an independent third party and proof of payment is provided. The only limitations are that the works must be executed within one year of the signing of the loan and the maximum amount that can be requested is €12.5 million. Repayment terms range from 12 months to 20 years.

- **Property tax (IBI)**
  - **Details**: The programme allows the deduction of up to 10% of the cost of the renovation or up to €7,000 from VAT.

This type of reduction is carried out by municipalities; therefore, the application may vary depending on the municipality. However, all follow the same methodology, which is to grant the greatest rebates to house buildings with type A certifications and then decrease these as the efficiency of housing goes down.
As of 2017, favourably evaluated applications under the PAREER-CRECE programme have involved improving the energy efficiency of 32,798 dwellings and 4,031 rooms in 28 hotels, covering a total surface area of 3.1 million m². Of the four types of actions the programme is geared towards, changing thermal insulation received the most economic support, with 86% of the aid, followed by the improvement of thermal and lighting installations (14%), the substitution of fossil fuels by biomass (3%) and, finally, the substitution of conventional thermal installations by geothermal energy, with 1% of the aid.

**Private financing schemes**

Renovations in Spain are mostly funded by *owners’ own resources*, which is the first method to be considered. Financing with private funds can not only help reduce financial costs, but also offers a freedom not enjoyed when using third-party financing.

Within this framework, many entities offer regular loans to finance renovations, but some maintain specific products in their portfolio. The final characteristics will depend on the profile of the applicant, but in general terms interest rates tend to move around the 6% mark, although there are those that start at 4%.

The minimum financing usually starts at €3,000 and can be extended to €60,000, and the repayment terms move between five and ten years. Commissions depend on the policy of each entity and may or may not exist. If they exist, they are added when the loan is opened and do not exceed 1.0%.

The requirements to formalise a loan for renovations are no different from those of a consumer loan. Thus, the bank will study the credit profile of the applicant.

Customers can also apply for a mortgage loan, where the interest rate is lower than a consumer loan and the period for repayment is longer, although the costs of formalisation are higher. Mortgages are based on the appraised value of the property at that time, and it is necessary to comply with the following requirements:

- Have the pertinent real estate license
- Works must be carried out in accordance with a project approved by the corresponding professional association
- Altering or not its structural elements imply the conditioning of at least 50% of its built surface before the beginning of the works
- The budgeted cost of the works must reach at least 50% of the gross replacement value of the building (excluding the value of the land).

More details are in the full report

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