

**Diàlegs d'Habitatge**

# *Anti-gentrification strategies*

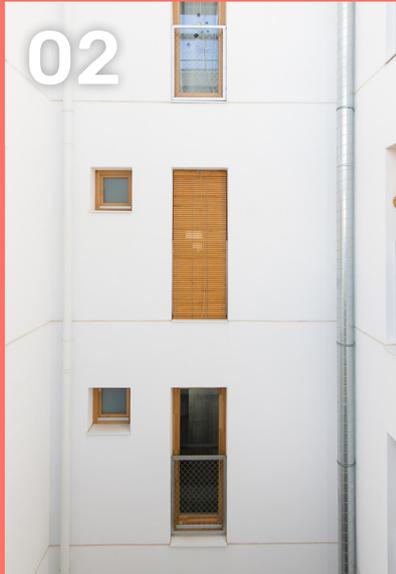
Proposals for expanding affordable housing in a sustainable way

# *Anti-gentrification strategies*

Proposals for expanding affordable housing  
in a sustainable way

Published by: Barcelona Municipal Institute of Housing  
and Renovation

Author: Irene Peiró i Compains





# 01 Introduction

---

**Barcelona is constantly looking for answers to guarantee the right to housing. In recent years, the city has initiated pioneering practices in Catalonia and the Spanish State, such as building housing cooperatives on municipal land or setting up a public-private partnership to promote affordable housing in Barcelona and the metropolitan area as a whole. In many cases, this has been based on experiences developed in other countries in Europe and the rest of the world.**





Despite that, we have to redouble our efforts to guarantee this social right in practice, especially in a global context where the phenomenon of gentrification in cities is on the increase, which Barcelona is no stranger to. At the same time, the climate emergency affecting the entire planet poses the need not only to expand the affordable housing stock but to do so in a sustainable way, by prioritising renovation as well as looking for more sustainable construction methods.

These and other issues were the subject of reflection at the latest Barcelona Housing and Renovation Forum (Catalan initials FHAR), which was held at the Palo Alto Barcelona complex in the city's Poblenou neighbourhood on 28 and 29 November 2022. The main content of the forum is covered in this publication.

First of all, you will find a snapshot of the current situation in Barcelona with regard to available affordable housing and the renovation needs of the city's housing stock. This diagnosis is set in the context of Catalonia and the Spanish State, burdened with a long-term deficit in affordable housing, where more than half the properties are over 40 years old and energy efficiency levels are low. Then we explore the opportunities offered and also

the limitations of the European Union (EU) Next Generation funds for energy-saving renovation and the sustainability of the housing stock in our surroundings. Likewise, we reflect on how environmental criteria can be matched with other social needs when renovating buildings, to respond to the many diverse needs of housing communities.

This is followed by a close look at the various options for promoting more sustainable construction and renovation models, which could also cut the time required to complete affordable public housing. We consider a number of options, for example, industrialised construction or the advantages of using wood for building, very common in more northerly European countries.

Throughout this publication, the measures adopted in Barcelona to combat gentrification and guarantee affordable housing are also compared with those of other cities, regions or autonomous communities in Catalonia and Spain, as well as in other states around Europe and the world. Finally, in the last chapter, you will find the conclusions drawn from the reflections of the latest FHAR, which we hope will contribute to the necessary debate on public housing policies both in the local context and outside our city. ▶

# 02

## State of the art: affordable and sustainable housing in Barcelona, Catalonia and the Spanish State



# The need to expand the affordable housing stock

Although historically, in terms of access to housing, the culture of home ownership has prevailed in Spain as a whole, in cities such as Barcelona, more than a third of the population now live in rented accommodation. Of the 734,326 homes registered in Barcelona, 38.5% are now for rent and, of these rental flats, 36% are owned by large property owners, according to data from the Barcelona Metropolitan Housing Observatory (O-HB) for 2021.

This means a lot of people are affected by high rents. The average rent in Barcelona is €996.56 a month, compared to €803.17 in all other municipalities in the metropolitan area. In the rest of the metropolitan sphere, which includes municipalities in the second crown of the Barcelona conurbation, the average rent is €703.58 a month, according to O-HB data (second quarter of 2022; see Table 1).

The gap between the purchasing power of people who want to rent a flat and the gains sought by property owners is clear if we compare the rental price bands in which most demand is concentrated (between €600 and €800 a month) and the bands

**TABLE 1. EVOLUTION OF THE AVERAGE PRICES OF RENTAL CONTRACTS SIGNED BY TERRITORIAL AREA (€/MONTH)**

Territorial sphere	By quarter 2022 (€)	Interannual variation (%)
Barcelona	996.56	10.3
Rest of AMB	803.17	4
Rest of the metropolitan sphere*	703.58	4.2
Total metropolitan sphere	864.86	6.4

Source: O-HB, based on Catalan Government Housing Studies and Documentation Service data (2022).

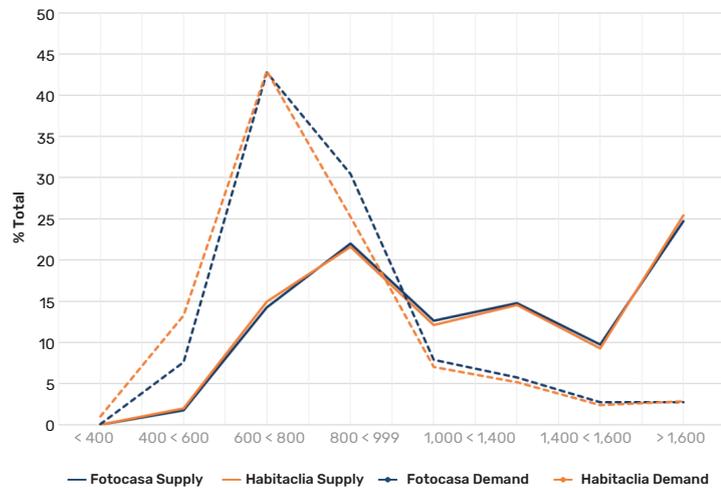
\* The metropolitan sphere comprises all the municipalities in the Baix Llobregat, Barcelonès, Maresme, Vallès Occidental and Vallès Oriental counties, and four municipalities in Moianès: Castellcir, Castellterçol, Granera and Sant Quirze Safaja.

comprising the majority of offers on estate agents' portals (between €800 and €1,000; see Figure 1).

Difficulties in meeting rental prices exist in cities all over Catalonia and Spain, but they are greater in the capitals that attract the most international investment, such as Barcelona and Madrid and their respective metropolitan areas. Barcelona is the Spanish city where rents are the highest in the property market (19.35 €/m<sup>2</sup>), followed by Madrid (16.38 €/m<sup>2</sup>), according to recent data from Idealista (January 2023). If we look at the data for rentals by autonomous communities, we can see that Catalonia is the second most expensive (15.18 €/m<sup>2</sup>) behind Madrid (15.63 €/m<sup>2</sup>), as indicated by the data published by Fotocasa in February 2023.

**FIGURE 1. BREAKDOWN OF THE SUPPLY AND DEMAND FOR RENTAL HOUSING BY PRICE BANDS**

Total metropolitan sphere\*. Second quarter of 2022



Source: O-HB, based on data provided by the Adevinta group.

Note: Standardised breakdown based on the relative weight of the three areas considered (Barcelona city, the rest of the Barcelona metropolitan area and the rest of the metropolitan sphere\*) for the first quarter of 2019.

\* The metropolitan sphere currently comprises all the municipalities of the Baix Llobregat, Barcelonès, Maresme, Vallès Occidental and Vallès Oriental counties, and four municipalities of the Moianès: Castellcir, Castellterçol, Granera and Sant Quirze Safaja.



## High rental and purchase prices when there is a shortage of affordable housing: a situation which demands urgent solutions now

High rental prices followed the rise in purchase prices recorded from the third quarter of 2020, when the Covid lockdown period came to an end, to the end of 2022, when everything was just beginning to show signs of easing. Between the third quarter of 2021 and the same period in 2022, the price of homes for sale still rose by 4.7% across the Spanish State, according to data from the Ministry of Transport, Mobility and Urban Agenda (Mitma). The double increase in the housing rental and purchase markets makes the problem of accessing housing particularly acute in a context like the Spanish one, characterised by a historical deficit in the public, social and affordable housing stock.

Only 2.5% of housing in Spain is public and social housing, compared to the EU average of 9.3% and higher percentages in central and northern European countries such as Denmark, Austria, the United Kingdom (around 20%) and the Netherlands (30%) (Mitma, 2022).

# Renovation needs of the housing stock

In order to reverse this situation, one of the main lines of action adopted by the public authorities is to renovate properties that can then be allocated to the public, social and affordable housing stock. In a context of climate emergency and in highly densified cities like Barcelona, with scarce land to build on, rethinking the already built city to expand the affordable housing stock is one of the best solutions. It should be borne in mind that the building sector accounts for 30% of energy consumption in the Spanish State and 25.1% of CO<sub>2</sub> emissions, according to data issued by the Green Building Council (GBC) in 2022.

**Over half of homes in Spain were built before 1980, when there were no regulations on energy efficiency in buildings**

Renovation might not only be a more sustainable solution than new build to increase the affordable housing stock; it could also contribute to improving the living conditions of the people living in the buildings and, at the same time, improve their energy efficiency. This issue is fundamental both in Catalonia and in Spain as a whole, where more than half of the main dwellings (16.6 million in Spain as a whole) were built before the first regulations to establish minimum requirements for building façades were passed in 1979, and historically, renovation has been less important than in other European countries. In 2014, Spain was renovating 0.8% of residential buildings a year, compared to 1.82% in Austria, 1.75% in France and 1.49% in Germany, according to the latest available data from the European Commission. Between 2017 and 2019, the number of building permits for renovations increased by 10%, according to Mitma (2020), but we need to keep growing to reach European standards.

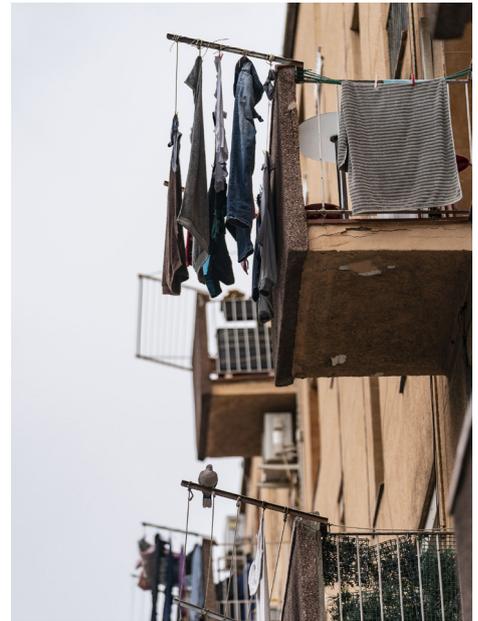
According to GBC calculations, Spain would have to increase its renovation rate fivefold to 120,000 a year to meet its European commitments, according to which all its buildings must be zero-emission by 2050. In Catalonia, the 2021-2030 Integrated National Energy and Climate Plan (Catalan initial PNIEC) sets even more ambitious targets for this decade: the energy renovation of 1.2 million homes during this period, according to Catalan government data (2022).

## Most buildings in our territorial setting have the lowest energy efficiency certifications

A key question to know the status of buildings in terms of energy efficiency is whether they have the corresponding certification. Energy efficiency certifications classify buildings in seven categories (from A (highest) to G (lowest level)). In Spain, there were 4.6 million building energy certificates at the end of 2021 and Catalonia was the autonomous community with the highest number (1.13 million), followed by Madrid and Valencia (with 730,000 and 720,000, respectively), according to the Ministry for Ecological Transition and Demographic Change (Miteco). Both in Catalonia and the rest of Spain, the majority of certified buildings are concentrated in the lowest energy efficiency categories (from E to G). Table 2 shows the breakdown of these certificates in Catalonia.

Thus, in our territorial area, there is a great need for expanding the affordable housing stock and renovating existing residential buildings, most of which are not very energy efficient. In the following sections, we will

discuss how we can make progress together on these two targets in the current context. We will explore the opportunities offered by the European Next Generation funds for energy renovation and building sustainability, how to encourage renovations in multi-family dwellings, as well as new, more sustainable construction methods, among other issues. 📌



**TABLE 2. CERTIFICATIONS ACCORDING TO BUILDING ENERGY CATEGORY IN CATALUNYA**

Total metropolitan sphere\*. Second quarter of 2022

Category	By primary energy consumption	By CO <sub>2</sub> emissions
<b>A</b>	4,449	6,677
<b>B</b>	12,561	13,551
<b>C</b>	44,729	55,597
<b>D</b>	110,069	138,513
<b>E</b>	579,091	596,358
<b>F</b>	137,680*	145,182*
<b>G</b>	246,874*	179,575*

\* Buildings constructed from 2007 onwards do not include categories F or G.

Source: Catalan Energy Institute



# 03

**Next Generation funds:  
how to make the most of them  
to expand the affordable and  
sustainable housing stock**





# Next Generation funds for housing policies in Spain

In order to contribute to the socio-economic revival of Member States after the Covid crisis and, at the same time, give an impetus to their future actions, especially in the field of the energy and digital transition, the EU launched the so-called Recovery and Resilience Mechanism (RRM) at the start of 2020. This is the main funding mechanism of the EU Next Generation Plan, which has the largest amount of European funds ever allocated to Member States in order to facilitate their recovery as well as social, economic and energy transformations in many fields, including housing and construction.

The RRM funds (€672.5 billion) and the other funding mechanisms of the Next Generation fund (€77.5 billion) make a total of €750 billion, which will be distributed among the 27 Member States. These funds are earmarked, approximately equally, for grants and repayable loans, but with much more favourable conditions for the beneficiaries than those prevailing in the financial market.

In order to be eligible for these funds, each Member State must present its own recovery, transformation and resilience plan, setting out the lines of action to which it will allocate European funding. The Spanish State has presented its plan and been allocated €140 billion, of which Catalonia will receive between €9 billion and €12.5 billion up to 2026, according to Catalan government forecasts. The funds will be progressively assigned until 2026, by which time the subsidised projects will have to be completed and duly justified.

**In Catalonia, €6.4 billion of Next Generation funds are available for renovating 60,000 homes and building 3,200 new ones for affordable rental**

But what is the relationship between the Next Generation funds and funding for public housing policies? Spain's Recovery, Transformation and Resilience Plan is divided into 30 different components, one of which is focused on housing and housing construction. This is component 2, which has a twin objective: first, to activate the renovation sector in order to decarbonise buildings and improve their quality and comfort, and second, to promote the construction of more social rental housing.

Table 3 shows the amount of Next Generation (NG) funds available to Catalonia and the Spanish State specifically for housing and what they will be able to do thanks to this European funding in terms of renovation and new build.

In the roundtable discussion on the limits and possibilities of the Next Generation funds in the field of housing at FHAR 2022, most of the

speakers praised the fact that the EU has opted for a "Keynesian solution"

to the socio-economic crisis caused by the Covid pandemic, based on increased public investment. One was Barcelona City Council's housing manager Javier Burón, who recalled that this had not happened in previous crises, such as the one provoked by the outbreak of the financial collapse in 2008.

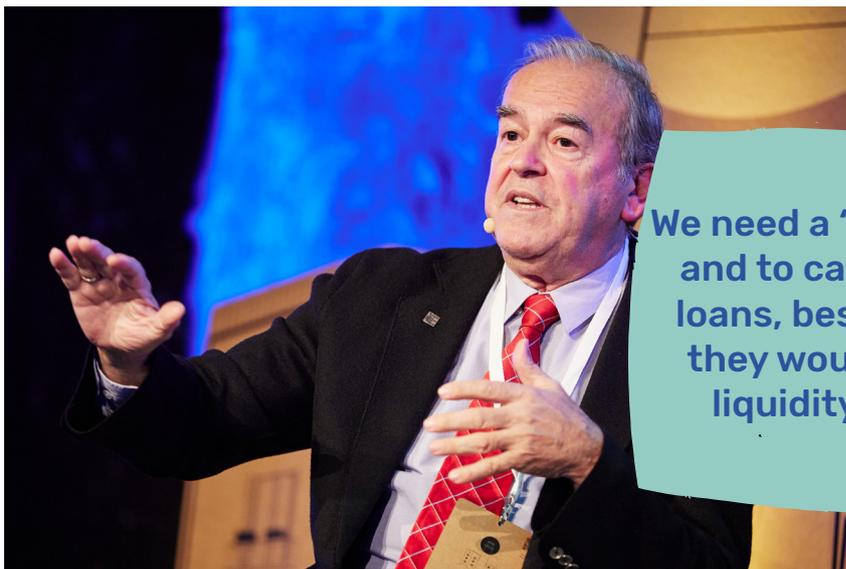
Anton Gasol, a trustee of the Fundació Família i Benestar Social (Family and Social Welfare Foundation) and a collaborator of Cohabitac, an association that brings together 12 private social housing foundations, described the Next Generation (NG) funds as an "example of European solidarity like never before". In that regard, he stressed they have been conceived with a redistributive logic, as the states that receive the most funds are the ones that have



**TABLE 3. NEXT GENERATION (NG) FUNDS AVAILABLE IN CATALONIA AND THE SPANISH STATE FOR RESIDENTIAL BUILDING ENERGY RENOVATION AND FOR BUILDING SOCIAL RENTAL HOUSING WITH SUSTAINABILITY CRITERIA**

	Spanish State	Catalonia
<b>NG funds for residential building renovation</b>	3.42 billion	480 million
<b>Number of housing units it is planned to renovate</b>	350,000 housing units	60,000 housing units
<b>NG funds for building sustainable housing</b>	1 billion	160 million
<b>Number of social rental housing units it is planned to build</b>	20,000 housing units	3,200 housing units

Source: Ministry of Transport, Mobility and Urban Agenda (2021) and the Catalan Housing Agency (2022)



Anton Gasol, during his intervention at the FHAR

ANTON GASOL (Cohabitac),  
**We need a “change of paradigm” and to call for Next Generation loans, besides grants, because they would provide immediate liquidity for promoting social housing**

suffered the most from the socio-economic crisis that followed Covid. In fact, after Italy, Spain is the Member State that will receive the most NG funds. The former dean of the College of Economists of Catalonia (CEC) said the states in a better economic situation, on the other hand, would make a greater contribution to the common purse.

## Experts warn that the Next Generation funds offer opportunities but they are not exempt from risks

While taking a positive view of the EU philosophy behind the NG funds, the roundtable speakers also expressed some considerations and risks regarding their impact and the way they are being used in the Spanish State.

According to Javier Burón, “it is necessary to size up the opportunity” of NG funds correctly. Although he takes a positive view of the extra contribution they represent, he warned “there is no Member State that has generated

a public or public-private housing system with less than 1% of its GDP over several years.” According to Burón, this amount would be around €12 billion a year, on average, compared to the approximately €5 billion extra for housing represented by the NG funds for three years.

For his part, Anton Gasol expressed another concern of many foundations and other entities that promote social housing. He believes that the Spanish State should “change the paradigm” and focus more on allocating NG loans to housing policies and not just grants. In his opinion, loans would respond better to the needs of social housing developers for the following reason: although grants do not have to be repaid, they are not paid in advance but awarded after the new work has been carried out. Thus, it is necessary to look for financial institutions that advance the amount of the grant in the form of a loan, for which social housing developers encounter numerous obstacles. NG loans, on the other hand, would provide liquidity from the outset to social developers that Gasol considers “solvent” to return them with the 30-year repayment periods and the low interest rates (below 2%) with which these loans are being granted.

“At present, the foundations that make up Cohabitac can build 300 social housing units a year, and with Next Generation loans we could reach 1,000,” assured Gasol. For that reason, he called on all housing institutions and cooperatives to join forces with this goal.

Apart from the distribution of NG loans and grants, Javier Burón also questioned the Spanish State's distribution of Next Generation funds for housing policies, between those earmarked for renovation (75% of the total) and those for the construction

of new affordable housing (less than 25%). Although other European countries have also prioritised renovation over new build, Burón warns there is a feature of Spain that sets it apart. Here, public rental represents less than 1% of the total housing stock, which means that a large part of the NG funds earmarked for renovation go to private properties. In most Member States, on the other hand, these funds are mostly allocated to renovating the public housing stock. Because of this particular feature of the Spanish case, Burón considers that the percentage allocated to expanding the public housing stock should have been higher.

Spain's commitment to allocate more NG funds to renovation than to new construction of affordable rental housing is also made clear in Royal Decree-Law 853/2021, which regulates the aid programmes in this area of Spain's Recovery, Transformation and Resilience Plan. Of the six programmes defined by this decree, five relate to renovation and only one to building new social housing (see Table 4).

**Around Spain  
3 out of every 4 eu-  
ros of Next Genera-  
tion funds allocated  
to housing will be for  
renovation**



DAVID GUÀRDIA (Habicoop),

**“For this affordable housing model to grow and become established, we need to generate a stable aid framework”**

David Guàrdia, Habicoop

Finally, both Javier Burón and David Guàrdia, a representative of Habicoop – Federation of Housing Cooperatives of Catalonia and of the Solidarity Economy Network (XES) Housing Sector – warn of the risk that the extra injection of resources for housing policies the NG funds will provide won't serve to articulate measures that continue over time. Habicoop's representative believes the immediacy with which these funds have to be managed, with the 2026 deadline, "makes it difficult to make a long-term commitment to social and affordable housing".

In order to guarantee a lasting system, Javier Burón is in favour of combining subsidies for non-repayable loans in housing policies, loans to finance new developments and renovations, the mobilisation of public-private capital for this purpose and the promotion of tax measures to make the housing stock more affordable. In short, Next Generation funds need to be part of a global strategy for housing policies that combines various lines of action with a long-term vision.

**TABLE 4. DESCRIPTION OF THE STATE HOUSING PROGRAMMES FUNDED BY NG\***

Programme name	Goals
<b>1. Grants for renovation work on a neighbourhood level</b>	Renovation of mainly residential buildings, and redevelopment of their surroundings in vulnerable areas previously defined by local councils (programmed renovation areas).
<b>2. Support for renovation offices</b>	Funding and articulation of territorial renovation office services as a one-stop shop, from which all coordination, information and support in managing NG funds will be centralised.
<b>3. Grants for renovation actions on a building level</b>	Funding for work to renovate buildings, preferably for residential use, that will contribute towards improving their energy efficiency certification. The subsidised part of the renovation may be between 40% and 80%, depending on the saving achieved.
<b>4. Grants for actions to improve housing energy efficiency</b>	Funding of work to improve housing energy efficiency. Renovation work on each dwelling can be subsidised with amounts up to €3,000 and this will have to reduce non-renewable energy consumption by at least 30%, among other requirements.
<b>5. Help in drawing up an existing building logbook for renovation and drafting renovation projects</b>	Help in drawing up the building logbook, the common record of all the significant data on the building's life cycle which facilitates monitoring its renovation needs. The programme also provides for the design of technical projects for comprehensive rehabilitation.
<b>6. Help with the construction of social rental housing in energy-efficient buildings</b>	Support for the construction of new housing with energy efficiency criteria to be used for social or affordable rental on public and public-private development sites. The programme also provides for the renovation of non-residential buildings to make them available for affordable rent.

\* Programmes defined by Royal Decree-Law 853/2021, which regulates the housing aid programmes of Spain's Recovery, Transformation and Resilience Plan.

# Next Generation funds for housing policies in Catalonia

In the case of Catalonia, Elsa Ibar, the director of the Next Generation funds programme, explained that the Catalan government (Generalitat) has already set up and implemented the mechanisms to deliver the NG funds to the players involved in energy renovation and housing construction, both public and private (local authorities, housing cooperatives, companies in the property sector, communities of owners, etc.).

For rolling out these funds, Ibar considers the Generalitat's collaboration with the Barcelona Housing Consortium (in which it participates with Barcelona City Council) and the Metropolitan Housing Consortium (in which it participates with the Barcelona Metropolitan Area (AMB), with the rest of the metropolitan municipalities as its sphere of action) to be fundamental. The Generalitat transfers resources from the Next Generation funds to these two consortia for them to manage, except in the case of the programme for building new affordable housing (programme number 6 of those defined by the Spanish government – see Table 4), which is managed directly by the Catalan Housing Agency.

Besides collaborating with the two consortia, the Catalan government's NG funds director explained that "networking is essential in rolling

ELSA IBAR, director of the  
Generalitat's Next Generation  
funds:

**"Networking is essential  
in rolling out the reno-  
vation offices to provide  
support and advice to  
the public when applying  
for the Next Generation  
funds"**

out the renovation offices to provide support and advice to the public when they apply for Next Generation funds for this purpose". The Catalan Housing Agency has signed agreements with professional associations of architects, quantity surveyors and property administrators, among others, and has contacted around a hundred local housing offices throughout the country to set up offices that will provide the public with support in this area. The professional associations provide advice on technical renovation projects, while local housing offices are responsible for providing support to the general public in processing applications for grants to carry out previously defined renovations.



As the NG funds are given out later but there is no initial funding to carry out the work, and in many cases they do not cover 100% of the cost, a bank needs to anticipate the European funding or, in some cases, to increase it. In that regard, Ibar explained, “The Government has reached an agreement with the country’s 10 main banks to finance all the operations and the part which is not subsidised.”

As far as the other housing programmes eligible for NG funds are concerned, according to the framework defined by the central government (see Table 4), Ibar noted that “all the Next Generation fund calls for housing in Catalonia are now under way.” The Generalitat launched the calls for grants corresponding to the Next Generation fund programmes aimed at renovation and the construction of new homes for affordable rental with energy efficiency criteria between May and June 2022. In the case of programme 1 (called “Neighbourhood Programme” in Catalonia), the call process was divided into two stages. First, a call was published to preselect the neighbourhoods where work to renovate housing and to redevelop and improve the surroundings would be subsidised. Second, an open call was published just for buildings in the preselected neighbourhoods.

At the FHAR, Elsa Ibar explained that by the end of November 2022, an initial resolution had already been notified of the subsidies awarded under programme 6 (corresponding to the construction of new affordable housing with energy efficiency criteria), which took into account the criterion of redistributing the funds allocated to different parts of Catalonia.

JAVIER BURÓN, Barcelona City Council’s housing manager:

**“If resources are allocated to projects that are not mature, we face the risk of non-execution”**

During the forum, both Javier Burón and David Guàrdia acknowledged the need to redistribute NG funds between different parts of the country but they warned that it could entail the risk of financing projects that are not very mature, depending on how this is done. “If the resources are allocated to projects that are not mature, we could face a risk of non-execution,” warned Burón referring to the requirement to finish the projects before 2026 set by the EU. “We understand that the Next Generation funds must serve to expand and diversify, but also to strengthen and make a leap in scale with what already exists,” added Guàrdia.

In that regard, Burón appealed to the “capacities of Barcelona as a city and of the AMB and the metropolitan region” so that more European funding could be allocated to affordable housing developments promoted by administrations and cooperatives with experience and maturity in this field in the Catalan capital and the metropolitan area.

## **New municipal services in Barcelona to advise people on energy renovation and the New Generation funds**

Besides the projects to expand affordable housing in Barcelona already under way, Burón explained that additional measures have been put in place in the city to help roll out and use the NG funds earmarked for energy renovation. He pointed out that an office specialising in renovation has been opened on Carrer de Pujades in Poblenou, a service provided jointly by the City Council and the Barcelona Housing Consortium. "The idea is for it to be the gateway for all queries, a catalyst for renovation processes in the city."

He also added that the municipal teams have created the figure of "prescribers" to explain to members of the public the programmes and grants available to them in order to promote energy renovations in the buildings where they live. Likewise, the municipal Urban Planning Department has reinforced its licensing team with staff specialising in those linked to renovation processes. Finally, a simulator has been designed so that resident communities can find out what grants they are eligible for in terms of energy renovation and the results they can obtain in renovating their homes.

According to the municipal housing manager, these new measures, together with all the city's previous experience, mean that in Barcelona the risk of not implementing the Next Generation funds within the time limits set by the EU is insignificant. Even so, he warned there is a risk that communities of owners with a greater financial capacity "will demand more NG funds than those that need them most", namely those living in buildings that are in a poorer state of repair. The people who usually live in these properties have fewer resources and, therefore, more difficulties in paying for the non-subsidised part of the renovation work. Moreover, they often have more problems managing and processing the grants due to a lack of information or knowledge of the issue. In order to combat this risk, Barcelona is developing programmes such as the highly complex housing (Catalan initials FAC) programme, which provides specific lines of assistance for communities in a more vulnerable situation. In this way, it is intended to make it easier for renovation grants to reach those who need them most.

## Barcelona makes renovation grants conditional on the requirement of guaranteeing an affordable rental price after renovation

Another danger, not just in Barcelona but also in cities around Spain, is the disconnection between NG renovation grants and the rental price of flats once they have been renovated. This could lead to the phenomenon known as “renoviction”, a term that alludes to the acceleration of gentrification as a result of housing renovation processes due to the increase in rental prices after renovation. To avoid this, Burón believes that corrective measures need to be taken and he explained that Barcelona City Council is doing so, but he regrets that the responsibility lies mainly with the local authority.

One of the last calls for energy renovation grants launched in the city, on 28 June 2022, is endowed with a total of €71 million, of which €41 million come from the NG funds and €29.5 million from Barcelona City Council. As the NG funds cannot be conditional on the rental price, the part allocated by the City Council (€29.5 million) is the only part that the Council can use for this purpose. “The municipal grants for renovation will be conditional on the tenants not being prejudiced either in the price or the term of the contract,” warned Burón.

For his part, the Habicoop representative, David Guàrdia, warned of the danger of NG funds being managed mainly by large companies, something the Debt Observatory in Globalisation and the Open Generation EU platform, which works for the transparent management and accessibility of NG funds, have recently warned about. “The Next Generation funds should be an opportunity to increase the transparency of grants, to strengthen public services and also to promote public and public-community housing,” says Guàrdia.

In that regard, the Habicoop spokesperson regrets that only 6% of the subsidies granted by the Catalan Housing Agency for new affordable housing developments correspond to cooperative housing based on transfer of use. For that reason, he calls on all the public authorities to do more to ensure funds for housing development and renovation are allocated to non-profit and cooperative entities.

Finally, Guàrdia added the fact that housing cooperatives are increasing their activity, whether in construction or renovation, can also have an “indirect effect on the ecosystem of social economy goods and services”, that people need to live in their homes, for example, in terms of energy, local food, tech services, and so on.

Collaboration of the public administration with the social and cooperative economy is crucial in terms of housing, especially in Catalonia. This is a reflection widely shared by the experts who took part in the FHAR, who highlighted the strength of the Catalan social and cooperative sector and the need to take advantage of this potential to expand the affordable housing stock. 📌

DAVID GUÀRDIA (Habicoop):

**“Next Generation funds should be an opportunity for increasing the transparency of grants, strengthening public services and also promoting public and public-community housing”**

# 04

## Renovation with social and environmental criteria



NÚRIA MOLINER, architect and communicator:

**Construction's ecological footprint means that renovation must be a basic pillar of architecture, especially in western and consolidate cities"**



As we explained in the previous section, the EU Next Generation funds could be a good opportunity to speed up building energy renovation, which has to be a priority line of action in the current context of a climate emergency. The construction sector generates 40% of greenhouse gases around the world and each year 45 million tonnes of waste are generated by demolition work.

"Construction's ecological footprint means that renovation must be a basic pillar of architecture, especially in western and consolidated cities." These are the words of Núria Moliner, the architect and communicator who presented the last FHAR.

Building renovation can have a positive impact on various services. On the one hand, it can contribute towards improving the energy efficiency of buildings. A building with the highest energy rating (A) consumes up to 90% less energy than one with the lowest rating (G).

And on the other hand, we should not forget the social impact of renovation, as the housing that requires most alterations is usually the homes of people with the most socio-economic problems. Moreover, the renovation process itself, which might involve people living in the same block of flats, can help to establish links and mutual relations between neighbours.

From an economic point of view, it should not be forgotten that, generally speaking, renovations are less costly than new builds. At the same time, renovation can contribute towards preserving a city's architectural heritage, in contrast to opting to demolish existing buildings.

Leaving aside the many advantages that renovation offers, it should be stressed that it is especially necessary in a context such as the Catalan and Spanish one, where more than half of the housing stock was built before there were any regulations establishing minimum requirements for energy efficiency, that is, before the 1980s. Therefore, most homes in our region have the lowest levels of energy certification (on a scale from category A to G, most are concentrated in categories E, F and G).

During the last FHAR, various experiences and projects were presented that want to contribute to tackling the challenge of renovation with social and environmental criteria, both in our immediate environment and at the European level. This section summarises the experiences presented, which could become a model for further progress along these lines in the future. Some have deservedly received important architectural prizes, such as the Ties van der Roche awards, which shows that renovation projects can also achieve high standards of quality, beside helping to reduce the environmental and energy impact of housing.

# 4.1 Experiences in Barcelona and the metropolitan area

## 4.1.1.

### The Cíclica cooperative's experience of accompanying communities during renovation processes

The Cíclica cooperative develops energy transition projects in the field of urban planning and renovation, as well as fostering the energy culture and citizen involvement. Anaïs Bas, an architect and partner of this cooperative, outlined some of its lines of work to this end during the FHAR.

Bas explained that Cíclica is working to transpose the European Directive on Energy Efficiency in Buildings into Spanish law, which with the last update in May 2022 included the following two items: the digital building logbook and building renovation passport. The EU has established that Member States will have a first working framework to implement these instruments during 2023 that will have to be completely finished by 2024.





## What are the digital building logbook and the renovation passport?

Bas defines the digital building logbook as a digital tool that acts as “a common register of all relevant data and actions throughout the building’s life cycle”. This register contributes to the transparency of data on the state of the property and, consequently, to decision-taking regarding the renovation or maintenance actions to be carried out and to the confidence of the members of the building community regarding the need to carry them out. It also facilitates the exchange of information about the building between the owners of some of the flats and the tenants, as well as between the community and the Administration or financial institutions. With regard to the renovation passport, Bas defines it as an “instrument that accompanies the community throughout the process of in-depth renovation in steps that make it possible to improve the quality of the building, in all its aspects”. This renovation has the dual aim of improving the well-being of the people who live in the building and reducing the building’s environmental impact throughout its life cycle.

The Cíclica cooperative is responsible precisely for accompanying the resident communities of a building in the process of equipping themselves with these instruments and developing renovation processes based on social and environmental criteria. Accordingly, they have

carried out an initial pilot test in L’Hospitalet de Llobregat, in blocks of buildings suggested by the City Council the renovation of which was already being demanded by a neighbourhood platform due to their structural defects.

The cooperative’s strategy to facilitate these renovation processes is based on a plan of accompanying the community, with a face-to-face and a digital approach. “People are the protagonists of the buildings where they live and they must be at the centre of the renovation process,” stresses the architect, who considers the three pillars of this accompaniment process to be “participation, cohesion and training”. This accompaniment process is even more important for the most vulnerable communities with the least access to resources and information on renovation processes, although they tend to be the ones living in properties in the worst state and most in need of renovation.

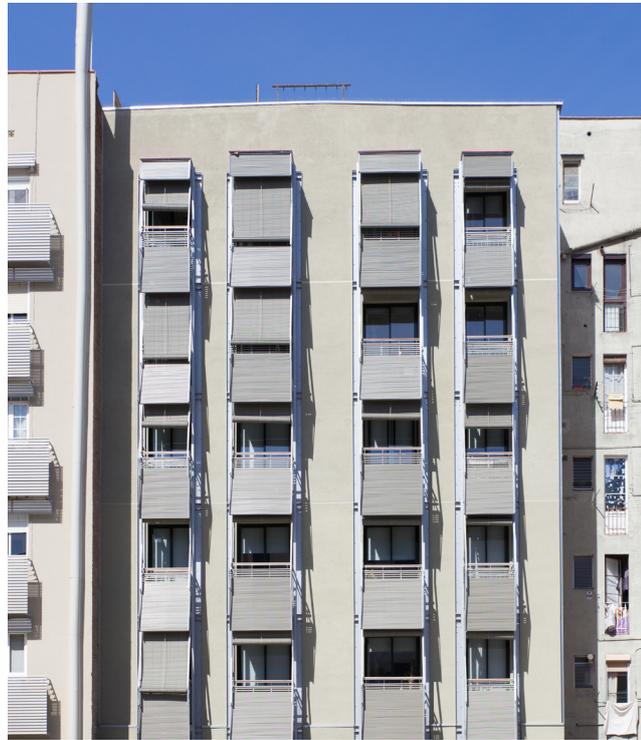
**More than 70% of buildings in Spain house more than one family, so to renovate them requires consensus**

Renovated façade of the property at C/Lope de Vega, 111

As far as cohesion is concerned, Bas reminds us that, in Spain, more than 70% of buildings are multi-family, which means that in most cases, the process of renovating properties involves reaching points of agreement between the different members of the community. This is not free of obstacles, as often the heterogeneity of the people living in the communities “makes it difficult to reach agreements and community cohesion is low,” she says.

As for training, she sees it as essential, because until now the general public has received “fragmented information” on how to carry out renovation processes, and the procedures for doing so “are complex and excessive”. It is also necessary to improve citizen participation and involvement in building renovation processes and in more efficient use of energy. In general, Bas believes there is still “little culture of investment in building maintenance” and “little environmental awareness”.

All this makes it necessary to accompany communities in carrying out the renovation of their property. Cíclica livens up these accompaniment processes through direct work with the residents of each block of buildings, customised reports and the attendance of the cooperative team at community meetings. Bas explains that, in the case of the Hospitalet community where they have developed the pilot project, they first carried out communication and participation actions in the neighbourhood to build groups of at least 15 people. These people took part in a training plan to become the “energy reference persons in their communities”.



responsible for transferring the knowledge acquired to other members of their building block.

“The process was designed with them in order to adapt to their needs,” says Bas, who explains that most of their needs and doubts are linked to community management or how to apply for funding from the European renovation funds. She noted that the work and training on energy renovation also reinforces community cohesion.

Following the training stage, a customised report was drawn up on each of the buildings which was presented community by community and outlined the various possible renovation scenarios and the grants that could be applied for.

Regarding the role of tenants in these renovation processes, Bas feels they can also be involved even if with the current regulations they have no decision-making powers. “I think tenants could do a great deal. They are not the ones who have the power to make decisions or provide the money, but they can be allies in the energy renovation process, get involved in workshops, work... It’s not just a question of renovating buildings but also of creating an energy culture in society,” she said.

## A digital platform prototype for accompanying renovation

Besides working face-to-face (F2F) with the communities, Cíclica has developed a prototype of a digital platform that will have modules aimed at both the communities and the renovation players or the public authorities. To begin with, the cooperative has designed the module for communities, which consists of three plans: renovation, funding and accompaniment. So far it has started work on prototypes for the municipalities of Prat de Llobregat and Mataró.

On entering the platform, you can access a map showing the location of various buildings created from the cadastral database. On accessing the corresponding building, the people of that community can click on the renovation, funding or accompaniment section.

In the renovation section, each community can consult the recommended renovation plan for their building (basic, integral or integral by steps),

which each community can customise according to their preferences. The results are also displayed in terms of the energy savings of the proposed renovation actions, as well as the environmental benefits and the economic costs of each one.

In the funding part, communities can find out how to access grants or loans to renovate their buildings, either through the European Next Generation funds or in other ways. There are also various bank loans available for renovation, with the corresponding interest rate and repayment period. This funding plan has been drawn up with the support of the Catalan Directorate General for the Social and Solidarity Economy, the Third Sector and Cooperatives, and the Spanish Ministry of Labour and Social Economy. Various companies also offered their support in developing the plan (IREC, Etcètera, Dies d'agost, HAUS and Marcove).

Cíclica, digital platform for promoting energy communities





Anaïs Bas, from the Cíclica cooperative, during her intervention at the FHAR.

Finally, the accompaniment plan provides answers to the community's questions about organising and managing the renovation as well as providing data and information to improve their understanding of the renovation process and raise their awareness of energy saving. "The energy renovation process must be a guide for social transformation and must also change the way we relate to energy," says the Cíclica partner.

Anaïs Bas believes this digital platform can support renovation processes but she considers it essential to accompany communities in person. In fact, she notes that currently "there is a lack of social support for communities to promote renovation processes, and this needs to be increased in order to take advantage of the funding opportunity represented by the Next Generation funds."

In short, she warns that if there are more resources, but there is not enough cohesion, training and commitment from the communities to carry out renovation, it will not be possible to take full advantage of the opportunity represented by the European funds.

ANAÏS BAS  
(Cíclica cooperative):

**"There is a lack of social support for communities to promote renovation processes, and it is necessary to increase that in order to take advantage of the funding opportunity represented by the Next Generation funds"**

## 4.1.2.

### Batec, a project for making progress in the energy transition based on cooperation between social economy entities

Another of the experiences shared during the last FHAR was that of Batec, an inter-cooperation project involving social and solidarity economy (SSE) organisations and associations to advance in the energy transition towards a more sustainable, fairer and more democratic model.

Albert Sagrera, Batec's chairman, explained that the project was founded in September 2021 in the context of "the most important moment for architecture and construction in the last 50 years", when cities like Barcelona are facing the challenge of achieving decarbonisation by 2030. Sagrera is also an environmental consultant and member of Societat Orgànica, a cooperative made up of professionals with experience in the environmental improvement of buildings around the world.

One of the Batec project's main lines of action is to develop strategies that promote a new energy model, based

on decarbonisation and the circular economy, a model of sustainable energy production and consumption based on the conservation, efficiency and use of renewable sources. Other lines of action include strengthening the synergies between the entities that form part of the project, which are currently Azimut 360, Aiguasol, Lacol Arquitectura Cooperativa, SEBA, Societat Orgànica and Coòpolis. It is a question of achieving "a change of scale" together, a result greater than the sum of the individual capacities of each of the entities that make up Batec, according to Sagrera.

This strategy is being rolled out through various projects, one of the main ones being the articulation of energy communities and shared resources. A good example of this is the Bordeta Energy Community, recently set up in this Sants district neighbourhood of Barcelona (In 2022), with the aim of managing the production, distribution and use of clean energy as a community.

Other Batec projects include encouraging organisations, especially in the world of architecture and building, to adopt healthier and more sustainable practices, and creating innovation laboratories to test and experiment with new practices in the field of energy transition from a social perspective. Batec also promotes an observatory which, apart from its study and analysis side, acts as a lobby

ALBERT SAGRERA (Batec) believes that **first it would be necessary to reduce the energy demand of buildings and then install photovoltaic panels which generated the little energy that was still necessary**





Albert Sagrera (Batec)

ALBERT SAGRERA (Batec):

**“Above all, we need to influence the social side. [...] “What we have to ‘renovate’ are people, not just buildings”**

to increase the SSE’s social and political influence in energy transition, as well as sectoral articulation projects in this field.

With regard to energy communities, Sagrera says that Batec is committed to subverting the logic with which most communities have been conceived up to now. Most energy communities start by installing photovoltaic panels on the roofs of the corresponding buildings, because it is the option that allows a faster economic return with less investment. Although photovoltaic panels generate a reduction in a building’s environmental impact, Sagrera warns that this strategy “is focused on the economy and not on sustainability and resilience”.

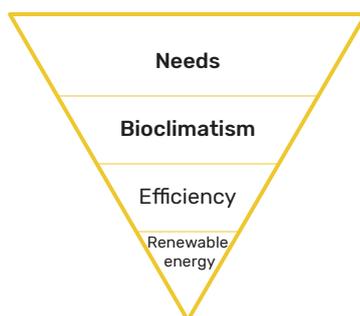
He describes the steps that need to be taken to reduce consumption and improve the energy efficiency of a building based on a strategy of

sustainability and resilience thus: “The first step is to rethink the needs of the building and start by carrying out a bioclimatic renovation with which we can reduce energy demand by improving natural ventilation, better insulation... When the building already requires little, more efficient machines can be installed and, finally, the little energy we need can be obtained with photovoltaic panels” (see the focus on sustainability and resilience in Figure 2). From an economic point of view, however, the measures that affect bioclimatism tend to be the last ones, because they are the ones that require the most initial investment (see the economic approach in Figure 2).

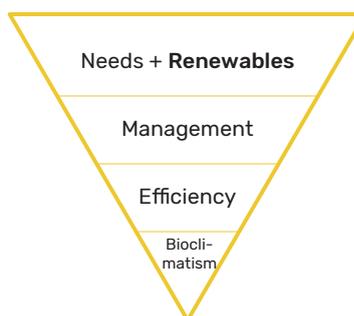
In order to be able to develop renovation processes that contribute to reducing the environmental impact of buildings or to promote the grouping of people in energy communities to share resources, “it is necessary, above all, to have an impact on the social side,” assures Sagrera. He adds, “From the technical point of view, we know a great deal; what we need to do is ‘renovate’ people, not just buildings.”

**FIGURE 2. MODELS FOR IMPROVING THE ENERGY EFFICIENCY OF BUILDINGS FROM A SUSTAINABILITY OR ECONOMISTIC ANGLE**

**SUSTAINABILITY AND RESILIENCE**



**ECONOMY**



## The Bordeta Energy Community

In the case of the Bordeta Energy Community, “success was already guaranteed from the start”, precisely because the collectives and organisations involved in the driving group are made up of people already convinced of the need to move towards more sustainable models. He warns, however, that this is not the norm.

The group driving the Bordeta Energy Community comprises La Diversa, the cooperative that has a block of flats on Carrer de la Constitució, created from the renovation of an old building in the Hostafrancs neighbourhood; La Borda, a housing cooperative that uses a building in Can Batlló; L'Economat Social de Sants, a food cooperative; and Lleialtat Santsenca, a community management space dedicated to culture, neighbourhood and cooperation. Apart from this driving group, the energy community is still open to expansion with new additions from local residents, collectives, organisations and businesses in the neighbourhood. The only technical requirement is they be located at a maximum distance of one kilometre from the community's reference point in the La Bordeta neighbourhood.

The aim of this community is to achieve specific objectives such as the abandonment of fossil fuels or a reduction in electricity consumption from and dependence on the energy oligopoly. Likewise, it aims to promote investment in distributed, local and responsible clean energy production and to fight against energy poverty. Finally, it is committed to training and information on energy transition, democratic management, autonomy, and voluntary and open adhesion to the community.

The Bordeta Energy Community will also encourage the people and groups that live in or use the buildings that are part of it to learn to use the spaces and energy appropriately. To that end, training courses will be held or manuals will be published on building use.

### Other services linked to sustainability are being articulated around the Bordeta Energy Community

At the same time, various services linked to other aspects related to sustainability are also articulated round the Bordeta community. For example, sustainable mobility is promoted with shared electric vehicles, supported by the Som Mobilitat cooperative, as well as managing information on the supply services offered by Som Energia. Likewise, information is shared among the members about the financing options (loans, grants, etc.) for renovation processes or to reduce the environmental impact of housing and improve its energy efficiency, among other things. In addition, information is provided on how to monitor energy consumption levels, better manage the demand required for each home and increase solar photovoltaic capture.

“The energy community raises the concept of sharing, a fundamental issue in a society where we are very used to living individually, a situation that cannot continue,” concluded the Batec chairman.

## 4.1.3.

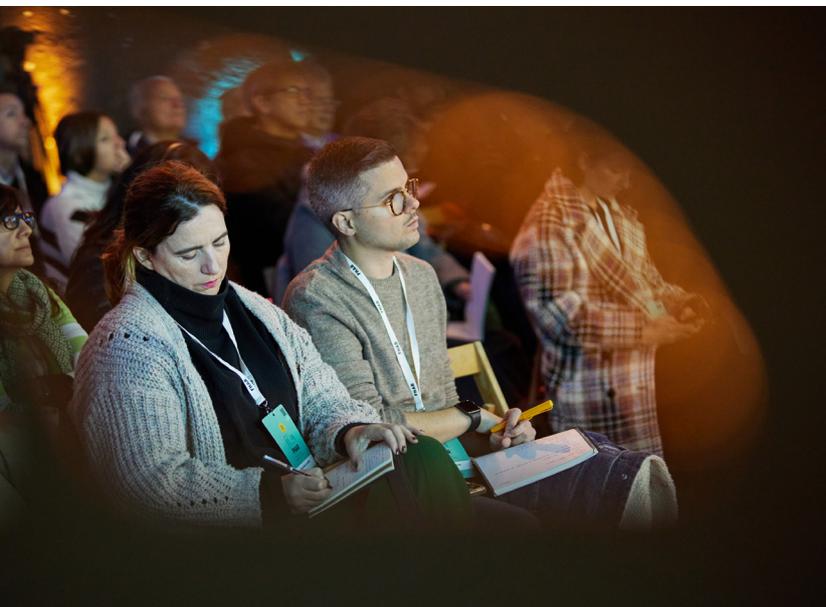
### Efficient Block, in Barcelona's Eixample district

Energy renovation and electrical self-consumption based on installing photovoltaic panels on buildings in the same block of houses is the main goal of the *Illa Eficient* or Efficient Block project, a public-private initiative involving Grup Habitat Futura, the Catalan government and Barcelona City Council that is also backed by Spain's central government. The first of these efficient blocks has been promoted since 2015 in Barcelona's Eixample district, in the buildings situated on the stretch bounded by Gran Via, Carrer de la Diputació, C/ Calàbria and C/ Viladomat. This block has 22 communities of owners, 390 flats and over 700 residents.

Habitat Futura says the project's aim is to promote a model of sustainable construction and renovation in residential buildings based on shared

self-consumption from photovoltaic energy, so that the energy surpluses generated by one building are shared between others in the same block, through smart management systems.

Installing photovoltaic energy in buildings is an essential requirement because the home owners can opt for a special grant of 50% of the cost of the work. That is set out in the agreement to create the first "efficient block" in Barcelona's Eixample district signed by the Catalan government, the Spanish Ministry of Transport, Mobility and Urban Agenda, and Barcelona City Council under the Housing Plan. The project also receives support from the Spanish Institute for Energy Diversification and Savings (IDAE) and two university centres: UPC, which collaborates in preparing energy simulations in buildings, and the Universitat Ramon Llull - Blanquerna, which helps to publicise and raise public awareness of the need to take measures against climate change.



## The residents, key figures in the energy change process

The starting point for achieving the project's goals is an integral and interdisciplinary vision that turns the people who live in the houses into active protagonists in the process of changing the energy model of their homes. That involves applying an innovative methodology which consists of making the home owners participants in a consumer cooperative, through which they can look for common answers to the challenges posed by the renovation process, while at the same time constituting an energy community.

## The first efficient block, between Gran Via, Diputació, Calàbria and Viladomat

Celia Galera, who founded the Habitat Futura Group in 2005 and which she now directs, explained what point development of the first efficient block in the Eixample had reached at the end of 2022 during the last edition of the FHAR.

In the first stage of the project they promoted renovation of eight buildings in that block, which includes 180 flats. In the first of those buildings, where the renovation has now been completed, an energy saving of 48% has been achieved. In the second, where renovation work is expected to be finished in 2023, primary energy saving will be 30%. Galera warned the fact that some of these Eixample buildings are protected makes certain interventions difficult that would enable higher savings or lower demand percentages to be achieved. The renovation of another



CELIA GALERA (Habitat Futura):

**“Two types of brakes on energy renovation processes: subjective and objective”**



three buildings, with around 15 residents in each case, is still ongoing.

Based on their experience in this and other projects, Galera explained, “We have detected two kinds of brakes on the energy renovation processes: subjective and objective.”

The subjective brakes can be overcome by convincing the community of the need to go ahead with energy renovation, particularly the people most reticent to do so, who need to be emotionally attached to the project.

With this aim in mind, the director of Habitat Futura explained that workshops are held in which the residents of the buildings can learn about photovoltaic energy, work with sustainable materials, observe a 360-degree view of the result of the renovation process with 3D glasses, see models of the projects, and so on. They even liven up the process with fun activities that help to strengthen community ties (community meals, dances, etc.). “It’s a matter of turning an obligation, a responsibility, into a passion,” says Galera.

As far as objective brakes are concerned, they are more to do with the difficulties arising from interdisciplinary management of the project, which involves architecture, engineering, legal, economic, tax and other professionals. Heritage protection and the limits involved when it

comes to renovating buildings and improving their energy efficiency are other brakes. In that regard, Galera posed the following question: “How can we find a balance between energy efficiency, the fight against climate change and preserving identity?”

Systematising the work with communities has helped to overcome or mitigate some of the objective brakes, and subjective ones too, that complicate energy renovation processes. When it comes to starting a building renovation process, the following steps are adopted. First, a free preliminary visit is arranged to determine and verify whether the project is feasible. Second, the energy renovation process is usually linked to the need for buildings to pass the Building Technical Inspection (ITE) periodically carried out on all multi-family blocks. “Besides doing what the ITE sets out, we add the sustainable part and tell communities of the grants available. That’s why we talk about the green ITE,” says Galera.

**Home owners  
form a consumer  
cooperative and at the  
same time constitute  
an energy community**

GALERA:

**“Besides doing what the ITE sets out, we add the sustainable part and tell communities of the grants available. That’s why we talk about the green ITE”**

Third, the consumer cooperative is set up and, on the basis of that, the energy community is formed. This is a residents’ union formed by the property owners of each of the communities involved and run by Habitat Futura, who share resources and information to create a common front to meet the challenges posed by the energy renovation process and the installation of photovoltaic panels for shared electricity self-consumption.

Apart from the environmental benefits, the fact of being part of the energy community means they can obtain economic, tax, financial and legal benefits. On the one hand, bringing various owners together enables them to achieve cost savings of up to 25% on the services and materials required to carry out the renovation by applying economies of scale. From a financial perspective, renovation work receives subsidies (that can cover up to 80% of the cost), largely from the Next Generation funds at present. As regards the part not subsidised, agreements have been reached with the European Investment Bank (EIB) and

the IDAE, to grant loans to the owners of these flats on more advantageous terms than those of the financial markets. Finally, with regard to the legal benefits, energy communities have a legal department that offers legal advice to community members.

To sum up, Galera concluded that it is a matter of “adapting the tax, economic and financial solutions, etc. to each community with professional support” and, at the same time, “emotionally attaching” the people who live in the building to the process of changing the energy model of their homes.



## 4.1.4.

### BIT Habitat: innovative practices for improving housing sustainability

BIT Habitat (Barcelona Institute of Technology for the Habitat) is a foundation promoted by Barcelona City Council which acts as an urban innovation centre searching for new instruments to build a more sustainable and liveable city model. The foundation's work currently falls under the Strategy to drive urban innovation in the city of Barcelona, approved in October 2021. BIT Habitat's lines of action range from encouraging innovation in the local administration itself and in the field of public administration to research on new practices that impact on the city's entire ecosystem and the people who live in it, as well as guaranteeing the right to housing and, specifically, with regard to renovation.

Isabella Longo, an engineer and project director at BIT Habitat, says that among the methodologies applied by the foundation, there is one that is particularly relevant to housing. That is the one whereby the foundation awards grants for innovation or poses urban challenges in order to get the players involved in a certain sector (for example, housing) to come up with creative solutions to a certain problem.

#### **Innovation in property renovation in Raval with community empowerment, and in the co-production of housing for young people**

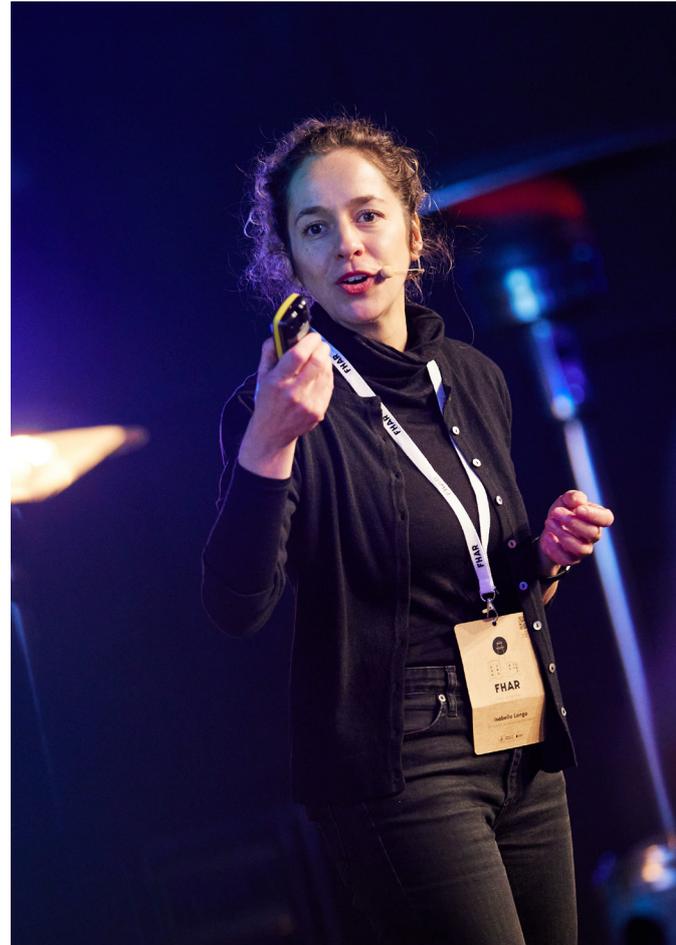
With regard to BIT Habitat's innovation grants, it is worth highlighting their link with the "Proactive City" project, launched in 2019. Within the framework of the innovation grants action line, this project provides financial and technical support to initiatives that respond to the challenges facing Barcelona.

Some of the housing initiatives already under way and subsidised under the "Proactive City" umbrella are the short-term renovation of buildings in the Raval neighbourhood, based on citizen participation and empowerment. This is a project promoted by the UPC (polytechnic university) in conjunction with industrialists and residents' communities. Another example is the co-design and innovation in the prefabrication of affordable and sustainable housing for young people adapted to their current lifestyle. The Wikihousing Barcelona projects is for young people aged 18 to 35, a group that faces many difficulties in accessing housing in the conditions established by the property market. The project's philosophy is to foster participatory co-production of housing for young people by involving the users themselves in the process of designing their homes.

Isabella Longo, Bit Habitat project director, during her intervention at the FHAR

## Urban challenges, a way of focusing the resolution of complex problems and finding innovative solutions through participation

With regard to urban challenges, these are defined as a way of focusing the resolution of specific complex needs and problems that requires innovative solutions. "When there is a need in the city and the market offers no solution, BIT Habitat talks to the ecosystem, detects the state of the art in a particular field and identifies, with the players involved, the instruments and the solution that could be tested as a pilot project to validate its functionality and future scalability," explains the foundation's director. Summing up, she says the urban challenges consist of different stages which essentially make it possible to "identify, test and measure" the innovative solutions to the urban challenges posed.



## Stages in the urban challenge: identification, test and evaluation

In the initial identification stage, it is necessary to define the attributes that should characterise the solution in order to respond to the challenge posed, based on an open dialogue with the ecosystem's players (companies, organisations, universities, research centres, professionals and experts in the fields of architecture, engineering, social and environmental sciences, etc.). "The pooling of ideas by the players involved also serves to offer spaces for generating alliances to achieve the solution," assures Longo.

In order to find solutions that can be tested in practice, participants with expertise in the field are asked to submit short executive proposals, which are evaluated in order to make an initial pre-selection. Subsequently, the promoters of the preselected proposals have to provide a more detailed technical proposal that will also be evaluated in order to choose the finalist projects.

Finally, the winning solutions will have the possibility of being put into practice. Their promoters will have five months to develop a prototype of the project and up to a year to implement it in a real environment and do the corresponding monitoring of the pilot project. This monitoring will make it possible to check whether the responses envisaged are suitable for tackling the urban challenge or if they need to be adjusted to improve their efficiency.

## **Modular kits for improving environmental sustainability and well-being in residential buildings, the response to an urban challenge on renovation**

One of the urban challenges put into operation in 2022 is that of regenerating residential buildings built more than 50 years ago with sustainable innovated systems. Based on a need detected by the Municipal Institute of Urban Planning and the Barcelona City Council Urban Planning Manager's Office, BIT Habitat launched a challenge to speed up the alterations in buildings of that age, which usually have low energy efficiency levels, besides other maintenance problems.

As a result of the call made to the ecosystem, it was proposed to respond to this urban challenge by generating a system of modular kits (flexible, lightweight structures that can be disassembled), which could be incorporated into buildings according to the specific needs of each one. "The possibility of adding modular structures to the existing blocks can be carried out thanks to the recent change in regulations, which allows for a volumetric increase in the size of the buildings," explains Longo. This renovation system uses modular industrialisation methods. The industrialisation process (which will be more fully explained in Section 5) essentially consists in making the housing structures (in this case, the modules to be added to the building's original structure) in a controlled industrial environment and then taken to the site of the building. That reduces any outdoor work and its environmental impact on the surroundings.





ISABELLA LONGO (Bit Habitat):

**“We contribute to addressing the challenge of modifying the already built city to make it more liveable and sustainable, from diverse views, perspectives and disciplines”**

## Diverse types of kit: bioclimatic, expansion, aljub (cistern) for collecting water or photovoltaic

There might be different kinds of modular structures, each one responding to the different building needs. For example, there is a bioclimatic modular kit for improving the building envelope (enclosure) and its thermal or acoustic insulation, among other functions. An expansion kit has also been designed which enables semi-exterior or communal spaces to be added to buildings, or home interiors or existing shared spaces to be expanded. Another type of modular kit is the *aljub*, a cistern for collecting and storing rainwater so it can be used for irrigation purposes or flushing toilets. Likewise, there is the so-called “photovoltaic kit” to add panels to the upper part of a building.

With this line of work based on modular structures, up to eight projects were presented to tackle this urban challenge, from which the three winners were selected. These are the “Aligra” project, presented by Straddle3, Societat Orgànica, Aiguasol, Tall-Fusta and Tejido; “Regenerate Barcelona”, from UPC-Contraula, and “InnovaFAB”, from Pich Aguilera Architects, Pich Architects and Pich Innovation, Metalperfil and Verdical Urban Biotechnology.

BIT Habitat has a maximum budget of €450,000 for developing the winning proposals. The foundation will subsidise up to 80% of each one, with a maximum of €150,000 per proposal.

To choose the three winning proposals, a prototype of which will be completed in 2023 and then monitored for implementation in real environments for one year, the solutions proposed to meet the specific objectives of the urban challenge have been evaluated. These objectives are linked to improving the well-being and health of people living in renovated housing; increasing the urban resilience of those communities; reducing the climate emergency by improving the energy efficiency of buildings; increasing urban biodiversity; and improving urban and social integration through architectural solutions.

By tackling challenges such as these, “we contribute to addressing the challenge of modifying the already built city to make it more liveable and sustainable, from different views, perspectives and disciplines,” concluded the director of BIT Habitat.

# 4 2

## Renovation of social housing: the Grand Parc Bordeaux

Apart from the experiences of renovation with social and environmental criteria carried out in the Barcelona metropolitan area, there are models from other countries that could inspire innovative projects in this field in our more immediate environment.

We find one of those models in Bordeaux, in south-west France, the ninth most populated city in the country with 260,958 inhabitants. A project was developed there to renovate a large social housing complex of 530 flats, known as Grand Parc Bordeaux, which was built in the 1960s and had serious maintenance deficits before the renovation.

The architects Christophe Hutin and Frédéric Druot designed this renovation project with the Lacaton & Vassal studio. Together they developed the renovation of 500 social flats in buildings G, H and I of this complex. During the alterations, additional modules were added to the flats to increase the available space inside or in the exterior areas. Moreover, they did so by applying industrialisation techniques (explained more fully in Section 5). Execution of this project earned them the Mies van der Rohe Award for Architecture in 2019.

**A project that opposes the tendency to demolish older houses without valuing their renovation**

Developing the project meant subverting the logic of the housing and urban planning policies that had prevailed in Bordeaux until then. This logic prioritised the construction of new public housing and the demolition of housing in poor condition, including social housing complexes dating from the 1960s such as the Grand Parc Bordeaux. One such good example is that, at the end of 2009, the Bordeaux metropolitan area decided to promote a project to build 50,000 new homes in the metropolitan area by 2030, which would be integrated with public transport networks to facilitate the mobility of residents.

In fact, Christopher Hutin and other reputable French architects such as Anna Lacaton and Jean-Philippe Vassal were involved in that urban expansion strategy because they worked for the Bordeaux metropolitan area then. However, they now believe that urban development model should be scrapped in favour of more renovation, an approach reflected in the Grand Parc Bordeaux.

Christophe Hutin, architect and promoter of the Grand Parc Bordeaux renovation, during his intervention at the FHAR.



Referring to that project at the 2022 FHAR, Hutin said, “Bordeaux City Council had decided to demolish those flats but we managed to carry out a pilot project so we could renovate them and make flats where people could live a lot better.”

Hutin, who also lectures and carries out research at the *École Nationale Supérieure d’Architecture et de Paysage de Bordeaux* considers that renovation is a more sustainable solution, both from a social and environmental point of view and that, at the same time, it preserves the family memory and the memories of people who have lived in the same dwelling for decades, for whom its demolition would be devastating.

“Often we just look at the construction of housing but the objective is the life project of the people who live there,” affirms Hutin. With this in mind, in order to design the Grand Parc Bordeaux renovation project, a lot of work was done beforehand with the families who lived there so that it would meet their needs and fit in with their lifestyle. The project’s origins date back to 2010.

That enabled them to design an architectural project which, in Hutin’s words, is “a fusion, a meeting point between the architect and the life project of the people who live there”. The general philosophy of the project was to transform the block of existing flats while preserving their original structure, and basing the renovation and improvement on attaching additional modules to expand the interior and exterior spaces. In this way, the architects aimed to increase the mobility options for residents within their own homes, as well as opening them up to the outside world, through additional modules with the function of a balcony or garden.

It should be noted that the families did not have to leave their flats, not even during the renovation work. The industrialisation systems for building the additional modules that were attached to the original structure of each flat cut the renovation time considerably and, what’s

CHRISTOPHE HUTIN, architect and promoter of the Grand Parc Bordeaux renovation:

**“Often we just look at the construction of housing but the objective is the life project that the people on the inside make”**

more, the work had little impact on the residents. During the work, manufactured modules, slabs and columns made in a controlled industrial environment were used, which were then moved to the social housing complex, where they were lifted to the floor where they were to be placed.

At the same time, the renovation has improved the accessibility of the flats by installing outdoor lifts on the 10–15 storey buildings, as well as making them brighter. The previous windows have been replaced by large glazed sliding doors that allow more natural light into the flats. Another target of the renovation was to reduce household energy expenditure by 50%.

“That means the original dwellings had a potential that needed to be exploited,” remarks Hutin, for whom the experience in this complex shows that renovation is also more economical than new construction. The renovation cost for each of the flats was €50,000, while according to the architect building them anew would have cost a lot more.



CHRISTOPHE HUTIN:

**“The original dwellings  
had a potential that  
needed to be exploited”**

The success of this first experience, above all as regards the residents' satisfaction, has encouraged the team to extend it to other social housing in a poor state of repair. Christophe Hutin explained that he and other architects have identified in Bordeaux 160,000 “collective habitats”, the French name for social housing complexes, which were mainly built in the mid-twentieth century given the urgent housing needs following the Second World War.

Regarding the possibility of exporting this industrialised renovation model to cities such as Barcelona, or applying it to smaller blocks of flats, Hutin stresses above all the need to adapt and customise the architectural renovation project to the particular characteristics of each building and the needs of the people who live in it. In that regard, he concludes, “The question of scale or size would be relative: what is necessary is for architects to adapt processes to specific situations, which are architectural, but also social, human... It is necessary to control the complexity of each specific situation.”



Top, Christophe Hutin, architect of the Grand Parc Bordeaux renovation project. The rest, images of Grand Parc Bordeaux.

# Recognising architectural projects for renovating social housing: a Mies van der Rohe awards commitment

In 2019, the Mies van der Rohe awards, one of the most prestigious in Europe in the field of architecture, recognised the renovation project for the Grand Parc Bordeaux social housing complex, described in the previous section. The awards valued “the extraordinary quality” of the renovation project and how this was translated into a better quality of life for the people who live in this complex,” explained Anna Ramos, the director of the Mies van der Rohe Foundation.

Through this award, the foundation also wanted to value the work of architects in relation to housing and, in particular, in renovating poorly maintained residential complexes located on city outskirts. “Although housing is the main activity in architectural projects all over Europe, it tends to be under-represented in architectural awards,” said the foundation’s director, highlighting the importance of the award for the Bordeaux project, because it reverses this trend.

ANNA RAMOS, director of the Mies van der Rohe Foundation:

**“Although housing is the main activity in architectural projects all over Europe, it tends to be under-represented in the awards”**

Initially, this foundation was set up to rebuild the German pavilion at the 1929 International Expo, which was designed by the architect Ludwig Mies van der Rohe, together with Lilly Reich. However, since the 1980s, it has increasingly extended its field of activity and, today, carries out a wide range of actions to disseminate the architecture of the modern



Anna Ramos, director of the Mies van der Rohe Foundation during her intervention at the FHAR.

ANNA RAMOS:

**“In both Bordeaux and Amsterdam, a large housing complex was saved by the joint work of architects, urban planners, economists, public administration staff..”**

movement, as well as to promote training and research in this field. And it is precisely the Mies van der Rohe architecture awards, which the foundation has been awarding since 1988, that are one of the best known aspects of its work.

The Mies van der Rohe awards (EU Contemporary Architecture Prize) recognise, every two years, the best architecture projects built across Europe by offices also based in Europe. The process for selecting the winning firms takes into account the candidatures proposed by the national architects' associations of 41 countries; by a panel of 90 independent experts, which is renewed every three years; and by 15 architecture museums from all over Europe.

Based on their proposals, each edition receives some 400 nominations. From these nominations, an independent jury made up of practising architects, directors of architectural museums and also professionals from other fields (politics, journalism, etc.) who have contributed to establishing links between architecture and society carries out an initial filter, which leads

to a shorter list of 40 nominations. In fact, the Mies van der Rohe Foundation organises itinerant tours around Europe to disseminate these 40 nominated projects, from which the jury shortlists five finalists in the general category and two more for the category of emerging architecture projects.

Through this procedure, the Grand Parc Bordeaux renovation project received the 2019 award, two years after a renovation project in the Netherlands with many similarities to the Bordeaux one. The winning project of the 2017 Mies van der Rohe award was the renovation of a block of flats in the Amsterdam neighbourhood of Kleiburg. As in the Bordeaux case, this Amsterdam project “gave a new lease of life to a residential building that was about to be demolished,” explained Anna Ramos, adding, “Both in Bordeaux and Amsterdam, a large housing complex was saved by the joint work of architects, urban planners, economists, public administration staff..”



DeFlat Kleiburg  
in Amsterdam, Mies  
van der  
Rohe award, 2017

## The DeFlat Kleiburg renovation project in Amsterdam

Other similarities can also be seen between the Amsterdam and Bordeaux projects, for example, in the size of the block of flats. As in the case of Bordeaux, the renovation project in the Dutch capital, called DeFlat Kleiburg, renovated a building with 500 flats distributed over 11 floors between 2013 and 2016. The renovation was carried out by XVW architectuur and NL Architects.

The renovation was undertaken in the hope of preserving the original structure as much as possible, and to highlight and enhance the intrinsic beauty of the original building itself, as well as with the aim of involving the community in the renovation process. The DeFlat consortium that restored the building converted it into a *klusfast*, the Dutch term for the practice whereby the inhabitants themselves become involved in renovating their flats.

With regard to the structural elements, the renovation modified the way in which the lifts were integrated into the building. In the 1980s, three vertical holes had been drilled to install the lifts in the

buildings, which had concrete additions. These additions were removed during the renovation, making the integration of the lifts into the building more harmonious and less disruptive with respect to the original structure.

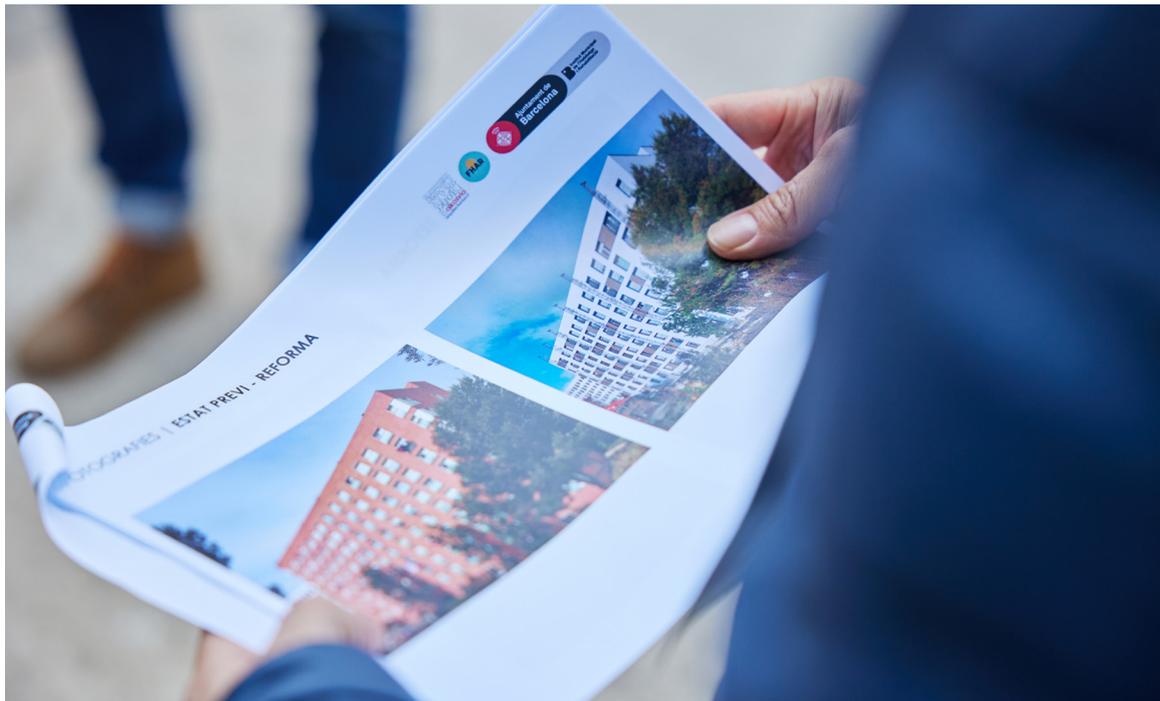
The landings were also altered so their composition and layout would be more welcoming. At the same time, the closed parts of the façade were replaced with double glazing to give the building a more open and brighter appearance. The connections between the different parts of the building were also improved in order to encourage neighbourly relations.

In addition, a system was installed so that the landing lights would work with motion detection systems. In this way, not only was it possible to improve the level of energy savings but also the visibility of the building's apartments as a whole. While previously the focus was on landings that were permanently lit, after the renovation the exterior appearance of the building conferred the same visibility to each flat.

## An exhibition at the Cité de l'Architecture in Paris in 2020 highlights the value of renovating rather than demolishing housing

The Mies van der Rohe Foundation exhibition at the Cité de l'Architecture in Paris in 2020 highlighted projects that were committed to renovating homes instead of demolishing them. Both the DeFlat Kleiburg project in Amsterdam and the Grand Parc Bordeaux project were shown at an exhibition organised at the Cité de l'Architecture in Paris in October 2020, which was curated by Ivan Lazzi and Anna Sala of the Mies van der Rohe Foundation. Under the title "Large-scale transformation, the new challenges of sustainability", this exhibition showed various architectural projects that had received the Mies van der Rohe awards.

In the section dedicated to large housing complexes, the need to renovate them to ensure proper maintenance as well as the quality of life of their inhabitants was highlighted, along with the efforts of the architects and developers who had worked to ensure their survival.





## The 2022 Mies van der Rohe Awards continue to recognise architectural projects related to housing

Architectural projects related to housing and, in some cases, specifically to renovation were also recognised in the latest edition of the Mies van der Rohe Awards (2022).

The 2022 winner in the emerging architecture category was a building with granted-use flats by the Lacol cooperative in Barcelona's Sants district. In the general category, the winner was, for the first time, a university architectural project: the Town House at Kingston University in London, designed by the Dublin firm Grafton Architect.

Among the projects on the list of 40 nominees, there is also a social housing project in Cornellà by Peris+Toral Arquitectes and the project to renovate the old Fabra i Coats factory in the Sant Andreu district of Barcelona

to convert it into social housing by Roldán+Berengué. If we take a broader look at the 400 projects initially selected by the award organisers, we also find the renovation of the historic Casa Burés building in Barcelona, built by Francesc Berenguer i Mestres, a close collaborator of Gaudí, in the early 20th century, to convert it to residential use, and the renovation of the Santa Clara building in Girona (the former head office "la Caixa") to turn it into housing.

These recognitions aim to encourage other architecture professionals to persevere in these lines of work. One of the functions of the prizes is precisely to give prizes to "exemplary projects so that other architects can be inspired by them and apply them in their own professional practice," concludes Anna Ramos. 🏡

# 05

## Innovation in public housing development: industrialisation and sustainability



# Sustainable construction methodologies and materials

When renovating properties to allocate them for affordable housing is not enough to cover residential demand, new housing developments must be built. However, during the construction process, efforts must be made to reduce the environmental impact. With this aim in mind, over the last few years, new, more sustainable building methods have begun to emerge in Catalonia and throughout Spain that are more common in central and northern European countries.

In this section, we will explain what these methodologies consist of, as well as giving examples of the first public housing developments built using these systems in the city of Barcelona.

## Industrialisation

One of the most important methodologies is industrialisation, which essentially consists of organising an integral process involving the design, production and construction of a building in a rational and automated way, supported by digital technologies. A large part of the process is carried out and monitored in a controlled industrial environment, which improves quality standards and significantly reduces on-site work compared to traditional construction methods. This requires a high level of coordination by the parties involved in the project (architects, builders, industrialists, etc.) from the beginning of the project design and throughout its execution.

Since in an industrial environment it is possible to assemble different parts of the building at the same time (for example, the floor modules) without the need to follow a sequential order as in the traditional construction model, construction times are reduced. This is particularly important at a time when it is necessary to speed up the expansion of affordable housing. According to Walex, a company dedicated to industrialised construction in Spain, the time taken



to build a house with this system can be reduced by half compared to traditional building methods, which can also reduce costs.

Furthermore, as a large part of the construction process is concentrated in an industrial environment, there is a reduction in construction waste, energy consumption levels, pollution linked to the transport of materials and the waste generated by construction work on the building site. Monitoring the process at the factory also makes it possible to better adjust the demand for materials to the real needs of the construction process.



## What is industrialisation in 2D and 3D?

The characteristics described so far are common to industrialisation methodologies, which are diverse and can be combined to a greater or lesser extent in each construction process. For example, there are solutions that involve the construction of two-dimensional (2D) components in a controlled industrial environment (off site) – for example, the façade of a building – which can be combined with others to form the three-dimensional (3D) structure of the homes on the corresponding site (on site). On the other hand, there is another type of industrialised construction, modular, which is based on the construction of 3D off-site modules, which are transported finished (or almost finished) to the building site, where they are only joined together to articulate the complete structure of the building, connect the installations and make some of the finishes. In other words, with 3D modular construction, industrialisation (or the process in the factory) is taken further than with 2D systems.

## Differences between prefabrication and industrialisation

Another construction method that is also carried out in controlled environments in the world of industrialisation is prefabrication. This technique concentrates a high degree of industrialisation in a construction element, a complex component or a part of the dwelling, such as, for example, a pillar, a slab or even a complete bathroom.

We could say, therefore, that while industrialisation encompasses all the standardisation and optimisation processes that are applied to the entire design and construction process of a building, prefabrication is one of the most significant processes, as it involves the factory construction of more or less complex elements (from a slab to a complete damp-proof core of a bathroom) that will be taken to the building site completely finished.

In that sense, unlike 3D modular construction which has a strong prefabricated component, 2D construction allows greater flexibility in composition and combination and can generate more personalised spaces according to the needs of the users of each home. By contrast, the adoption of systems with 3D modules increases the control over the materials and the work on-site, which allows a more significant reduction of the execution time due to the overlapping and optimisation of the different tasks and a greater incorporation of other sectors of the population in the construction.

## Demand for industrialised housing is on the rise

With regard to the demand for homes built using these methodologies, the Passivhaus Building Platform (PEP) points out that it has increased from 30% to 60% since 2020 in Spain. These methodologies are currently applied to 1% of newly built buildings across the Spanish State. However, the PEP expects this percentage to rise and for Spain to gradually move towards the levels of other European countries such as Germany (9%), the Netherlands (50%) and Sweden, where practically all housing is built in this way. Thus, we are only at the beginning of what these construction methods could mean for Spain.





## The use of wood in the construction process

In addition to construction methods, another fundamental element in minimising environmental impact is the materials used. In central and northern Europe, the use of wood as a building material is also becoming more widespread, although its use is more incipient in the case of Spain. For example, in Scotland it is used in 7 out of every 10 new buildings, according to the "Sustainable Cities" portal promoted by the Inter-American Development Bank (IDB).

There are many advantages to using wood. Its production generates fewer carbon dioxide emissions than other materials, because it has the capacity to absorb it in the overall sum of its life cycle. The production of one tonne of wood involves the emission of 33 kilos of carbon dioxide, far less than the 694 kilos of steel or the 264 kilos of cement. Moreover, it has more insulating capacity than these materials (400 times more than steel), so it contributes to the energy efficiency of buildings. It is also a renewable and recyclable material, provided that each territory has the capacity to regenerate its forests, and at the same time flexible, light and easy to transport, which contributes to cost savings.

The following sections explain how the use of this and other sustainable materials and industrialised construction methods, which reduce the environmental impact of building, is being encouraged in various public housing developments in Barcelona.

# A new model for public housing tenders in Barcelona

Although it is an incipient phenomenon in Spain, more and more administrations are considering promoting the industrialised and sustainable construction of public housing. Barcelona City Council has been a pioneer in Spain in developing a new way of tendering for public housing, the project and works tender, which aims to promote these construction models. Essentially, this tender model reduces to a single process what used to be two separate tenders: first the architectural project and then the works to carry it out.

In this way, the new model encourages collaboration between the parties involved in the construction process (especially architects, builders and industrialists) right from the start of designing the architectural project, a fundamental requirement for all industrialisation projects.

## An initiative of a specific Barcelona Social Housing Council working group

The idea of unifying what were previously two different tendering processes came from the industrial production of sustainable housing working group that was created by the Barcelona Social Housing Council in 2018. This council is made up of Barcelona City Council, professional associations from the sector, housing cooperatives, independent professionals from the sector, NGOs that work in this field, etc.

As a result of this group's initiative, work began on defining this alternative to the traditional tendering model, with the following objectives: to speed up the production processes of public housing, to produce buildings of high architectural quality, and to reduce the environmental impact of building – and the manufacture of the materials it needs – by up to 30%.

DANIEL LÓPEZ, architect at the MHAB:

**“More and more companies are aware of the importance of incorporating sustainability criteria”**

From this perspective, six tenders were launched for public housing developments in the Sant Martí and Sant Andreu districts of Barcelona, which were grouped into two bidding processes in February and October 2020.

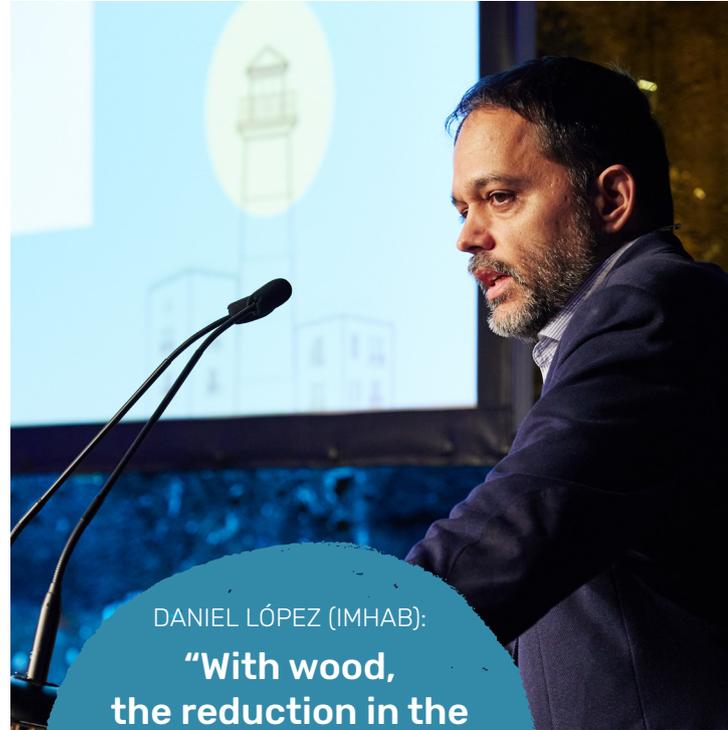
During the 2022 FHAR, Daniel López, a Barcelona Municipal Institute of Housing and Renovation (IMHAB) architect, explained that, in order to award these developments, they were working on a tender proposal to promote industrialised construction with sustainability criteria “with a broad outlook”, in which proposals that opted for different materials or specific execution methodologies could be included.

In all, a total of 79 proposals were submitted to these six tender processes, of which 61 passed the filter in terms of environmental criteria. López is convinced that “companies are increasingly aware of the importance of incorporating sustainability criteria”.

In these proposals, the use of construction materials such as wood, concrete, laminated steel or metal frameworks were proposed, as well as 2D industrialisation techniques or 3D modular techniques (with 3D modules). In terms of carbon dioxide emissions, the average environmental impact of the manufacture of the materials used to build the structures and the opaque part of the façades of the buildings was 325 kilos of CO<sub>2</sub>, although this figure was reduced to 136 kilos in the projects that opted for wood as the main construction material (34 of the 61 accepted).

The wood projects make use of so-called CLT (cross-laminated timber), which consists of a plank made up of layers of wood glued together. The orientation of the fibres of the adjoining layers is perpendicular, which is why it is called cross-laminated timber (in laminated timber, the fibres are parallel).

Daniel López, architect of the IMHAB during his intervention in the FHAR



DANIEL LÓPEZ (IMHAB):

**“With wood,  
the reduction in the  
environmental impact  
of building exceeds the  
30% that we had set as  
a minimum target and  
reaches up to 60%”**

“With wood, the reduction in the environmental impact of the building exceeds the 30% we had set as a minimum target and reaches up to 60%,” says the IMHAB architect. Thus, the use of this material allows a significant reduction in the environmental impact of construction.

The following are examples of housing developments made with sustainable construction materials and methodologies, as a result of the public tenders for design and construction carried out by Barcelona City Council in February and October 2020, as well as other tendering processes.

# Industrialised public housing with wood: developments in Barcelona

## 5.3.1.

### The use of wood in public housing in Poblenou

JOSEP M. FABREGAT,  
(Fabregat & Fabregat  
Arquitectes):

**“The project aimed to promote the environmental vector as much as possible, from the point of view of sustainability, and we have opted for wood”**

One of the public housing developments that began as a result of the design and construction tenders mentioned above is the one at Carrer de Pallars, 487, in the 22@ area, which consists of 42 flats and 2 ground-floor premises. The project for this development was drawn up by Fabregat & Fabregat Arquitectes and Oiskovia Arquitectura, while the construction was carried out by Constraula Enginyeria i Obres, of the Sorigué Group.

During the FHAR, the project was exhibited by the architects Fabregat & Fabregat, who have specialised in construction projects with marked environmental criteria since 2015.

On their behalf, Josep Maria Fabregat explained that the project for this housing development was based on two premises. On the one hand, they wanted to frame their work in BIM (building information modelling) environments, which are very common in industrialised construction processes. It is a collaborative working methodology based on a digital platform that can be accessed by all the players involved in the construction of housing. Not only is it used during the architectural design phase but in all stages of the building process and, in general, throughout the building's life cycle to monitor its state of maintenance and renovation needs.

On the other hand, “the project aimed to strengthen the environmental vector as much as possible, from the point of view of sustainability, and we have opted for wood,” explained Josep Maria Fabregat. He believes that the use of wood has many advantages: for example, it is more sustainable, it reduces the carbon footprint and the waste it generates in building is almost non-existent. According to Fabregat, the use of wood as a building material also contributes to “rationalising the state of the country’s forests” and, therefore, to preventing fires. In addition, “it implies the creation of a timber industry, currently very marginal in our immediate environment and, therefore, the increasing production of zero-kilometre raw materials”.

From the point of view of industrialising construction, Fabregat believes that wood allows it to be applied to a certain extent. The wooden elements of the building are prefabricated with numerical control, in controlled conditions and with greater precision, much better than those that are given in the open air.

In the case of the housing development in Carrer de Pallars, the structure is made of cross-laminated timber. The dimensions of the building’s ground floor are practically square, as it is about 22 metres wide and has the same depth. The block of flats has eight floors and an interior courtyard, is surrounded by landscaped areas and has an architectural design that facilitates good capture of sunlight and high levels of thermal comfort.

“We wanted to make the most of this geometry and its advantages by means of serial actions. Serial actions are a form of pre-industrialisation,” said the architect, who explained that many features of the flats are identical. For example, the 126 large windows the façades have in total. Thus,



Josep M. Fabregat during his intervention at the FHAR.

JOSEP M. FABREGAT:

**“The advantages of industrialisation and sustainability are a consequence of each other”**

industrialisation has been applied not only to the structure of the CLT building but also to a large part of its features, such as the walls themselves, as well as the kitchens, bathrooms and toilets.

“The advantages of industrialisation and sustainability are a consequence of each other,” assures Fabregat, who is also open to exploring other construction materials beyond wood. Although there are countries such as France, where the entire public stock is made of wood, he considers that it is not necessary to be on a par with Spain’s neighbour, but rather to respect a maximum of carbon dioxide emissions in the construction processes, as well as in the manufacture of the materials required in each building.

First stone at Carrer Binèfar 22, in the Verneda area.



## 5.3.2.

### A public housing development in La Verneda which reduces the carbon footprint

Another example of public housing developments that are being built in a sustainable way and applying the industrialisation methodology is that of Carrer de Binèfar, 22, in the Verneda area of the Sant Martí district. In this case, the public tender for the project and works awarded the development to COMA Arquitectura and Martí Sanz Ausàs (for the architectural project) and the Mas Group (for the execution of the works).

This development includes 24 social rental and subsidised housing units occupying a total built surface area of 2,500 m<sup>2</sup>. As in the Carrer de Pallars project, symmetry is an intrinsic part of this development, where industrialisation methodologies have been applied. The blocks of flats are built on “a typical floor plan, with four variants adapted to the specific conditions of the surroundings,” says Maria Assís, of COMA Arquitectura. All of them have a passageway to which the flats are connected and a vertical communication nucleus.

#### Housing made up of standard modules that are produced in series

Each of the flats also has a standard structure: a first section with a living room, a second with a bedroom and a third with a kitchen, toilet and washbasin and, in terms of design, there are structural elements made of wood. The building's structure and the balconies of the rooms facilitate natural ventilation. On the roof there is a green area and photovoltaic panels, while the communal area has the flat clotheslines. In the future, the central part of the building on the ground floor will be used for a facility. In fact, at present, one of the two main entrances to the building already provides access to an interior courtyard adjacent to a municipal sports centre.



In the first picture, Maria Assís, of COMA Arquitectura.

## A project that reduces CO<sub>2</sub> emissions, also in the manufacture of the materials used

The development of the project has taken special account of the reduction of CO<sub>2</sub> emissions in the phases involved in the construction process and the life cycle of the building: the manufacture of the materials, their transport and the subsequent maintenance of the building. Thought has even been given to the environmental impact of a possible demolition, once the building's life cycle is over.

The phase that represents the greatest ecological challenge is the maintenance and use of the building throughout its life cycle, and this is the part that is most regulated by building regulations. If we take a life cycle of 50 years as a reference, maintenance and use of the building would account for 54.6% of the total CO<sub>2</sub> emissions of all the phases described above, according to data provided by COMA Arquitectura. In order to reduce the ecological footprint specifically in this phase, the Binèfar street development has adopted passive measures to reduce the energy demand,

such as the opening of south-facing patios with deciduous trees; systems that facilitate increased natural ventilation or solar protection; good insulation – wood contributes to this, as it is a good insulator; photovoltaic panels on the roof, and a commitment to aero-thermal energy for air-conditioning and producing hot water.

Besides the measures to save energy during the building's life cycle, which have already been more thoroughly worked on and regulated until now, "the truly innovative aspect of the tender is, without doubt, the evaluation of the CO<sub>2</sub> emissions that are incorporated into the manufacture of the building materials," says Assís in relation to the tendering process carried out by the Barcelona City Council to award the contract for the work. The manufacture of these materials represents 38.6% of the total carbon dioxide emissions involved in the construction process and the life cycle of a building, according to data provided by COMA Arquitectura.

MARIA ASSÍS (COMA Arquitectura):

**"The really innovative aspect of the tender is without doubt the evaluation of the CO<sub>2</sub> emissions incorporated in manufacturing the construction materials"**

MARIA ASSÍS:  
 “It’s necessary to pre-dimension and pre-quantify the ecological footprint of CO<sub>2</sub> from manufacturing the construction materials



## Three strategies to reduce CO<sub>2</sub> emissions in the choice of materials, architectural design and re-use

In the Carrer Binèfar development, Assís explained that three strategies have been followed to reduce CO<sub>2</sub> emissions. Firstly, they have chosen materials that generate less ecological waste in their manufacture, mainly wood, which, in this project “has structurally replaced materials with a high CO<sub>2</sub> impact, such as steel or concrete”. They also opted for the use of other materials, such as cork and recycled ceramics. Added to this is the incorporation of vegetation as an important feature of the project, both in the roof of the building and in the recreation areas around the flat complex, as well as in the solar protection systems, among others.

The second strategy is based on optimising the architectural design, so that the structure of the building itself contributes to reducing household energy consumption. To that end, various characteristics of the building’s basic module have been adapted to guarantee good thermal comfort, among other conditions, to improve energy efficiency. The very use of wood for structural and roofing purposes is useful for this purpose, as it is a good thermal insulator.

Finally, the third strategy involves the reuse of materials during the industrialised construction process of the building. This is possible because the building modules are uniform and are produced in series, so that the same materials are used to build each one.

That means any materials left over from producing one module can be reused to make another one.

Based on their experience, Assís explained what the future challenges are for developing sustainable housing through industrialisation. On the one hand, she explained that decision-making processes are not linear and, therefore, it is necessary to carry out synchronous evaluations of the environmental, economic and design-related impacts and the services required, both qualitative and quantitative. On the other hand, she stressed that, in order to implement this methodology, “it is necessary to pre-dimension and pre-quantify the ecological CO<sub>2</sub> footprint of manufacturing the construction materials used” and to opt for other alternatives, if necessary, to reduce it. Although she thinks that wood has great potential, she believes there is not enough of it produced in Catalonia to serve all the projects that are currently being carried out, so it is necessary to boost this industry here and, at the same time, to look for other sustainable materials.

The search for alternative solutions must ensure that the building meets all the environmental and technical requirements. In short, she thinks we need to adopt “a holistic view” of the building with an analysis of its interference in multiple areas.

## 5.3.3.

### Terraces for life: the tallest wooden public housing building in Spain

The project for the tallest industrialised mass-produced wooden building for public housing in Spain is located in a Barcelona street, Carrer de Lola Iturbe Arizcuren in La Verneda. Like the two previous developments, it will also be built as a result of a public tender process for design and construction launched by Barcelona City Council. This is the “Terraces for life” project, which takes its name from the large terraces of the building’s flats, a commitment that was made in the wake of the Covid pandemic, when social demand for outdoor space inside the home grew, following the experience of lockdown situations. It should be borne in mind that the public tender for the project was launched at the end of 2020.

The tallest wooden public housing building in Spain will have 8 floors with 5 flats on each floor, a total of 40 households, to which a ground floor will be added for communal use. In all, it occupies a plot of 423 m<sup>2</sup> and has a total built area of 3.377 m<sup>2</sup>. The architectural design was work of Gualart Architects and Daniel Ibáñez, founding architect of Urbanitree, who is dedicated to developing sustainable buildings and urban environments, and director of the Institute of Advanced Architecture of Catalonia (IACC). Acsa, Obres i Infraestructures, part of the Sorigué Group, is in charge of the building work.

DANIEL IBÁÑEZ, architect:

**“In the range of options available to architects when deciding what their environmental contribution should be, the selection of materials in terms of the carbon dioxide emissions associated with them is the easiest and most obvious”**

Ibáñez, who has focused his professional, academic and research career on the architectural, urban and territorial implications of the use of renewable materials in building, recalls that more than 40% of global CO<sub>2</sub> emissions are due to construction. “For many decades, we have been focusing on the operational emissions of buildings, on how much energy they use, but we have forgotten a second dimension, which is the CO<sub>2</sub> emissions in the production, manufacture and construction of building elements,” said Ibáñez, who considers it essential to make progress on this issue. In this sense, he added, “In the range of options available to architects when deciding what their environmental contribution should be, the selection of materials in terms of the carbon dioxide emissions associated with them is the easiest and most obvious.”

From that perspective, the “Terraces for life” project bases the entire structure of the building on CLT panels, with the

Daniel Ibáñez, founding architect of Urbanitree during his intervention at the FHAR



sole exception of the ground floor and the foundations. “Wood is set to play a very important role, specifically in housing; it has many virtues, beyond the environmental ones, and it is set to play a predominant role,” assures Daniel Ibáñez, who is committed to further promoting the timber industry in Catalonia and in Spain as a whole. “With almost 60% of forest surface area, Catalonia should have this type of associated industries. We know that in Spain, there are 27 cement plants and only two large timber plants to produce a building like this.” In the specific case of this development, the wood comes from a plant in Galicia, which is why Ibáñez believes there is still room for improvement in terms of the proximity of the materials to the building site.

DANIEL IBÁÑEZ:

**“Buildings are not just consumption centres; they are also productive centres where furniture, energy, food, etc. are made”**

In addition to the use of wood, this housing development includes many other features that make the building sustainable and energy-efficient. The spaciousness of the open-air spaces is also an essential part of the project,

as shown in the interior lightwell, the terraces and other outdoor spaces. At the same time, the design of the building aims to encourage energy self-consumption and enable its inhabitants to grow their own fruit and vegetables. The roof will house the first vertical solar greenhouse in a public housing building, which will help to combat the heat island effect, as well as providing food for the community. On the other hand, the building does not have a car park, as it aims to promote a sustainable mobility model.

The ground floor will be used for communal purposes, and one of the possibilities that has been considered is to use it as a fab lab for making the utensils or furniture needed for the flats (tables, chairs, etc.), available to the building’s residents. “Buildings are not just consumption centres but also productive centres where furniture, energy, food, etc. are made,” says Ibáñez. “We can’t just think of substituting one material for another but of changing the philosophy with which we build as well.”

In order to promote this change of philosophy, Ibáñez believes that the collaboration of the public administration is key, and that the public tenders for public housing should begin to incorporate criteria that favour solutions based on sustainability and industrialisation, as well as the use of new materials.

## 5.3.4.

### Temporary housing in Sant Andreu

Industrialised construction is also providing a response to the residential needs of older people, young people and other groups faced with residential exclusion. This is the method used to turn the old Sant Andreu barracks into public facilities and housing for people, as had long been demanded by the neighbourhood's social and residents' movements.

In 2019, Barcelona City Council put out to tender the construction of the first of three public housing developments (buildings A, C and J) that will be available in this space. A project is planned in the area to combine the spaces reserved for public housing with green spaces, educational, health and youth facilities, as well as commercial premises.

**A process of industrialised construction monitored by the BIM system, through a digital platform**

One of these three housing developments, the one in building J which is intended for public housing and is located between Carrer de Fernando Pessoa and Passeig de Torres i Bages, was presented during the FHAR. The design for this building, with wood as the main material, came from Vivas Arquitectos, while Constructora del Cardoner is the company tasked with its construction. To develop this project, they have teamed up with 011h, a company that specialises in monitoring industrialised construction processes through digital and collaborative platforms. The entire process has been carried out through the BIM (building information modelling) system, in which it is possible to "transfer data to organise the order of manufacture, optimise the



transport systems and carry out an exhaustive control of the assembly processes, all with the aim of reducing the execution time,” says Isabel Pérez, of Vivas Arquitectos.

This development, with a total of 56 flats, occupies a total surface area of 5,000 m<sup>2</sup>, which includes both the space occupied by the building (60% of the total) and the external areas of the complex (the remaining 40%). The design of this building includes a ground floor, which will be used as a nursery school, and four upper floors for temporary social housing.

## Flats with a flexible structure that adapt to the changing needs of the residents

The flats, with two rooms each, will have a flexible structure, so that the rooms can be combined in different ways according to the needs of the people who live there. In most cases, the kitchen will be in the space reserved for the living room, together with the dining room, although in some cases it will occupy a separate area. The design of the buildings is intended to guarantee thermal conditions, as well as improve energy efficiency. It provides for three central interior patios to facilitate natural lighting and ventilation of the flats. The building incorporates aero-thermal systems and will obtain energy from photovoltaic panels. In addition, all the flats will have cross ventilation.

As regards the design, the façade will be integrated into the building’s surroundings, “so as not to clash with the image of the neighbourhood,” says Isabel Pérez. To protect them from the sun, all the flats will have the classic Barcelona-style shutters, which will also give an image of homogeneity to the building’s façade, “with

a local and domestic feel”, in the words of the architect. Pérez adds that the building has been organised with the idea of “making a transition from the more public to the more private, from the public space to the interior, so that, on accessing it from the street, first there are the communal spaces and then the domestic dwellings.”

### A project that is based on the desire to optimise the quantity of wood

Isabel Pérez, who directs Vivas Arquitectos’ projects with high environmental commitment and sustainable construction systems, explains that, in the case of the Sant Andreu barracks development, “the starting point was the determination to optimise the amount of wood, on the walls and in the entrances.” The floors on each level are made of wood, and the walls and floors are also made of CLT.



In the first picture, Isabel Pérez, Vivas Arquitectos, during her intervention at the FHAR.



Only the ground floor is made with concrete structures.

Although she is in favour of industrialised construction with wood, Isabel Pérez warns that this material cannot be used – or not mostly – in all types of buildings. In her opinion, housing is easily adaptable to the use of wood, but other types of buildings, especially large-scale projects, may require other materials. In short, “it’s necessary to look for other materials that minimise the environmental impact; wood is not the only solution”. Other sustainable materials that can be used in construction include clay, cork and crushed earth.

Moreover, Pérez warns that maximising the amount of wood used in the construction of a building also implies more difficulties in meeting other requirements, for example, in terms of acoustics or fire prevention measures. She is therefore in favour of “going for more hybrid options, not mono-materials, for example, based on mixing wood and concrete”, which, in her opinion, make projects more flexible.

ISABEL PÉREZ (Vivas Arquitectos):

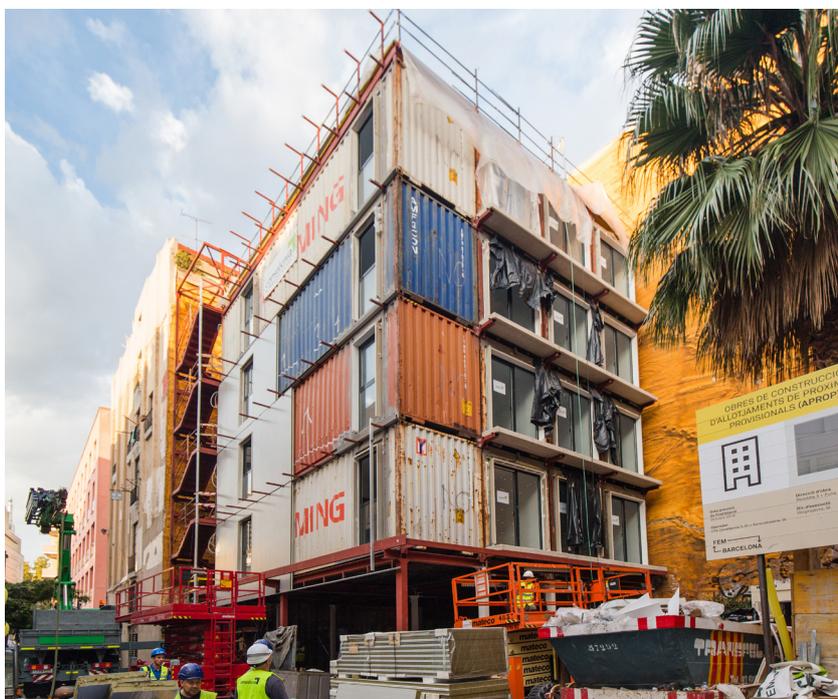
**“It’s necessary to find other materials that minimise the environmental impact; wood isn’t the only solution”**

# 5.4 Modular industrialised public housing

In the previous section, we outlined examples of public housing complexes mainly made with 2D industrialisation techniques and which use wood as a building material (exclusively or in combination with other materials). Now we will focus on developments that have opted for the modular construction system.

This system was the basis for six of the proposals accepted in the design and construction tenders held by Barcelona City Council in February and October 2020, as described in the previous section. IMHAB architect Cecília Colomer explained the types of modular industrialised construction on which these six proposals were based, during the 2022 edition of the FHAR.

Of these six proposals, four were based on solutions with 3D modules using materials such as metal structures and composite forgings (mixed steel and concrete) or concrete slabs, one on the use of recycled shipping containers, and one on the JIT Housing system. This innovative system is associated with smart city models and uses building insulation systems and materials that contribute to reducing and making a more efficient use of energy by combining



tubular steel structures, Terno chip panels with fibre cement composite and concrete slabs.

There follows a description of one of the winning projects in these design and construction tenders, which uses modular construction with 3D modules of the first of the types described above, built on Carrer del Marroc in Poblenou. Then two examples of APROP accommodation developments made from recycled shipping containers, which correspond to other tendering processes.

## 5.4.1.

### Modular construction in the public housing development on Carrer del Marroc in Poblenou

One of the social housing developments promoted in Barcelona by means of the modular construction system is the one at Carrer del Marroc, 180, in the Besòs area. With an architectural design integrated into the context of the old factory site in Poblenou, this development consists of a total of 45 flats with two bedrooms each. In addition to the flats, the building has internal circulation between dwellings and landings for different uses, which facilitates communication between the different parts of the building and natural ventilation of the homes. The dwellings are also designed to adapt, in a flexible way, to the needs of the residents.

Exe Arquitectura and Vivas Arquitectos are responsible for the architectural design

part of the project, and Constructora del Cardoner for carrying out the building work. Marc Obradó, from Exe Arquitectura, says that two strategic priorities for the carrying out of this housing development have been to reduce the environmental impact of its construction and, at the same time, to reduce the execution time.

The modular construction model that has been followed on site will allow work to overlap off site and on site (in the controlled industrial environment and at the construction site). For example, while one floor of a building was being installed at the construction site, another floor could be finished in the controlled manufacturing environment. Thanks to this, "we have managed to reduce construction time by 40% compared to conventional construction systems," explains Obradó. The pace of construction means it is possible to build 300 m<sup>2</sup> a day, according to data provided by Exe Arquitectura.

MARC OBRADÓ (Exe Arquitectura):

**"We've managed to reduce execution times by 40% compared to conventional construction systems"**

**A modular construction run on the basis of the collaborative work model**

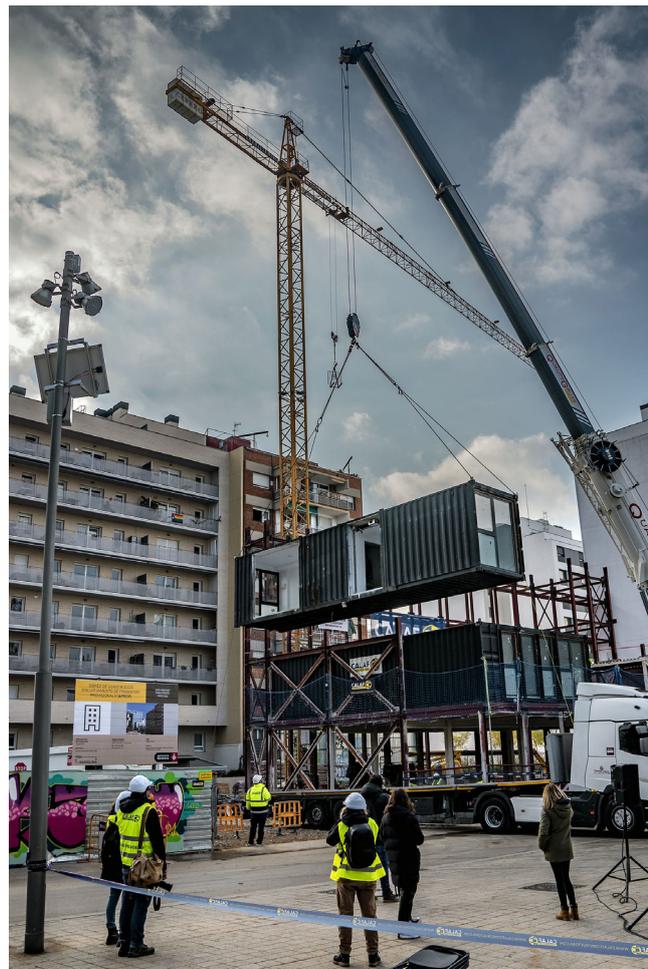
Obradó lists many other advantages of this construction system, not only in terms of reducing the environmental

Marc Obradó (Exe Arquitectura), during his participation in the FHAR

impact, but also in terms of increasing productivity, as it facilitates the alternation of groups of workers by shift in the industrial environment. At the same time, “the work model in the factory helps to ensure more gender equality among the workforce, as there are more women working in these industrial environments than at the construction site.”

For the proper development of industrialised modular construction processes, Obradó considers coordination of the parties involved (architects, builders, industrialists, etc.) to be fundamental. In that sense, there is the IPD (integrated project delivery) collaborative work model, based on the processes of coordinated collaboration between the human teams involved in the construction of a building throughout the life cycle of the project, which is based on the principles of collective intelligence, the exchange of information, and the transparency and commitment of the parties involved in the pursuit of a common goal. There are also other business management methodologies such as the lean method and 5S. Lean is an innovative method focused above all on making management processes more efficient, and 5S is based on developing a business organisation model that helps to organise work processes, maintain high productivity and, at the same time, increase the loyalty of the parties that collaborate in developing of projects.

In short, the commitment to industrialised modular construction, with the possibility of introducing work methodologies such as those we have seen, contributes to achieving the objectives of reducing time and environmental impact in this development of 45 public flats.



## 5.4.2.

### APROP, temporary local housing with recycled shipping containers

Another of the solutions that Barcelona City Council is promoting to provide a rapid response to the urgent housing needs of its citizens is the temporary local housing of the APROP project. This is housing from recycled shipping containers that has been built in the city since 2019. The first two developments of APROP flats in Barcelona, in the Gothic Quarter and around Plaça de les Glòries, were presented during the FHAR. The former was completed in 2019 and the latter at the end of 2022.

#### APROP housing development in Ciutat Vella

The APROP programme development in Ciutat Vella, which consists of ten flats, was designed by Yaiza Terré Arquitectura, Straddle3 and Eulia Arkitektura. Their construction was carried out by the joint venture Constèncià and Eurocatalana.

Yaiza Terré, co-designer of the architectural project for these APROP flats, recalls that when this development began, there was a lot of controversy. It was the first project in Spain with recycled shipping containers and, although this methodology was

YAIZA TERRÉ: ~

**“From an old recycled item, such as a shipping container, it is possible to obtain a building with the same features as any other”**

already in use in other central and northern European countries, its arrival in Barcelona generated a certain lack of understanding. “There were many critical views,” recalls Terré, who explains that “the need for education” on this issue became evident.

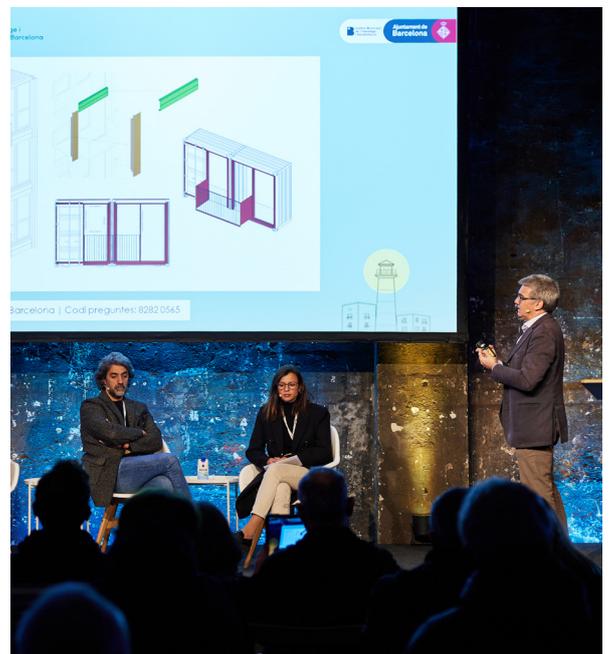
In that regard, Terré sends out various messages to highlight the advantages of this construction model. On the one hand, there is no need to be linked to a specific supplier to acquire the materials needed to build the building (in this case, containers), because anybody, or any small or medium-sized company, can get hold of them to use them as they see fit. Nor is it necessary to have a construction company with a large infrastructure, because any site can be used to carry out the construction work from the containers. In the Ciutat Vella development, a construction SME was chosen.

Assembling the modules is quick and makes it possible to build the flats with good quality standards in shorter periods of time (four months in the case of the Ciutat Vella development). “From an old recycled item, such as a shipping container, we can obtain a building with the same features as any other,” assures Terré.

Another advantage is that, in any APROP building, the point where all the modules meet is the same. Thus, the modules of APROP project developments could be interchanged. Finally, another factor in favour of using containers is their long life and ease of transport. It should be borne in mind that they are a type of material designed for maritime transport and, at the same time, to withstand the adverse conditions they face during sea voyages.

The Ciutat Vella building, located at Carrer Nou de Sant Francesc, 8-10, in the Gothic Quarter, close to La Rambla, consists of a ground floor and four upper floors. The ground floor is supported by a grid of pillars and metal beams, on which the four rows of shipping containers are superimposed. The system for stacking containers is the same as the one used in the port. In other words, they are stacked on top of each other without any additional structure other than the coupling between the modules. Once this assembly is complete, additional elements are added, such as the stairs or the roof.

With regard to the uses of the APROP accommodation in Ciutat Vella, the ground floor is used as a shop. There is also a space reserved for a porch, the entrance hall for people entering the building. With regard to the four upper floors, on each floor there are two central containers for single flats (30 m<sup>2</sup>) and two pairs of containers in the corners, which are for double flats (60 m<sup>2</sup>).



Above, Yaiza Terré, architect; middle and below, Lluís Roig (Tribuna Arquitectura) explaining the APROP developments.

## APROP temporary housing can easily be moved to where it is most needed at any time

As for the façade, Terré explains that in the Gothic Quarter development “it has been aligned with that of the neighbouring buildings.” To do that, a “double skin” has been incorporated on the surfaces of the containers to homogenise their appearance with that of the adjoining buildings. The building is also designed to guarantee good climatic conditions. The side façade of the building is more open and faces south, towards a square, an orientation that favours good thermal conditions and natural ventilation. At the same time, the necessary conditions for protection against fire and noise pollution are ensured, and the containers are recovered with plasterboard to guarantee their insulation.

As a final reflection, Terré remarked that the end of the building process does not come with the start-up of the flats, rather it continues throughout the life cycle of the property, adding that “there is always the possibility of dismantling an APROP development and setting it up in another location, where the evolution of the social context makes it more necessary,” as it is precisely a project to meet temporary residential needs.



## The APROP housing development in Les Glòries

Construction of the second APROP housing development in Barcelona was promoted in the vicinity of Plaça de les Glòries, also through a design and works tender. In this case, the project was awarded to Tribuna Arquitectura (design) and the construction company Calaf (execution of the works).

### The larger APROP housing development: seven floors and six flats per floor

The Glòries building required six and a half months to complete the works, two months more than in the case of Ciutat Vella, although it should be borne in mind that this second APROP block is larger (seven floors and six flats per floor). This development was finished at the end of 2022.

Lluís Roig (Tribuna Arquitectura) remarked that the previous experience of Ciutat Vella inspired

them on how to proceed in carrying out the Glòries development. In this project, they opted for a modular construction model more akin to prefabrication, i.e. with a more off-site level of completing the work.

This model has made it possible to complete a larger APROP housing development than the first one, with seven floors formed by rows of 11 containers in each case. These eleven containers make up the structure of six flats, as on each floor there is a single room with one bedroom and five double rooms with two bedrooms. The double rooms are formed by the superimposition of two containers connected by lateral openings.



Aerial view of the hydroponic plant trays on the roof terrace of the APROP housing development in Les Glòries.

## An energy-efficient building with a large hydroponic plant garden

The flats are reached through walkways, which also act as common terraces of the flats and, consequently, as spaces where residents can meet. At the same time, there is an interior space for residents to interact with each other, as well as a large hydroponic garden, that is, with plants that are not grown on the ground but from a mineral solution in water, which is connected to the roots by means of irrigation

LLUÍS ROIG (Tribuna Arquitectura):  
**“In designing the façades, we opted to maintain the original doors of the containers. We didn’t want the building’s origins to be forgotten: recycled shipping containers that have been given a new useful life to meet residential needs”**

and piping systems that enable efficient use of water resources. In this case, the plant garden is managed by the Municipal Institute for People with Disabilities.

The Glòries APROP block also has various facilities and systems to improve the energy efficiency of the homes. There are photovoltaic panels on the roof and the building has a central heating system. The rainwater is also channelled through an underground cistern and is used to water the hydroponic garden on the ground floor.

Likewise, steps have been taken to improve the thermal insulation of the façades with materials such as wood panels, or to recall the original materials of the building on the façade, as Roig explains: “In designing the façades, we opted to maintain the original doors of the containers. We didn’t want the building’s origins to be forgotten: recycled shipping containers that have been given a new useful life to meet the urgent residential needs of the city’s population.” 🌱

# 06

## The challenge of guaranteeing affordable rents in the property market



While in the previous sections we have presented solutions for expanding the social and public housing stock through renovation and new builds using sustainable building methods and materials, in this section we will reflect on the need to intervene in the private property market to prevent rents from becoming unaffordable for the public. The section focuses primarily on the debate surrounding the regulation of private rental prices, as well as on the strategy followed by the institutions in Barcelona, Berlin and Scotland to tackle the rise in prices and, more broadly, the phenomenon of gentrification.

## The types of rental price regulation found in Europe

The debate on whether or not it is necessary to regulate rental prices has gained prominence over the last few years on the political and media agenda in both Catalonia and the Spanish State, just as different positions on this issue have also clashed in various countries in Europe and around the world. The measure has already been implemented in some countries and cities such as Berlin, Paris, Vienna, New York and also Barcelona, while the Catalan law regulating rental prices was in force between September 2020 and March 2022. However, it has been implemented in different ways, as rental price regulation is not a univocal concept and can adopt different formulas, as will be explained in the course of this section.

ANDREI QUINTIC  
(University of Groningen):

**“The regulation debate can’t be reduced to a yes or a no”**

## To the question of whether the price of rent should be regulated, we need to add another one: how?

So, to the question of whether the price of rent should be regulated, we need to add another one: how should it be done? To clarify this issue, Andrei Quintiá, a postdoctoral researcher at the Faculty of Law of the University of Groningen (Netherlands) and a specialist in rent regulation, explained some of the keys to answering the two previous questions.

In Quintiá's opinion, there are many reasons across Europe that justify the need to adopt measures to regulate rents. On the one hand, he cites the discrepancy between the evolution in the level of household income and the price of rent, a problem that has already given rise to debate in European institutions. The European Parliament passed a resolution on 21 January 2021, according to which the context of rising house prices in 22 EU Member States is having a negative impact on family economies. Specifically, in Spain, 46% of families living in poverty spend more than 40% of their income on rent, a percentage only surpassed by the United Kingdom and Finland, according to OECD data (2020).

**In contexts of a shortage of public housing such as Spain's, expert Andrei Quintiá (University of Groningen) opts for combining the necessary expansion of this stock with rent control**

Quintiá agrees that one of the main ways of tackling this social problem is to expand the affordable housing stock, whether through public administration developments, the private sector or cooperative mutual collaboration. However, he believes that this measure is not sufficient, especially in contexts where there is a manifest scarcity of social and public housing. Such is the case in the Spanish State, with 2.5% social and public housing, compared to the European average of 9.3% and 30% in countries such as Holland or 20.9% in Denmark.

In short, expanding the affordable housing stock is a measure that requires time and resources and which can produce results in the long term, but, with a more immediate perspective, solutions need to be adopted that involve regulating rental prices. This is the position defended by Quintiá and supported by European regulations and jurisprudence, which take into account the social function of property ownership when weighing the rights of landlords against those of tenants.

Andrei Quintiá,  
during his  
intervention at the  
FHAR.



## Rental price regulation is in accordance with European regulations and jurisprudence

For example, the European Economic and Social Committee (EESC) has ruled that if a state is unable to meet the housing needs of its citizens, it must resort to public intervention mechanisms (EESC opinion 2013/C44/09). Likewise, several judgments of the European Court of Human Rights (ECHR) have determined that rental price regulations comply with European legislation when they respect the essential content of the right to property. This essential content would be respected as long as the owners could obtain a certain economic return for the investment made to prepare the flat for rental and guarantee its maintenance.

The same court considers formulas for limiting rental income that are proportional in line with the regulations, according to three main criteria: that they are appropriate measures, genuinely related to objectives of general interest; that they are adopted with the intensity required to achieve the objective pursued; and that they are really necessary, i.e. that they cannot be replaced by other alternative measures that are less harmful to the rights of the owners. According to the European Court, the costs of housing policies must also be distributed in a balanced way; in

other words, it is not possible to place all the responsibility on landlords. Therefore, it is necessary to combine the regulation of rental prices with other housing policies (as can be seen in the ECHRJ of 19 December 1989, the ECHRJ of 10 July 2014, the ECHRJ of 19 June 2006, the ECHRJ of 12 June 2012, the ECHRJ of 12 June 2014, and the ECHRJ of 28 January 2014).

With regard to the second question, on how rental prices should be regulated, Quintiá highlighted the complexity of this public policy, which often gets bogged down in a political and media debate that the expert considers reductionist: “The debate on regulation cannot be reduced to a yes or a no”.

In general terms, there are two broad categories of rental price regulation systems: first-generation and second-generation. First-generation controls have more intensive regulations, which allow for little variability in rental prices.

In the Spanish case, the first-generation system would include the regulation of rental prices that was in force during the Franco dictatorship. First-generation systems were also introduced in other post-war European countries in order to cope with the rise in housing prices due to the reduction in supply caused by the destruction of the housing stock during the war.

## The reference indexes to mark the maximum limit of the rental price or its link to the income fixed in the previous contract, among the most common formulas at present

In contrast to the rigidity of the first-generation systems, the more modern second-generation systems allow for greater variability in the rent price within certain limits, in order to avoid excessive increases.

Within the second-generation systems, there are several techniques to limit rental prices. One is the “link to the income fixed in the previous contract,” explained Quintiá. This is the case in France for example. Essentially, the French system, set up at the end of the 1980s, keeps the same rent in a new contract as in the old one, but with some exceptions. If the price of this rental has become out of date, taking into account the evolution of property market prices, it can be revised within certain limits. The system described above delimits the margin of growth from contract to contract, but does not say anything about the maximum price that a rented flat can have. Therefore, as a supplement this system, French regulations from 2014 on have made it possible to establish maximum price thresholds, based on a rental price index system.

Establishing a price reference index is another of the formulas for rent regulation which, although it is subsidiary to the link to the income established in the previous contract in the French case, is the main system in other countries. For example, this is the formula that has been chosen in Germany and which was also chosen in Catalonia when the law regulating rental prices was approved by the Catalan Parliament in September 2020 (suspended by the Constitutional Court in March 2022). These benchmarks set the maximum rent for flats according to their characteristics (size, location, comfort, etc.), in line with the price of comparable flats on the market.

## In Sweden, the rental price is set through collective bargaining between tenants' unions and landlords' associations

In addition to the above techniques for setting rent, there are many others that set the price taking into account the investment made by landlords to renovate the flat or adapt it for renting, or on the basis of collective bargaining between tenants' unions and landlords' associations, as in Sweden, among other countries.



## How can a tense market area be defined?

The above is only a broad outline of the main formulas for regulating rental prices, but in reality, each one is much more complex, because when they are technically defined, they take into account many other factors. Some rental price regulations affect any type of rental contract, such as the Scandinavian model itself. Others are selective and only affect rental contracts for dwellings located in certain geographical areas, especially those where the problem of access to rent is most acute. These are what are technically known as “tight market areas” and which, also depending on each regulation, are defined on the basis of different criteria.

Quintiá gives some examples of the criteria that can be taken into account to define tight market areas, such as “the increase in families’ efforts to pay the rent, the increase in the price of rental income and its relationship with the price of social housing, the fact that there is a low level of development of supply in the private market”. Normally, indicators are used to measure the evolution of the above concepts during the years prior to the signing of the rental contract. The number of previous years that are taken into account also varies according to the legislation and is not exempt from debate.

Another factor that differentiates one type of regulation from another is the guarantees available to tenants to ensure that the price limits set by law are complied with. Some systems establish procedural guarantees, i.e. they allow tenants to claim their rights before a special court in the event that the landlord does not comply with the rental price limits established by law. Other types of guarantees are administrative, such as inspection and control, in which public authorities would play a proactive role in ensuring compliance with the regulations and could impose sanctions on owners who do not comply with them.

In short, there is a wide range of regulatory techniques, of great technical complexity.

With regard to which is better in each case and the impact it may have, Quintiá maintains that “the effects of regulatory measures depend on the institutional context, the legal system in force and the socio-economic context”. In that sense, he gives several examples of different contexts that can condition the chosen formula and its social impact. It is not the same to apply the regulation in a country where renting is the majority form of tenancy as it is in Spain, where the market is mainly proprietary. Nor is it the same to limit the increase in income during the term of a rental contract when it is indefinite (as in Germany) as when it lasts between 3 and 5 years (as in Spain, where it went from 3 to 5 years in March 2019). Nor are the situations in Catalan and Spanish cities comparable to those in Vienna, Austria, where half of the housing stock is public or cooperative.

Quintiá does not deny that the regulation of rental income may have negative externalities, although it will have fewer the more the formula chosen is adjusted to the needs of each particular context. In some contexts, certain regulatory formulas can lead to a reduction in the rental market supply, have a negative impact on the new construction of rental housing or on the maintenance of properties, or it can generate an inefficient distribution of flats. “They are not homogenous impacts; they do not occur in all contexts or with the same intensity,” stresses Quintiá, who is convinced of the need to find the formula that works best in each case so as not to leave tenants unprotected.

ANDREI QUINTIÁ

“The effects of the regulatory measures depends on the institutional context, the legal system in force and the socio-economic context”

# Strategies to fight the rise in rental prices and gentrification: the cases of Berlin, Scotland and Barcelona

The conversion of housing into a financial asset is a global phenomenon that is detrimental to its consideration as a social right in cities and territories around the world. What the Brazilian architect Raquel Rolnik calls the “financialisation” of housing is one of the main accelerators of the phenomenon of gentrification in urban contexts, which favours the expulsion of people with less purchasing power from certain neighbourhoods and their replacement by wealthier sectors, as a result of the rising cost of living and, in particular, of housing and rentals. Added to this is the growth of tourist accommodation, which allows flat owners to make more profit than with a residential rental, and is facilitated by the sector’s digital platforms.

In this context, various cities and territories around the world are adopting different responses to combat gentrification and defend affordable rentals and, in general, the right to housing. In this section, we present the anti-gentrification strategies developed in one European city (Berlin) and country (Scotland), and compare them with those adopted in Barcelona.



# 6.2.1.

## Berlin

In order to understand the strategy against rising rents and gentrification in Berlin, it is important to bear in mind that the context of this city is very different from that of Barcelona and, in general, from that of Catalonia and Spain. In Berlin, a large majority of the inhabitants, 85%, live in rented accommodation. Currently, the German capital has a total of 3,775,480 inhabitants, according to official data.

### In Germany, the first regulations on rental prices and indefinite rental contracts date back to the 1970s

In contrast to countries like Spain, where the debate on rent control only emerged a few years ago, measures have been in place in Germany since the 1970s. That was when the first pillar of the German rental price stabilisation system (the *Mietspiegel*) was established. This limited growth during the life of a single contract to a figure fixed on the basis of the cost of housing of similar characteristics on the market. During the same decade, stability was given to tenancies with the approval of the indefinite rental contract.

However, after the fall of the Berlin Wall, the city was unable to escape the neoliberal wave that spread throughout Europe and the world. During the 1990s, there was “a wave of housing privatisation and of public land,” explained Katalin Gennburg, a Die Linke (Left Party) member of the Berlin Parliament. It should be remembered that Germany is a federal republic made up of different

*länder* (states within the German federation) and that each one has a parliament. Berlin is both a city and a *land*; that is why it is said that the German capital is a city-state and has its own parliament. Since 2021, the city-state of Berlin has been governed by a coalition of the German Social Democratic Party (SPD), Alliance 90 / The Greens and Die Linke.

The Berlin MP explained that the problems caused by the shortage of public land to build social housing on led the City Council to consider using the area round a disused airport to expand the housing stock. However, this proposal clashed with the defenders of the historical value of this airport. Tempelhof is at what was the boundary of what were East and West Berlin before the fall of the wall. Planes arrived at this airport with supplies for thousands of West Berliners during the Cold War, faced with the Soviet Union’s blockade.



Since 2015, the system of rent control has been reinforced with additional measures



Above, Katalin Gennburg, member of the Berlin Parliament for Die Linke; below, Vanesa Valiño and Lucía Martín.

Faced with the dilemma of whether to preserve the airport or to use it for other purposes, not just related to housing but also for facilities or offices, the city held a referendum in 2014. In the end, its citizens rejected the transformation proposal put forward by the City Council. According to the Die Linke MP, one of the reasons that explains this is: "This is an area where the government wanted to build housing but people believed they wouldn't promote social housing; instead, it would be private".

After this referendum, the difficulties in guaranteeing affordable rents in the city have continued and become worse, due to the pressure exerted by international financial capital on the Berlin property market and the tourist rental market. In fact, between 2010 and 2020, rental prices doubled.

Consequently, in recent years, the city has continued to try out formulas that reinforce the system of rent control in force in the country since the 1970s. In 2015, the *Mietspiegel* (for price regulation during the term of the same contract) was supplemented by another regulation, currently essential for the German system. This is the rent cap (*Mietpreisbremse*, literally "rent-price-brake"), which sets limits on the yields of new rental contracts, based on a reference price index.

In addition, since 2019, new measures have been approved to tighten rental price regulation both in Germany as a whole and in the city-state of Berlin. In January of that year, a reform of the federal government's leasing regulations came into force that limited the exceptions for which certain contracts were exempted from

the price cap. Basically, this restricted the cases in which landlords could set prices above the reference index, in the event of having made alterations to the rented property.

KATALIN GENNBURG, Berlin  
MP (Die Linke):

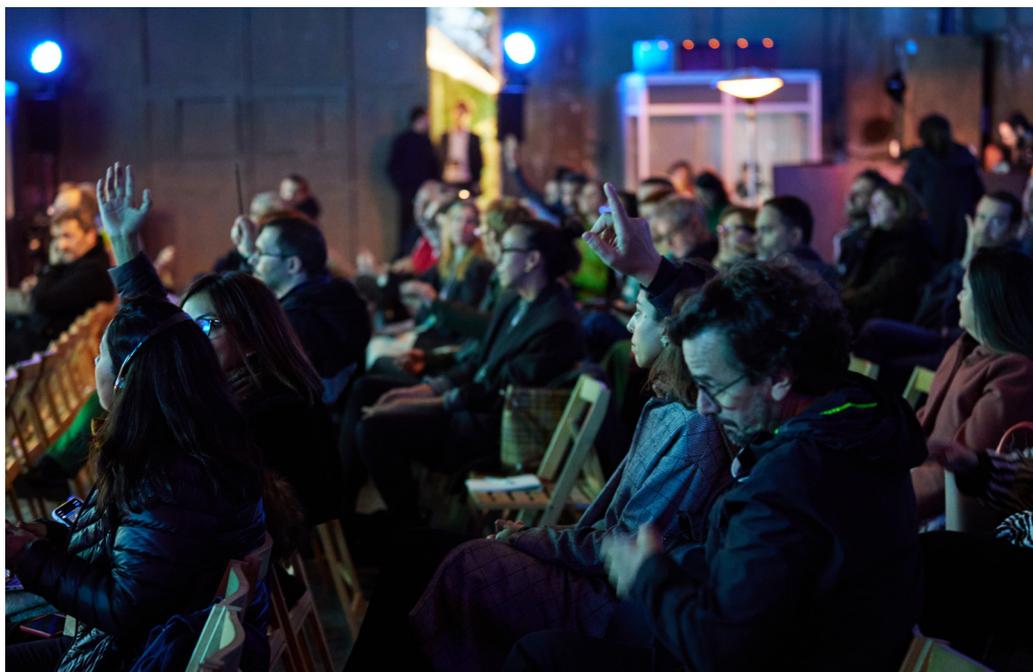
**“We can’t apply the measures to contain rents we would like to, although we are calling on the Federal Government to let us do so”**

More measures were set in motion the following year in Berlin. The most noteworthy was to freeze the reference index of rental prices at their 2013 values for five years. However, the Berlin State Court later declared that the Land Government had no competence in this area, a judgement that was subsequently

ratified by the Federal Constitutional Court, which invalidated the measure in April 2021.

The Die Linke MP regrets that the Berlin government is unable to adopt specific measures to combat rising prices in the city: “The housing crisis in Berlin is very different from that in other cities. We can’t apply the measures to contain rental prices that we would like to, although we are calling on the federal government to allow us to do so.”

While the institutional debate continues on whether the *länder* or states should be able to directly regulate rental prices, adapting the regulations to the characteristics of each territory, citizens continue to mobilise to demand the right to housing. In 2018, a campaign was launched to expropriate the 240,000 flats that currently belong to the investment fund Deutsche Wohnen and other large companies and which represent 11% of Berlin’s housing stock. The aim is to be able to use them to expand the public and affordable housing stock in the city.





Katalin Gennburg and Eduard Cabré during their participation in the FHAR.

## Victory for “yes” vote in the referendum to expropriate 240,000 Berlin homes in the hands of large companies and investment funds

This campaign led to a referendum held in October 2021, shortly after the arrival of the current coalition government in Berlin. The expropriation proposal won the referendum with 56.4% of the vote.

However, it should be borne in mind that the results are not binding and that it is now up to the city government to decide how to respond to the will of the people. Gennburg explained that the aim is to “propose a law to expropriate the flats of companies that have more than 3,000” from 2023 and, at the same time, “to think about how to create a good social housing policy, how to manage housing so that people can live well”.

Among the Berlin government’s current lines of action in terms of housing, the

Die Linke MP also mentions others to improve transparency in the property market: “We want to get a register of property owners, so we know who owns the city and how much everyone pays for their houses”. According to Gennburg, this information is essential for planning housing policies and the expropriations that are to be carried out.

Among the future challenges for housing policies in Berlin, the MP also refers to the need for the administration to forge alliances with other social sectors (social movements, cooperatives, socially responsible companies, etc.). She is convinced of the need to combine all possible efforts to combat the strong pressure of gentrification in cities.

## 6.2.2.

### Scotland

The case of Scotland presents particular features that differentiate it from the context of Germany. While in Berlin 85% of the population lives in rented accommodation, in Scotland, only 37% does so, taking into account both private and social property market rentals. According to official data from 2019, 59.1% of the Scottish population lives in owner-occupied flats, 22.8% in social housing, mostly rented, and 14.3% in private rental flats. The percentage of social housing decreased by 7 percentage points between 2000 and 2019, which has translated into an equivalent increase in rentals in the private sector.

### Scotland lost 500,000 social housing units due to the right-to-buy policy implemented by Margaret Thatcher in the 1980s

In order to understand the weight of ownership as a form of tenure in Scotland and the decline of social housing in recent decades, it is necessary to go back to Margaret Thatcher's time as British prime minister. In the 1980s, Thatcher approved the so-called right to buy for the whole of the United Kingdom, which gave people living in rented social (council) housing the possibility of buying it. Many did so and this led to the privatisation of a large part of public and social housing, both in Scotland and in the rest of the United Kingdom. Specifically in Scotland, up to 500,000 social flats were bought as a result of this measure, with the consequent reduction in the public housing stock, according to the housing association Shelter Scotland.

After repeated demands from social movements against this measure, the right to buy was finally abolished in Scotland in 2014. Although this measure has been ended, the existing social housing continues to be insufficient to cover the needs of the population of Scotland, where 5 million people currently live. This is according to Megan Bishop, from the National Secretariat of Living Rent (the Scottish tenants' union).

MEGAN BISHOP (Living Rent):

**“We don't have large investment funds, small local property owners mainly; but they also want to maximise their profits and they can be very hard in achieving that”**



Living Rent is an organisation that defends access to affordable housing for all citizens and secure tenancy conditions, as well as fighting against evictions. In the Scottish context, the fight of this union is not so much focused on investment funds, as in the case of Catalonia or Spain, but on small homeowners. This is what Megan Bishop assures us: “We don’t have large investment funds, small local property owners mainly; but they also want to maximise their profits and they can be very hard in achieving that.”



Living Rent is organised democratically, from top to bottom, with branches in different neighbourhoods that elect their local representatives and these, in turn, elect their supra-local representatives. One of the main fronts of struggle of this organisation, which defines itself as non-partisan, is also to ensure the proper maintenance of rental housing and that the owners make the necessary investments to ensure that this is the case. The union also focuses on improvements in urban areas to guarantee good living conditions for the population, not only in their homes but also in their neighbourhoods.



Above, Megan Bishop from Living Rent (Scotland); below, Lucía Martín, Barcelona City Councillor for Housing and Renovation.

## Temporary measures for the pandemic in Scotland: rent freeze and moratorium on evictions

The pressure exerted on the institutions by Living Rent and other social movements for the right to housing in the context of the Covid pandemic contributed to the adoption of a temporary measure to freeze rental prices in Scotland and impose a moratorium on evictions. The Scottish First Minister, Nicola Sturgeon, announced these measures in September 2022, initially for the period corresponding to the following six months (from October 2022 to the end of March 2023). In January 2023, the Scottish Government announced these measures would be extended for a further six months, from April to September 2023, a decision which social mobilisations also contributed to. In fact, one of the recent campaigns of Living Rent has been precisely to “Keep the freeze”. In any event, the conditions under which the freeze on rental prices will be extended until September 2023 offer less guarantees for tenants’ rights than those approved at the outset.

Although it is positive that the authorities have reacted to the social pressure, the Living Rent union is not at all satisfied with the results of implementing these measures.

MEGAN BISHOP (Living Rent):

**“During the pandemic, we saw how lots of people lost their jobs but rents kept going up”**

“During the pandemic, we have seen how many people have lost their jobs, but rents have continued to rise,” lamented Bishop. According to the union, the moratorium on evictions approved by the Scottish government in September 2022 has not prevented some evictions going ahead in practice.

For Bishop, the problems that Living Rent experience daily show the need to adopt more measures to combat the housing crisis. In her opinion, the growth in rental income is still unsustainable. Official figures show that rental prices in Edinburgh rose by 41.7% between 2020 and 2020. In Glasgow’s case, the percentage was higher, reaching 48.3%. The fact that rental demand is 2.5 times higher than in the UK as a whole is one of the reasons for this price increase.

Another factor driving the growth in residential rental yields is the proliferation of tourist accommodation,

facilitated by the sector's digital platforms, a phenomenon common to many European cities. This is by no means a problem specific to large cities such as Edinburgh or Glasgow, but is also found in other tourist areas, such as the Highlands. In fact, one of Living Rent's campaigns, "Highland homes not holiday lets: Stop short-term lets destroying our communities", is aimed precisely at combating this phenomenon in this part of Scotland. Bishop believes that a lot of tourist accommodation should be turned into affordable housing to guarantee the local population's social rights.

## **The fight against energy poverty, a priority for Living Rent in Scotland**

Another factor of concern for Living Rent is energy poverty in a country with much lower temperatures than Mediterranean countries such as ours. To combat this, in addition to guaranteeing access to energy supplies and adequate levels of thermal comfort in homes, it is also necessary to preserve the good state of conservation of the buildings. In that

regard, Bishop laments, "We are seeing tenants who continue to pay more and more for increasingly dilapidated housing." She also denounces the fact that energy prices are unaffordable for many families, while the big companies in the sector continue to accumulate profits: "We are suffering a rise in the cost of living with sky-rocketing energy costs, even though the profits of companies working with fossil fuels have soared."

Faced with this situation, Living Rent has launched the campaign "Living Rent: Statement on climate change". This campaign unites two objectives: to guarantee adequate living conditions for tenants, to ensure that they have access to energy supplies and housing with maintenance conditions that facilitate good thermal comfort, and to reduce the ecological footprint of housing. Currently, 16% of carbon dioxide emissions in Scotland are related to domestic energy consumption.

Thus, the union links the fight against energy poverty with the fight against climate change and links this objective to that of regulating rental prices and tourist lets. "We are lobbying Edinburgh City Council to regulate tourist rentals and impose a licensing system; we hope this will reduce them," Bishop explains.

Regarding the regulation of rental prices, she explains that Living Rent is not satisfied with temporary price freezes, but is committed to measures that will continue over time. In short, the union supports the implementation of a system of stabilisation of rental income in Scotland that goes beyond the extraordinary measures approved in connection with the pandemic.

Megan Bishop, national secretary of Living Rent (Scotland's tenants' union) during her intervention in the FHAR.





LUCÍA MARTÍN, Barcelona City Councillor for Housing:

**“We have encountered extremely strong resistance for touching rental prices”**

## 6.2.3. Barcelona

In Spain as a whole, public and social housing represents only 2.5% of the total housing stock, compared to the EU average of 9.3% and 30% in the Netherlands or 20% in Denmark. Barcelona is immersed in this context and also suffers from this deficit, which the City Council is trying to alleviate as far as its municipal competences allow.

By the end of 2022, there were 4,000 more public housing units in the city than in 2015, according to data provided by the Council. However, in addition to increasing the public and affordable housing stock, the City Council is in favour of combining this necessary structural measure with the regulation of rental prices.

“The regulation of rents is a demand that the City Council has supported since 2015,” recalls Lucía Martín, Barcelona City Councillor for Housing and Renovation, who also recognises that, without the pressure exerted by social movements, this demand would not have reached the institutions.

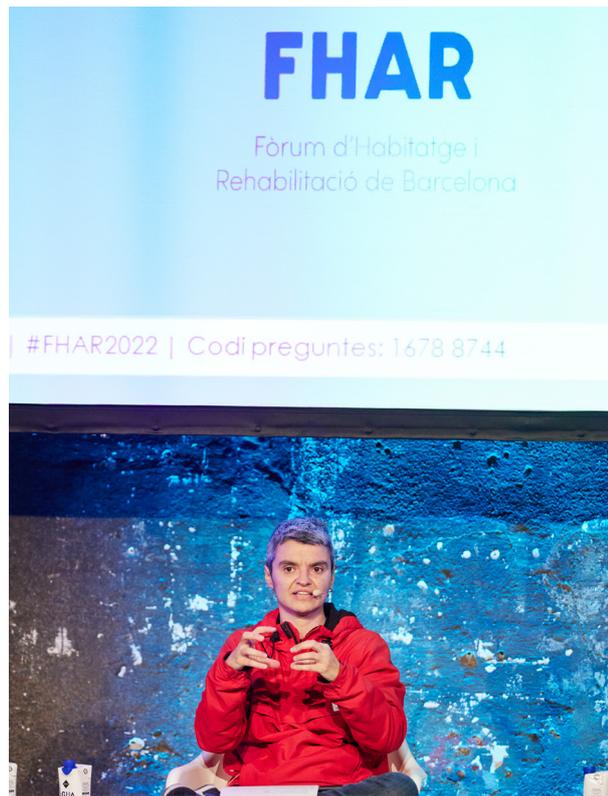
Alluding to the suspension of the Catalan law regulating rental prices by the Constitutional Court and the sectors that oppose such a measure at state level, she laments, “We have encountered very strong resistance for touching rental prices.”

Martín does not understand this resistance in a context such as the Catalan and Spanish one where the lack of affordable public housing further aggravates the consequences of gentrification and the rise in house prices. Moreover, in the post-pandemic context, high rental prices have been compounded by the upward trend in the house buyer’s market.

Martín is not only in favour of regulating rental prices, but also of doing so in a more ambitious way than that put forward by the Spanish State, which, in the opinion of social movements, is less decisive than the one implemented in Catalonia. She disagrees with the option of just regulating rental prices in new contracts for flats owned by large property owners. For example, she maintains that in Barcelona, where

around a third of the population already lives in rented accommodation, “this would leave around half of all rented flats unregulated.” Moreover, she warns of the danger of large owners dividing up their properties to get round the law.

Another factor that, in Martín’s opinion, makes measures to limit rental prices even more necessary is the boom in capital investment in the property sector. “Many of the investments that were in other sectors are returning to property in the current context of the energy crisis.” She refers to the “speculative operations” of investment funds or large property companies to buy entire blocks of flats (vertical buying) or to acquire buildings to be used as hotels or tourist accommodation.



Lucía Martín during her intervention at the FHAR.

## A pioneering plan for combating tourist accommodation in the city

In view of this situation, the councillor explained some of the measures adopted by Barcelona City Council in recent years. To combat gentrification, she explained that over the last few years the Council has approved amendments to the PEUAT (Special Urban Development Plan for Tourist Accommodation) that have led to “a pioneering plan” to limit tourist accommodation in the areas most affected by gentrification in the city, not just flats that are rented out whole but also rooms that are rented separately. Work has also been done to ensure that the sector’s digital platforms, such as Airbnb, only advertise licensed tourist rentals.

**30% of new developments and large-scale private renovations are for protected housing**

Likewise, she refers to other measures to expand the city’s affordable housing stock, such as the obligation to allocate at least 30% of any major renovation or new build development to social housing (HPO – officially protected). This measure was approved in September 2018 at a meeting of the Full City Council based on a proposal from social movements, and this also met with strong opposition from some in the property sector. In the councillor’s opinion, some of this resistance was also due to the opposition that the redistribution of social (HPO) housing throughout the city arouses among some economic and social sectors: “There is resistance to the capillary nature of the measure, to the mix of neighbours with different incomes”.

Another example of the measures developed by the City Council to expand the affordable housing stock is the exercise of the right of first refusal, which gives preference to public institutions to buy any flat that is for sale and allocate it to affordable rent.

Despite the measures taken by Barcelona City Council, Lucía Martín regrets that local administrations still have many limitations in tackling the housing problem, given the pressure of companies and international capital on the property market and the lack of municipal powers in this area. Housing competences formally fall to the Catalan government, although fundamental issues such as mortgage and rental regulations fall to the Spain's central government. This is the fundamental basis for the Constitutional Court's ruling that has invalidated the Catalan law regulating rental prices.



### **Towards a more holistic view of housing policies that goes beyond the compartments of the Administration**

Finally, the councillor considers that the “compartmentalised” way the public administration works does not help to develop “a comprehensive housing policy”, as fundamental issues to combat gentrification depend on different departments (of one or several institutions), which hinders the development of a coherent strategy to tackle this phenomenon.

In short, it is also necessary to carry out internal reforms within the public administration itself to help design policies for the right to housing and against gentrification with a more holistic vision. 🏡

# 07

## Planning public housing policies on a local, regional and state scale: Cádiz, the Valencia Region and Chile





When planning public housing policies globally, institutions in different territorial areas end up combining, to a greater or lesser extent and depending on their area of competence and context of action, several of the measures set out in the previous sections. Their planning can combine both measures to expand the public and social housing stock, based on renovation and new builds – with the possibility of opting for sustainable building methodologies and materials – and other measures to intervene in the property market.

In this section, we will present three examples of public housing policy planning from different territorial spheres (local, regional and national), not only in Spain but also on the other side of the Atlantic. Specifically, we describe the experiences of Cádiz City Council and the Valencia Region, as well as that of the Chilean government, based on what representatives of those institutions presented during the 2022 FHAR.

Although they are very different experiences and, in the case of Chile, in a context far removed from our immediate environment, we can find a common link in all three cases. They are territories that have witnessed a neoliberal approach to housing policies in recent decades that their current governments are working to reverse. This was explained by Vanesa Valiño, head of the Barcelona city housing councillor's office and moderator of the FHAR roundtable discussion where the public housing policies promoted by the three institutions were presented, which we summarise below.



# 7.1 Local planning of housing policies in Cádiz

The city of Cádiz is located in one of the most touristic provinces in Spain, which was visited by more than 2 million people in 2022, according to the Junta de Andalucía (regional government). Apart from bringing benefits to Cádiz and the other municipalities in the surrounding area, it cannot be ignored that an unsustainable tourism model has negative repercussions for the people who live all year round in this average city of 140,000 inhabitants, especially in terms of access to housing.

In addition to foreign tourists, it should be taken into account that more

than 20,000 university students study in the city,

which also implies a need to reserve accommodation. All these phenomena converge in a city with a limited surface area, less than 13 km<sup>2</sup>, and highly densified.

“We have tourist pressure and university pressure, and the gentrification and expulsion of local people is accelerating at an alarming rate,” according to Eva Tubío, Cádiz City Councillor for Housing, Health and Common Services who believes the efforts of the local administration are not enough to reverse the situation, given the many factors that are pushing up property market prices in the city. It should be borne in mind that 26% of house purchases in Cádiz are by investors.

The average rental price in the city is currently around €800 a month. This is one of the factors that explains why the city has lost 40,000 inhabitants in the last 20 years, mainly young people who cannot afford these prices. As a result, the demographic profile of the city is tending to shrink.

EVA TUBÍO,  
Cádiz City Councillor for Housing:

**“We have tourist pressure and university pressure, and the gentrification and expulsion of local people is accelerating alarmingly”**

Tubío, referring to the previous local council:

**“They carried out a policy of selling public housing and many flats have been left without any protection”**

Since 2015, Cádiz City Council has been led by Mayor José María González, known as Kichi, who retained his majority under the *Adelante Cádiz* (Forward Cádiz) candidacy in 2019. Previously, Teófila Martínez (PP) had been the city’s mayor for 20 years (1995–2015). Eva Tubío believes that, apart from tourist pressure, part of the problems of access to housing in the city continue to be a legacy of this previous political period: “They had a policy of selling public housing, and many people have been left without any protection.”

### Cádiz City Council’s action plan for promoting the right to housing

In order to alleviate this situation, Tubío explained some of the main lines of action undertaken by the Cádiz City Council from 2015 to the present day. “The first measure was to stop selling public housing,” recalls the councillor,

referring to one of the actions taken during Kichi’s first term as head of the city government. The City Council is also committed to increasing the public housing stock, with a special focus on subsidised flats for young people and vulnerable groups. This is being achieved through a combination of various measures: the construction of new buildings, the renovation of existing ones, the purchase of property and the acquisition of vacant housing for this purpose.

In addition, office buildings are being adapted as temporary accommodation for people affected by evictions or other emergency housing situations, designed for short stays of between 3 and 6 months, prior to the allocation of social housing to families. This is also combined with emergency measures to prevent people from being stripped of their homes and losing them.



Eva Tubío at the FHAR

## First experiences in Cádiz of co-housing or intergenerational university accommodation

In Cádiz, they are also beginning to promote other forms of housing ownership, rather than renting or owning, which at the same time diversify the cohabitation models. For example, co-housing (or cooperative housing) is being promoted through the transfer of use of municipal land to the cooperatives that promote it, or the so-called "intergenerational university flats". Students from the University of Cádiz and older people live together in these flats, which has advantages for both parties, from the point of view of the affordability of the accommodation as well as the social and mutual support aspect.

Furthermore, in order to regulate tourist flats, in July 2022, Cádiz City Council approved the processing of an amendment to the General Urban Plan to restrict this type of accommodation, as well as the number of hotel places.

## Renovation, key in a dense city with a limited surface area

In a highly densified city with limited surface area, renovation is a fundamental line of action, both to improve the maintenance and adaptation of buildings to people's needs, for example, from the point of view of accessibility, and in terms of energy efficiency.

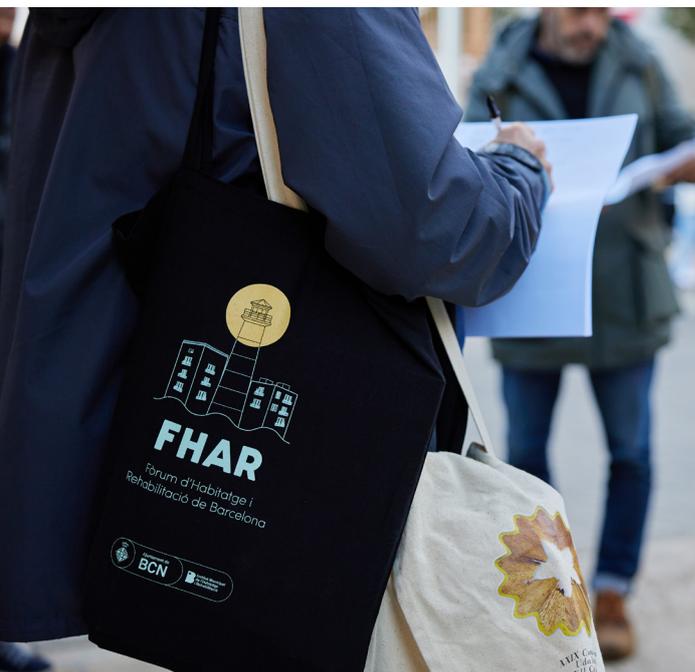
Some of the renovations promoted in the city

### Renovation of the Tacita neighbourhood, with the oldest municipal housing stock in Cádiz

are on a neighbourhood scale and, apart from improving the state of the dwellings, aim to dignify and make their surroundings more liveable and sustainable. This is the goal of the comprehensive remodelling project for the rundown Tacita area of the city, where the oldest housing in the municipal public stock is located. It was handed over to the 86 years ago and around a hundred families currently live there.

The aim of the project, which is scheduled to begin at the end of 2023, is to renovate the neighbourhood's housing stock when this is feasible or to relocate people living in buildings that cannot be turned into new flats. At the same time, 97 more public flats will be created, which will double the municipal stock currently in the neighbourhood.

The cost of the project, which will be carried out in four stages of three years each, amounts to €32.8 million, most of which will be funded by Cádiz City Council, from public investment or the sale of existing municipal assets in the neighbourhood. However, the Council is also seeking the cooperation of the Junta de Andalusia and the Spanish government to cover the cost of this project, especially considering the possibility of applying for EU Next Generation funds for this purpose.





## Cádiz, the city where the first EU demonstration building for a warm climate with near-zero energy consumption will be built

Another of the city's most important renovation projects is linked to the EU's ReCO2ST project to promote buildings with zero or near-zero energy consumption. It is being implemented in several European cities (such as London in the UK, Vevey in Switzerland and Frederikshavn in Denmark), and more specifically, Cádiz will be the first EU demonstration building for a warm climate, to achieve the objectives of reducing carbon dioxide emissions and achieving zero energy consumption levels. In addition, energy efficiency is combined with other objectives of a markedly social nature in this project. The renovations will make it possible to provide 28 new energy-efficient homes with no architectural barriers, which will be allocated for social rentals.

TUBÍO:

**It is of little use to create social and affordable housing and then another party arrives that limits or sells protected (social) housing [...]. We need time and protection so what is done is maintained"**

Apart from the efforts of local government, Tubío considers it necessary for both the regional and central governments to get more involved in guaranteeing the right to housing, for example, by undertaking policies to curb the activities of investment funds in the property market, by penalising empty flats and by regulating rental prices, as well as by giving local councils more powers in this area.

At the same time, she warns of the need to seek formulas to ensure the continuity of measures that guarantee the affordability of housing: "There is little point in creating social and affordable housing only for another party to come along and limit or even sell off protected housing. Formulas must be sought so that the generation of public housing is expanded and provides at least minimum control over the market, and prices in the cities don't shoot up." "We need time and protection so that what is done is maintained," concluded the Cádiz councillor.

# 7 2 Regional planning of public housing policies: the case of the Valencia Region

Almost three decades ago, the Valencia region (Spanish: autonomous community) foreshadowed the course that the Spanish State would take during the property boom period (1997-2007). Four years before the 1998 land act was passed, which would expand the area available for building throughout Spain, a regulation with the same liberalising spirit had already been passed in the Valencia region. The State regulation, inspired by the Valencia one, allowed building on any land, as long as it was expressly declared as protected, the opposite of what had been the case until then.

The fact that the Valencia region was driving force behind the property boom in Spain as a whole is fundamental for contextualising the situation of this autonomous community in terms of housing even today. This is corroborated by Alejandro Aguilar, Secretary for Housing and Social Function of the Valencia region, which is currently governed by a coalition government made up of the Socialist Party of Valencia (PSPV), Compromís (Commitment) and Unides Podem (United We Can). The regional government has been led by Ximo Puig (PSPV) since 2015, after the PP had previously been at the helm of this autonomous community for two decades (1995-2015).

What Alejandro Aguilar calls “the ghosts of the [property] bubble” are still being felt throughout Spain, but with particular intensity in the Valencia region. The following data are an example:

- .. There are 500,000 vacant dwellings in the Valencia region.
- .. As many as 194,000 dwellings were built in an irregular way without respecting the urban planning regulations.
- .. Some 20,000 flats were left unfinished after the financial crisis of 2008.
- .. Between 1991 and 2010, 1.1 million new homes were built, compared to the 58,180 that were built between 2011 and 2019.
- .. In this region, there are 3.5 million flats for 5 million people.
- .. The population density throughout the region is 218 people per square kilometre (more than 500 on the coast and less than 20 inland)

In the opinion of Alejandro Aguilar, Secretary for Housing in the regional government,

**the model promoted during the property boom “has generated a territorial split, which influences policies at all levels”**

AGUILAR,  
Secretary of Housing in the  
Valencia Government:

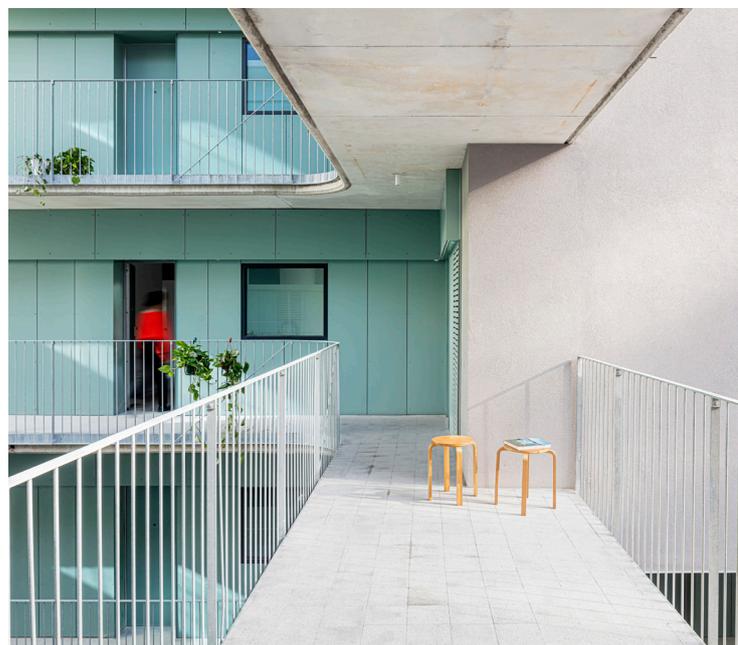
**“This is the first legislature in which the public housing stock has not decreased”**

The property development model that began in the 1990s promoted overbuilding in certain coastal and urban areas, while abandoning the rural areas inland, which, according to Aguilar, “has generated a territorial shortage that influences policies in all areas” including, therefore, housing policies.

Moreover, the Valencia region is below the public housing ratios of the Spanish State as a whole, with only 0.9% of its residential land allocated for this purpose.

This meagre public stock will add to the social consequences of the financial crisis of 15 years ago, which resulted in 125,074 foreclosures (2007-2016) in the Valencia region. Aguilar recognises the impossibility, which still exists today, of meeting all the social and public housing needs of Valencia’s population. The official list of applicants for public housing stands at 12,306 people. However, he added a positive note: “This is the first legislature in which the public housing stock has not decreased”.

The housing secretary also explained that another of the major challenges facing the Valencia region is the need to regulate the private housing market. Sales prices have risen by 20% in the last four years and rental prices have increased by 17.5% in the last year alone.



# 7.2.1.

## The Valencia Region Habitat 20-30 Plan

In this context, Aguilar points out that the Valencia region has implemented the Habitat 20-30 Plan, which sets out the strategic lines to be followed in order to guarantee the right to housing, and which depends on a regional ministry specifically dedicated to this area.

“We are the only regional or autonomous housing ministry that does not share competences with another ministry of equal or greater importance,” Aguilar assured us, referring to the Regional Ministry of Housing and Bioclimatic Architecture. In Catalonia’s case, housing policies have been the responsibility of the Catalan Ministry for Territory since October 2022, which also handles mobility or urban planning, among other areas. Until then, it was the responsibility of the Regional Ministry of Social Rights (with various powers related to social inclusion).

The Habitat 20-30 Plan provides for an increase in the budget for housing policies, which has already doubled between 2020 and 2023 (see Table 5).

AGUILAR:

**“We are the only housing ministry at autonomous or regional level that doesn’t share competences with another level of equal or greater importance”**

**TABLE 5. EVOLUTION OF THE HOUSING POLICIES BUDGET IN THE VALENCIA REGION**

Year	Housing policies €M
2020	187.95
2021	207.12
2022	357.59
2023	402.3

## Regional government collaboration with local housing offices

The strategy being followed to implement this plan is based on a collaborative relationship between the regional government and local authorities. With this in mind, it has been structured through the Network of Local and County Housing Authorities in the Valencia Community (Valencia initials XALOC). The aim is to integrate all local and county housing offices in municipalities with more than 20,000 inhabitants. Through this network of offices, the public are offered comprehensive information and advice on the housing policies as well as the grants available to them.

### Expanding the public stock, guaranteeing the social function of housing and renovation, pillars of the Habitat 20-30 Plan

Housing policies in the Valencia region are based on three pillars: expanding the public, protected (social) and affordable housing stock; guaranteeing the social function of housing; renovation and urban regeneration.

With regard to the former, this is mainly done through the acquisition and renovation of housing for this purpose, but also through the construction of new affordable rented flats. The acquisition of properties for public and affordable housing is mainly carried out by exercising the right of first refusal or buying flats directly on the property market. Thus, between 2019 and 2022, a total of 1,187 flats were acquired, with a total investment of €71 million.

Likewise, the regional government makes it easier for local councils to expand their municipal housing stock, by granting subsidies that can cover up to 100% of the cost of the properties they wish to

acquire and of the renovations they need to adapt them to their residential use. This line of subsidies falls under the Aid Plan for Local Authorities for the Purchase of Housing – the ADHA Plan.

With regard to new builds, the Valencia Government is currently building 3,000 HPO flats to make them available for affordable rent, promoted directly by the public sector or through collaboration between the public administration and the private sector or housing cooperatives. This has also meant a paradigm shift with respect to the usual practices in the Valencia region until 2015, as Alejandro Aguilar explained: “We have started affordable rental developments, because previously they were all for sale.” To reinforce the protection of these dwellings, Aguilar explained that a decree has been passed to guarantee their permanent status as HPOs (officially protected housing), a type of social housing.



AGUILAR:

**“We have initiated affordable rental developments because before they were all for rent”**

Alejandro Aguilar during his intervention at the FHAR.

## **The mobilisation of empty dwellings to cover social needs**

Another area of action in which the Valencia government is making great efforts is to guarantee the social function of housing, including that of private owners, in order to avoid misuse, such as the fact that they are empty instead of helping to meet the needs of people in a situation of residential exclusion.

In the Valencia region, regulations are currently being developed to guarantee the social function of housing. The law on the social function of housing in the region (Law 2/2017 of 3 February) was approved in 2017 and in October 2021 the decree approving the regulation for the mobilisation of vacant and uninhabited housing (Decree 130/2021 of 1 October) was given the green light.

In order to facilitate the mobilisation of empty flats for affordable rentals, the decree also led to the implementation of various instruments for that purpose. One is the “Lloga’m” (Rent me) Network, which acts as a mediation tool to promote affordable rents for vacant flats. Another instrument is “Borsa Habita” which encourages owners of unoccupied properties to make them available to people in need of housing or in a housing emergency. Another mechanism is the “Lloguer solidari” (Solidarity rent) programme, by means of which the Valencia government takes charge of renovating vacant flats of owners who lack the resources to take on the renovation. They can retain ownership but, in exchange for the grant, they must make their flat available for an affordable rent.



## More control over protected flats

In order to guarantee the social function specifically of the public and protected housing stock, Aguilar points out that the Valencia region has introduced improvements in the system of registration and award of these flats. Decree 106/2021 on the Valencia Community Housing Register and the procedure for allocating housing establishes the obligation to enter protected (HPO) housing in this register, as well as any privately developed housing, so that the public administration can better supervise them and guarantee their social function. At the same time, people who wish to access protected housing have to be registered in the applicants' register and, as such, must sign a declaration of responsibility in which they also certify that they meet the conditions for eligibility and assume responsibility for making appropriate use of the property.

## Measures to facilitate access to housing for people with difficulties

The Valencia government combines instruments like these to guarantee the social function of the property with other measures to cover the residential needs of groups with difficulties. One of these measures is rent subsidies, both for people with financial difficulties in paying the rent and for the most vulnerable social groups, specifically young people. The government now has the "Bo de lloguer jove", an allowance of €250 a month for people up to 35 years old, which is paid for a period of two years to facilitate their emancipation.

In addition, to deal with emergency housing situations, the Valencia government created the Eviction Assistance Unit (UAD) in November 2020. Since this unit was set up to coordinate the players that might intervene and give support to the households suffering eviction processes, it has already dealt with over 2,000 families in that situation.

## Renovation and urban regeneration

The other pillar of the Habitat 20-30 Plan is housing renovation and the regeneration of the urban surroundings, which also helps to improve the quality of life in various Valencia neighbourhoods. The renovation measures cover both residential housing – public and private – to improve their condition (social, accessibility, energy efficiency, etc.) and public buildings. The current Valencia government has allocated nearly €300 million towards renovating residential housing during this legislature. One of the programmes implemented to that end is “Recuperem llars” (Let’s reclaim homes), which facilitates grants to renovate flats, on the condition they are then let for a social rent.

In case of public building renovations, €100 million are expected to be allocated to various action plans in the course of this legislature. One is “Pla Conviure”, which gives local entities financial support so they can refurbish urban heritage buildings for social, cultural, historical, service and other uses, and to improve and adapt the environment in which they are located. Another example is PIREP (Programme to Promote the Renovation of Public Buildings), which the Valencia Executive Council implements through an agreement with the Spanish Ministry of Transports, Mobility and Urban Agenda. It is funded by Next Generation funds and its objective is to facilitate the sustainable renovation of institutional public buildings in Spain’s autonomous communities or regions.

With regard to urban regeneration, up to €175 million are being allocated to it during this legislature with the roll-out of the Neighbourhoods programme. In addition, Aguilar notes that “in 2022, processing of the first Valencia Community Neighbourhood Act has begun” to promote urban regeneration of the most vulnerable areas from a socio-economic and residential point of view.

AGUILAR:

**“In 2022, work started on processing the first neighbourhood law in the Valencia region”**

## Future challenges

In addition to expanding the affordable housing stock and improving its sustainability and energy efficiency, one of the main challenges for the future is to improve public funding of policies to guarantee this social right. “Subsidies are not enough, public funding is essential,” warns Aguilar, who defends the need to combine subsidies with funding in the form of loans based on some of the Valencia region’s experiences with the Next Generation funds. Despite having achieved the maximum possible subsidies from the Next Generation funds (€50,000 per home), there are some developers who are finding it very difficult to get banks or investment funds to advance them this amount (the subsidy is not received until the work is finished and justified).

Aguilar also wants to see a change in the current distribution of competences that affect the right to housing. Although housing competences formally fall to the autonomous regions, Aguilar warns that this is “not true” in practice, because the State continues to concentrate competences on urban leases or mortgage regulations. And he adds, “The State continues to direct autonomous region housing plans. It needs to allow the autonomous regions to do more, because the realities of each one are different and this should be included in the future in the state housing law.”



AGUILAR:

**“It needs to let the autonomous regions do more, because the reality of each one is different”**

In the specific case of the Valencia region, the main challenge that the current government has taken on since it came to power in 2015 is, in the words of Alejandro Aguilar, “to put an end to the model of previous decades and promote an affordable and sustainable housing model that guarantees this social right to citizens.”

# 7.3

## State planning of housing policies: Chile's case

Chile is regarded as one of the Latin American countries with one of the economies most subject to international financial transactions, which has a strong impact on access to housing. The property sector is, precisely, one of the areas of investment that is most coveted by global capital around the world. In this Latin American country, investors increased the purchase of property for rental purposes by 142% between 2011 and 2018, according to the Institute of Urban Studies at the Catholic University of Chile.

The sale price of homes in Chile increased by 62% between 2012 and 2021, compared to an increase of only 20.12% in the household income in the same period, according to the report "*La 'des-financiarización' de la vivienda: una alternativa ante la crisis habitacional*" (The 'definancialisation' of housing: an alternative to the housing crisis) (Silva i Vergara, 2022).

**In a decade  
the price of buying  
a flat in Chile has  
increased by 60%  
and wages by 20%**

The high cost of living, in which housing plays a predominant role, was precisely one of the issues denounced by the strong protest movement unleashed in Chile in October 2019, although its initial trigger was the increase in public transport fares in the country's capital.



Doris González and Vanesa Valiño at the FHAR

## The cost of living, and of housing, behind the demands of the huge wave of protests in the country in October 2019

Thousands of students organised an act of civil disobedience in order not to pay the metro fare in Santiago de Chile, which more and more people joined. The protest movement gradually grew and brought together a wider range of demands related to the cost of living, low pensions, access to health care and pharmaceuticals, as well as the discredited institutions and political representatives.

The actions of the security forces, under the leadership of the then president of the country, the right-wing Sebastián Piñera, have been strongly condemned by organisations such as Amnesty International (AI), as they have caused tens of thousands of deaths, at least three between 18 October and 30 November 2019 alone.

The impact of those protests precipitated the fall of Piñera's government and, in fact, the man who is now president of the country is precisely one of the leaders of the student protest movement of 2019. Gabriel Boric became president of Chile in March 2022 and many members of the government are people who have a background of social activism. One of them is Doris González, Executive Secretary of Condominiums of the Chilean Ministry of Housing and Urban Planning, who participated in the last edition of the FHAR in Barcelona, to explain the policies that the government headed by Gabriel Boric has begun to undertake in terms of housing.

## The 2022-2025 Emergency Housing Plan is under way

Doris González said Chile is suffering from a severe housing shortage that has worsened as a result of the socio-economic impact of Covid. In fact, Chile's current government has set itself the target of building 260,000 affordable homes in four years at a rate of 65,000 per year. González added that this deficit is not only quantitative but also qualitative, as it is necessary to improve housing conditions and adjust them to people's needs. This is set out in the 2022-2025 Housing Emergency Plan that the Chilean government has begun to roll out.



DORIS GONZÁLEZ (Ministry of Housing and Urban Planning, Chile):

**“We want to change city planning, not just housing planning, and think about the quality of life of the people who live there”**

The Secretary of Condominiums is aware of the need to improve the quality of the housing environment, through urban planning: “We want to change city planning, not just housing planning, and think about the quality of life of the people who live there.”

In order to rethink city planning and housing policies, the Chilean government representative explained there will be citizen participation processes: “The inhabitants will have the key role at the centre of the transformation.” Gabriel Boric expressed the determination to involve citizens in this process before he became president. In December 2021, when he was a presidential candidate, he signed the Agreement for Decent Housing and the Right to the City with various organisations and social movements in Castrina Park, in the metropolitan region of Santiago de Chile.

## The plan is to build 260,000 decent and affordable flats in four years

That agreement between the Convergencia Social candidacy, headed by Boric, and the social movements included a programme with 12 commitments that already envisaged the target of building 260,000 decent homes, which has now begun to be put into practice. The agreement also included the need to renovate rundown properties or urban environments, by renovating squares, parks, cultural and social centres or improving infrastructures or lighting in various neighbourhoods throughout the country.

The current government has put in place various mechanisms to continue to encourage social participation in defining housing policies and the right to the city. Thus, for example, a permanent working area of dialogue has been created as a centre for training and relations between the central government and the citizenry, in order to

work together to find ways of tackling the socio-economic crisis that the country is going through, with contributions from civil society and social organisations. Doris González stressed that working on the ground is fundamental: “We want to deepen the link with the territories, given the high level of political disaffection and mistrust towards institutions that has taken hold in recent years.” Likewise, the Chilean government is promoting programmes to improve the quality of life in different parts of the country, which “give a leading role to the communities” so that they can express their demands.

Besides promoting participation, the Secretary of Condominiums added, “We are promoting the gender perspective in housing policies and urban planning.” Gender inequality continues to manifest

DORIS GONZÁLEZ:

“We want to strengthen the link with the territories, faced with the high level of political disaffection and lack of trust in the institutions that has taken hold in recent years”

Doris González during her intervention at the FHAR





itself in the field of housing and González gave an example: “Most people who get the housing subsidy in the country are women, housewives.” She explained that the government is “mainstreaming” gender policies and in each government area “there is someone in charge of gender to encourage the adoption of this perspective in all public policies.”

With this double perspective, which integrates the need to incorporate the participation of communities and the gender vision in housing policies and urban planning, the government has begun to implement specific measures and programmes to reverse the housing deficit that the country is experiencing.

DORIS GONZÁLEZ:

**“We are promoting the gender perspective in housing and urban planning policies”**

**Programmes are being promoted that expand affordable housing directly from the public administration or by involving the unions and cooperatives**

These initiatives include some that are addressed at expanding the affordable housing stock in different ways. One of these is the direct building systems, which consist of planning new blocks of flats on large sites, undertaken by the State together with the social organisations and families of each territory. “We want to avoid their construction falling only into private hands,” explained Doris González. Another example is the housing programmes for workers to provide their access to a decent housing: “The trade unions themselves propose and work with their employers to get them to cede the land to build the housing”.

Local housing programmes are also encouraged, so municipalities can administer their own housing stock, or those intended to encourage cooperatives in this sphere. Doris González explained that, at the Ministry of Housing and Urban Planning, “there was no clear policy with cooperatives, but now there is a specific unit that works on cooperativism in relation to housing.”

## Growth of high-rise buildings to combat the levels of overcrowding

Likewise, “to combat the current high levels of overcrowding” in various parts of the country, the State is promoting the construction of more high-rise buildings to promote “the densification of certain areas on a small scale”. This is one of the main objectives of the Micro-settlements and Small Condominiums Programme.

The measures for expanding the decent and affordable housing stock are combined with interventions in the private market. The roll-out of the fair price housing in Chile has begun, in order to intervene in the price of rents on the property market, which currently “eats up half a salary”. The Secretary of Condominiums explained the aim is to achieve a “fair” price that working families can pay.

GONZÁLEZ:

**“There was no clear policy with the cooperatives, but now there is a specific unit that works on cooperativism in relation to housing”**

GONZÁLEZ:

**“This is the first legislature in which the public housing stock has not decreased”**

## One programme allows families with fewer resources to choose which neighbourhood they want to live in to avoid residential segregation

Another initiative seeks to combat residential segregations between families with more or less economic means in order to avoid the property market dynamics that “send the most vulnerable to the outskirts”. This is a solidarity fund programme for choosing housing, where families with fewer resources can choose which neighbourhood they want to live in and, therefore, have the possibility of living together with households with more purchasing power.

González recognises the goals of all these programmes represent “a big challenge” in one of the Latin American countries most affected by the “financialisation” of housing but she is confident that the lines of work that they have initiated so far will, over time, contribute to “transforming people’s lives” and improve their living conditions. 🏡

# Conclusions

**Throughout the various sections of this publication, which summarises the contents of the 2022 FHAR, one can see that, in the context of neoliberal globalisation, many of the causes that hinder access to housing are a common feature around the world, leaving aside the specific features of each territorial context. In the 21st century, housing has become a financial asset in the international markets, which is detrimental to its status as a social right and speeds up the phenomenon of gentrification. Another phenomenon currently shared by cities around the world is the pressure of tourism on urban fabrics, which fosters the increased supply of seasonal accommodation while reducing and driving up the rents of available residential accommodation.**

Just as many of the causes of the problem of access to housing are common to different cities and territories around the world, there are also similarities in the strategies to tackle them. These answers are the focus of the conclusions of this publication, which can be summarised with the following maxim: there is no single way of tackling the problem of access to affordable housing and combating gentrification other than to tackling it. Various formulas with this objective are listed and summarised in the following pages.

## Renovation, the most sustainable option for expanding the affordable housing stock



Constructing new buildings causes pollution, and all the more so if traditional building methods are followed which do not minimise the environmental impact. According to Green Building Council data from 2022, the building sector accounts for 30% of energy consumption in the Spanish State and 25.1% of CO<sub>2</sub> emissions. Renovating buildings, which is also a more economical option than building new ones, should therefore be a priority option for public housing policies, especially in a context such as the Catalan and Spanish ones with a particularly old and energy-inefficient residential stock.

Renovation can contribute towards improving household energy efficiency which, at the same time, can help to reduce their energy bills, although that depends more on reversing the current hike in energy prices. Guaranteeing household supplies is essential for ensuring the right to decent housing. That is precisely the reason why social movements around Europe are uniting in their defence of the right to housing at decent rents with the fight against energy poverty.

Finally, another advantage of renovation is that it can contribute to preserving the architectural heritage and urban landscape of cities and, in contrast to demolition, is an option that enables a household space to be preserved that holds many memories and experiences for a lot of families.

### HOW CAN WE INCENTIVISE HOUSING RENOVATION?

The majority of residential buildings throughout Catalonia and the rest of Spain are multi-family, so initiating renovation of a block involves forging consensus. At the same time, starting a renovation process involves dealing with certain technical and bureaucratic difficulties, which is why it is necessary to support many residents' communities so that they can develop renovation plans adapted to their needs.

A prior step to this social accompaniment is raising public awareness. It is difficult to start such a complex process without being aware of the multiple social, environmental and energy benefits it can bring. Many of FHAR participants agreed on the need to develop awareness-raising campaigns to that end, and to coordinate more and more communities of people and organisations to improve the energy efficiency of the buildings where they live or carry out their activities. One of the mechanisms for doing that are energy communities, set up to manage the production, distribution and use of clean renewable energy as a community. Another is consumer cooperatives, in this case comprising owners of the flats where energy renovation is going ahead. At the same time, the cooperative members set themselves up as an energy community.

Likewise, it is necessary to provide socio-economic incentives to citizens to enable them to carry out processes of this type. For example, the consumer cooperative, made up of the owners of the flats where the renovation is being carried out, can offer

its members economic, tax, financial and legal benefits in order to go ahead with the renovation process. Another proposal that emerged from the FHAR is to take advantage of the need for communities to pass the technical building inspection (ITE), which must be carried out periodically in multi-family blocks, in order to carry out not only the minimum reforms required by the ITE but also others that contribute to improving the energy efficiency of the building.

### HOW CAN THE NEXT GENERATION FUNDS CONTRIBUTE TO HOUSING RENOVATION?

Obviously, one of the incentives for carrying out housing renovation processes is the availability of resources to do so. In that regard, the European Next Generation (NG) funds represent a major injection of funds into the Spanish State for housing renovation and, to a lesser extent, the construction of sustainable public housing. Spain as a whole will have €4.42 billion of European funds for that purpose (€640 million in Catalonia).

Nevertheless, we need to be aware of the limitations of NG funds. The articulation of a public housing and renovation policy that contributes in the medium and long term to the expansion of the affordable housing stock requires continuous investment over time, more than the important injection of resources that the NG funds can provide until 2026, the year in which the subsidies have to be granted.

The model followed by the Spanish State for applying for these funds was also questioned during the FHAR. NG funds can be requested as non-refundable grants or loans, and for the most part Spain has opted for the former in the case of housing. However, it should be borne in mind that the subsidy money



is only awarded once the project has been completed and justified. Therefore, the first step is to apply for a loan from a financial institution to be able to finance the cost of the works as an advance on the subsidy that will be received later. Various participants in the Forum spoke of the difficulties in obtaining these loans, as an advance for the amount of subsidies, and said that it would have been more appropriate for the State to apply for more NG loans, which, moreover, are granted under more favourable conditions than those on the financial market.

Another controversial expert is that the Spanish State has allocated most of the NG funds for housing to energy renovation and only a small part to the sustainable construction of more public housing. This approach is similar to that of other European states. However, the problem is that the Spanish context is different. Given Spain's severe shortage of public housing, this approach means that energy-efficient renovations of private homes are mainly subsidised, with the risk that their owners will increase the price once they have been renovated with



European funds (a phenomenon known as “renoviction”). This is a risk that cannot be ignored and measures must be adopted to tackle it.

The execution schedule for NG subsidised projects also entails certain difficulties. In Catalonia’s case, the government has opted, in some of its first calls for applications for European housing funds, to redistribute the NG funds throughout the territory. This is an understandable approach, as it aims to decentralise these subsidies and prevent it all falling on the Barcelona metropolitan area, but it is not without risk. Not all the territory has mature projects, so there is a risk that some of the financed projects will not be implemented before 2026, the deadline for justifying the NG subsidies set by the EU. It is precisely in Barcelona and its metropolitan area that many of the most mature projects promoting affordable and sustainable housing, driven by local authorities or housing cooperatives, are concentrated.

In short, the Next Generation funds are a good opportunity for expanding energy renovation in Catalonia, but their limitations and risks need to be taken into account if we want to harness the potential they have for improving the state of our housing stock in the most efficient way.

### HOW CAN THE PUBLIC ADMINISTRATION EXPAND THE PUBLIC HOUSING STOCK ON THE BASIS OF RENOVATION?

Both in Catalonia and throughout Spain, various public administrations, especially at local and regional level, are already undertaking initiatives to expand the affordable housing stock through renovation. We list some of their main lines of action below.

- .. Purchasing property by exercising the right of first refusal, which gives preference to local authorities acquiring flats for sale in order to allocate them to affordable housing, or purchasing it directly on the market.
- .. The acquisition of vacant housing to allocate it to public and social housing. Among the actions to mobilise vacant housing promoted by local and regional authorities, we can find intermediation networks to promote the affordable rental of vacant flats, housing exchanges to encourage owners of derelict properties to make them available to people with socio-economic difficulties, or financial aid to renovate empty flats in exchange for renting them at an affordable price, among others.
- .. Renovation projects on a neighbourhood scale, to renovate not only the buildings but also the quality of the urban environment that surrounds them.
- .. Refurbishing buildings that originally had a use other than residential (office, industrial, commercial, etc.) for affordable housing.



## **We need to minimise the environmental impact of building new affordable public housing: new sustainable construction methodologies and materials**

In areas where there is a strong demand for affordable public housing, such as the Barcelona metropolitan area, renovating already existing buildings could be a necessary solution but not enough to attend to all social needs. So it is also necessary to consider the construction of new public housing developments but without forgetting the need to do so with the minimum possible environmental impact.

What does building in a sustainable way mean? Basically, it depends on two factors: the choice of materials used in construction, as the manufacture of some materials results in much fewer CO<sub>2</sub> emissions than others, and the architectural design of the housing. Housing architecture itself can also be made more sustainable: for example, if its structure facilitates the entry of natural light and ventilation into the homes, energy consumption will be lower.

### **THE CHOICE OF SUSTAINABLE BUILDING MATERIALS: OPTING FOR WOOD**

The selection of building materials is an essential element of architectural projects to reduce the ecological footprint of building. In northern and central European countries, one of the most widely used sustainable construction materials is wood, which is only now starting to be introduced into Catalonia and the Spanish State. Producing a tonne of wood generates the emission of 33 kilos of CO<sub>2</sub>, well below the 694 kilos of steel or the 264 of cement.

That explains why most experts share the view that we need a greater commitment to wood production in Catalonia and elsewhere in Spain, where the industry associated with its production is still underdeveloped.

Using wood not only minimises carbon dioxide emissions; it also has many other advantages. It is a recyclable and renewable

material, provided that the forests in each territory have the capacity to regenerate. In addition, it is a light, flexible material that is easy to transport and, given these characteristics, it can also help to reduce construction times and the cost of building work.

Despite that, wood is not, nor does it have to be the only solution to building sustainably. There are other construction materials with a low environmental impact, such as clay, cork or compact earth, among others. Moreover, some experts warn that in large-scale projects it might be difficult to use only wood, but it is possible to adopt hybrid solutions. In other words, in constructing a building, wood can be combined with steel or cement, instead of opting only for the latter, more polluting materials.

## OPTING FOR SUSTAINABLE CONSTRUCTION METHODS: INDUSTRIALISATION

One of the methods that facilitates sustainability of the construction process and which is gaining more and more strength in Catalonia and throughout Spain is industrialisation. Essentially, it consists in manufacturing the parts that make up a flat in an industrial environment, so all that needs to be done on the building site is assemble the parts. Concentrating building activity in the industrial environment facilitates the reduction of construction site waste, energy consumption levels, pollution linked to the transport of materials and the dust generated during building work, among other things. Thus, industrialisation facilitates sustainable construction.

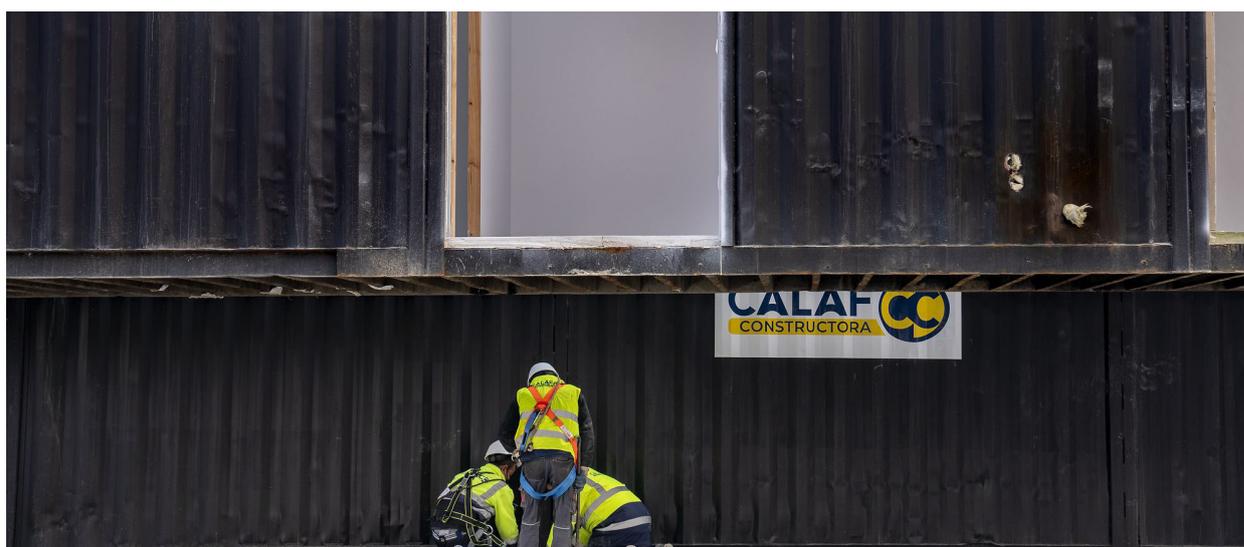
Industrialisation also makes it possible to reduce building times. In the industrial environment, it is possible to assemble different parts of the building at the same time (for example, the floor modules) without the need to follow a sequential order as in the traditional construction model, which allows progress to be made more quickly. The fact that the construction process is carried out in a controlled environment allows it to be developed with much greater precision and quality than if the work were done in the open air.

Experts also agree that industrialisation requires greater collaboration between the parties involved in the construction of a home, as they have to work together from the word go when planning and executing the construction process in the factory environment. Digital platforms make this coordination easier. Work in the industrial

environment is based on the digitised model of the previously designed architectural project and, for this purpose, the so-called BIM (building information modelling) environments are used.

The previous characteristics are common to all industrialised construction processes, although there are different modalities for carrying them out. We can find 2D industrialisations, in which two-dimensional pieces assembled in the workshop are put together on the site of the building to adopt the three-dimensional forms of the flats or dwellings. But there are also 3D industrialisations where three-dimensional modules are manufactured in the controlled environment and then transported ready-made to the building site where they only have to be connected to each other. An example of the latter is the temporary local housing (APROP) made from recycled shipping containers, a project promoted by Barcelona City Council since 2019.

It is also possible to apply industrialisation techniques to renovation processes, for example, to build 3D modules that are added to the original structure of the renovated building to expand its exterior or community spaces, among other purposes. In cities such as Bordeaux, this solution has made it possible to renovate large complexes of social housing built in the 1960s with serious maintenance problems, thus avoiding their demolition. Solutions of this kind are also starting to be tried out in Barcelona to renovate blocks of flats.



**INDUSTRIALISATION JOINS THE  
CURRENT TREND OF DESIGNING  
SUSTAINABLE BUILDINGS  
THAT FACILITATE  
COMMUNITY LIFE**

The growth of industrialised construction processes has coincided, at the same time, with the upward trend in architectural projects to design buildings that facilitate social sustainability and relations of mutual solidarity between neighbours. That is clearly expressed in the residential buildings promoted by housing cooperatives, part of whose DNA is the promotion of new models of living together based on architecture. However, in general terms, many recent architectural projects promoted by institutions such as Barcelona City Council incorporate this social component. Many of the new public housing developments based on industrialisation techniques incorporate communal spaces, fruit and vegetable gardens or greenhouses where neighbours can cultivate plants, landscaped areas that also provide a space where people can relate, and so on. All this is combined with highly energy-efficient systems (self-consumption from photovoltaic energy, aero-thermal energy, etc.) and an architectural design that facilitates natural light and ventilation in the buildings or dispenses with car parks. In short, social and environmental sustainability go hand in hand and are inseparable in the architectural design of a large number of industrialisation projects.



**HOW CAN LOCAL GOVERNMENT  
INCENTIVISE SUSTAINABLE  
INDUSTRIALISED CONSTRUCTION?  
THE NEW TENDERING MODEL FOR PUBLIC  
HOUSING IN BARCELONA**

In order to encourage public housing to be built with sustainable materials and methodologies, the tendering processes for the corresponding works must incorporate this perspective. In that regard, Barcelona City Council has implemented a pioneering public housing tendering model throughout Spain. This is the competitive project and works tender: a model whereby the architectural design and the execution of the works are awarded at the same time, instead of two separate tenders as in the traditional system. Unifying tendering processes facilitates coordination of the players involved in a construction project (architects, industrialists, builders, etc.), which is necessary in industrialisation processes, while speeding up bureaucratic procedures.

Moreover, Barcelona City Council has included award criteria in these public tenders that assess the reduction in the climate impact of the building work and manufacturing of the materials needed for the building, the reduction of construction time, and the production of buildings of high architectural quality. Other local and regional authorities in Spain have also begun to incorporate environmental criteria into their public housing tenders.

## Besides expanding the public and social housing stock on the basis of renovation and sustainable construction, we need to regulate the property market



During the FHAR, it was noted that the priority given to increasing the stock of affordable public and social housing, based on renovation or sustainable construction, can be made compatible with regulating the property market, both in terms of rental prices and other issues, such as tourist lets or reserving protected (social) housing.

### REGULATING RENTAL PRICES

During the FHAR, the idea was expressed that regulating rental prices could complement measures to expand the public stock of affordable social housing. In contexts such as Spain's, with a big deficit in the public housing stock, regulating rental prices can contribute to guaranteeing the affordability of rentals more in the short term than the construction of new housing, which requires more time and heavy investment.

Either way, it was considered reductionist to focus the debate on the regulation of rental prices on a yes or no basis, because there are many ways of doing this and it is also essential to reflect on the how, in other words, on the formula chosen to limit the price. In general terms, there are two broad categories of rental price regulation systems: first generation and second generation.

The first generation controls provide for stronger regulations that allow for little variation in rental prices. This system, currently out of use, was applied in many European countries after the Second World War and until the 1960s.

The second generation controls allow more variability in lease prices within limits, to avoid exorbitant increases. However, there is a very wide range of models in

these systems. One of the most common is to establish a reference index of prices, based on the value of comparable flats in the housing market and which establishes a maximum threshold for rental income that is periodically updated. Another of the most common models is the one that fixes rental income on the basis of the previous rental contract price which, as a general rule, has to be maintained, apart from duly justified exceptions, such as investment in renovation work. Each model can be applied across the board to all rental contracts in a given territorial sphere, or selectively, for example, only in the so-called "tight market areas".

The specific criteria for regulating rental income in each case must pay special attention to the socio-economic, institutional and legal context in each territorial setting to ensure the effectiveness of this measure.

## WHO HAS THE POWERS TO REGULATE RENTS?

If it is decided to regulate rental income, another frequently debated issue, in the jurisdictional sphere as well, is who has the authority to do so. Until now, there has been a tug-of-war **in Europe** between federal or autonomous regional governments and central state governments over who is responsible for approving legislation to control rental income.

**Catalonia** is an example of this. Following the pressure exerted by social movements for the right to housing, the Catalan Parliament passed a rent control act (Law 11/20) in September 2020. However, the Constitutional Court annulled it in March 2022 and the main argument for doing so is that the competences for this control fall to the State and not to the autonomous region.

A similar phenomenon has also occurred in the case of Berlin, in Germany. In 2020, the Berlin Parliament (Berlin is a city-state according to the German federal model with its own parliament) approved an additional model to the already existing ones in order to regulate the price of rent. Specifically, it decided to freeze the rental price reference index scales for five years in order to tackle the sharp rise in city rental prices. However, the Berlin State Court later declared that the Land Government had no competence in this area, a judgement that was subsequently ratified by the Federal Constitutional Court, which invalidated the measure in April 2021.

These two examples, explained at the FHAR, show that who, not just what and how, is also important when it comes to addressing rent control. Whichever is the competent public administration according to the courts of each state, their citizens are still waiting for responses to the problems of accessibility to housing.

## OTHER PUBLIC INTERVENTIONS IN PROPERTY MARKET TRENDS

Besides regulating the rental market, public administrations can intervene in the private market in other ways to guarantee housing access. Examples include amending general urban planning plans to restrict tourist lets or hotel places, as has been done **in Barcelona and Cádiz**. Another example is the obligation to allocate a minimum percentage of new housing developments or large private renovations to social housing. In September 2018, Barcelona City Council approved that this percentage should be 30%, as a result of a demand from social movements.

**Berlin** also has a recent example, with the victory of the "Yes" vote in a referendum to expropriate 240,000 city flats in the hands of investment funds such as Deutsche Wohnen and other large companies, which was held in October 2021 as a result of a campaign by social movements to allocate them to affordable rent. From now on, the public administration has to decide how to give shape to the popular will.

During the FHAR, examples were also given of measures to correct the trends in the private housing market on the other side of the Atlantic, specifically in Chile, a country governed by a social activist, Gabriel Boric, since March 2022. For example, in Chile, a solidarity fund programme is being implemented to combat residential segregation and prevent the dynamics of the property market from sending the poorest people

to the city outskirts. This is just one of many measures in the 2022-2025 Emergency Housing Plan launched by the government in Chile, one of the Latin American countries most affected by the “financialisation” of housing. In fact, the star measure of this plan is the construction of 260,000 affordable homes by the State, in collaboration with trade unions, cooperatives and the community, in addition to actions to influence the dynamics of the private property market.



## Final summary

Thus, the overall conclusion we can draw from the 2022 FHAR is that measures to expand the stock of affordable housing by public institutions can be combined with measures to correct trends in the private property market that are detrimental to affordability. In order to expand the affordable housing stock, priority must be given to renovation, which offers many environmental, energy, social, economic and heritage benefits, and the potential of the EU’s Next Generation funds must be harnessed to make this possible. It is also necessary to promote the sustainable construction of affordable public housing, with the use of less polluting materials such as wood and a commitment to construction methods that facilitate the reduction of the environmental impact. In order to intervene in the property market whenever necessary, for example, with regard to regulating rental prices, the formula for doing so must be adapted to the social, institutional and legal context of the territory where the measure is being implemented so that it is as effective as possible.

Any of these measures requires the collaboration and co-responsibility of all the players involved: The public administration as well as the private, cooperative and social sectors. The challenge of guaranteeing the right to housing is incumbent on all of us.

# Bibliography

- .. Fotocasa (2023).  
“The price of rent rose an inter-annual 8.7% in Spain in January” (consulted on 13 February).  
[blogprofesional.fotocasa.es/el-precio-del-alquiler-sube-un-87-interanual-en-espana-en-enero/](https://blogprofesional.fotocasa.es/el-precio-del-alquiler-sube-un-87-interanual-en-espana-en-enero/)
- .. Catalan Energy Institute (2020).  
“Energy efficiency certification of buildings in Catalonia” (infographic).  
[icaen.gencat.cat/web/.content/10\\_ICAEN/17\\_publicacions\\_informes/05\\_infografies/arxius/20210125\\_infografiaCertificacio2nSemestre2020.pdf](https://icaen.gencat.cat/web/.content/10_ICAEN/17_publicacions_informes/05_infografies/arxius/20210125_infografiaCertificacio2nSemestre2020.pdf)
- .. Ministry of Transports, Mobility and Urban Agenda (2020).  
*ERESEE 2020.*  
*2020 update of the long-term strategy for energy renovation in the building sector in Spain.*  
[mitma.gob.es/recursos\\_mfom/pagina-basica/recursos/es\\_ltrs\\_2020.pdf](https://mitma.gob.es/recursos_mfom/pagina-basica/recursos/es_ltrs_2020.pdf)
- .. Metropolitan Observatory of Housing in Barcelona (2022).  
“Supply and demand of rental housing. Quarterly data from property portals. Second quarter of 2022”.  
[www.ohb.cat/wp-content/uploads/2022/12/022011\\_LAB-Oferta-i-demanda\\_2022\\_2T\\_Informe.pdf](https://www.ohb.cat/wp-content/uploads/2022/12/022011_LAB-Oferta-i-demanda_2022_2T_Informe.pdf)
- .. Rolnik, R. (2017).  
*La guerra de los lugares. La colonización de la tierra y la vivienda en la era de las finanzas.*  
Barcelona: Descontrol.
- .. Silva, I; Vergara, F. (2022).  
“La ‘des-financiarización’ de la vivienda: una alternativa ante la crisis habitacional”. *Un Techo para Chile*, Fundación Vivienda y Centro de Estudios Socioterritoriales.  
[ceschile.org/wp-content/uploads/2022/06/enlaCES-08-v2.pdf](https://ceschile.org/wp-content/uploads/2022/06/enlaCES-08-v2.pdf)

# Acknowledgements

**Diàlegs d'Habitatge**  
**Issue No. 4. June 2023**

“Diàlegs d'Habitatge”  
**Collection**

**Coordinated by**  
Department of Communication,  
Barcelona Municipal Institute of Housing and Renovation

**Author**  
Irene Peiró

**Editorial board**  
Lucía Martín, Javier Burón, Gerard Capó, Vanesa Valiño, Carlos Macías,  
Patricia Gómez, Gemma Font, Jordi Palay and Núria Ventura.

**Photographs**  
Municipal Institute of Housing and Renovation of Barcelona

Published by  
Barcelona City Council  
Barcelona Municipal Institute of Housing and Renovation

All publishing rights reserved.

**Graphic design and layout**  
Maria Beltran

**Editorial direction**  
Direcció d'Imatge i Serveis Editorials  
ISSN 2696–1741

**[habitatge.barcelona/ca](http://habitatge.barcelona/ca)**

**B** Institut Municipal  
de l'Habitatge  
i Rehabilitació



**Ajuntament  
de Barcelona**