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BUENAS PRÁCTICAS

Actuaciones Cofinanciadas

Energy rehabilitation of Camps Blancs. EDUSI CAPACI[U]TAT

Sant Boi de Llobregat City Council

**Programa Operativo
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GOOD PRACTICE ISUD STRATEGY CAPACITAT CITY COUNCIL OF SANT BOI DE LLOBREGAT

ENERGY REHABILITATION OF CAMPS BLANCS

The good practice has consisted of **Energy rehabilitation of several homes in the Camps Blancs neighbourhood**. The project was part of the **COMFORT COVERING** operation, of thematic objective 4: Promoting the transition to a low-carbon economy.

A significant part of the building stock, especially concentrated in peripheral neighbourhoods, did not have structural energy efficiency measures. In this situation in environments with socioeconomic inequalities, energy poverty aggravates the precariousness of many homes. **The energy improvement and rehabilitation of these buildings and the reduction of consumption are a contribution to sustainability and the curbing of climate change, as well as a matter of social equity.**

In the Camps Blancs neighbourhood there were specific areas with a high percentage of families in a vulnerable situation due to energy poverty. The action has consisted of improving the housing blocks with worse insulation and greater energy demand, a total of 135 multi-family buildings with 1,164 homes. The majority of the buildings where the action is concentrated are constructions prior to 1979, and do not comply with any regulations limiting energy demand.

The thermal insulation of the different buildings has been done by injecting insulation into the air chambers of facades and roofs, as well as the insulation and sanitation of sanitary slabs in contact with the exterior. These actions reduce the energy bill by preventing heat or cold leaks in the different seasons of the year, especially in winter.

Before the action, a complete study of the neighbourhood was made to determine the state of organisation of each community of the buildings and a legal and tax advisory office has been created that has provided information and support to the owners on the rehabilitation program and energy efficiency, to establish themselves as communities and each Horizontal Property Community to be eligible for the subsidy.

The operation of the energy rehabilitation of Camps Blancs (COMFORT COVERING) **has had a cost of €2,210,000 and the ERDF co-financing aid has been €1,105,000.**

This operation has an impact on the city of Sant Boi de Llobregat, and specifically on the Camps Blancs neighbourhood, which has 5,363 inhabitants.

The criteria for the identification and selection of this Good Practice are the following:

1. THE ACTION HAS BEEN CONVENIENTLY DISSEMINATED AMONG THE BENEFICIARIES, POTENTIAL BENEFICIARIES AND THE GENERAL PUBLIC

Since its inception, a wide dissemination of the COMFORT COVERING operation, an operation of which Energy Rehabilitation is a part, has been developed among the residents of the area where the action has

been implemented, the Camps Blancs neighbourhood and the entire city. The project and its execution have also been disseminated among the population.

Regarding the **regulatory communication**, the announcement of the contracting procedure and all the administrative documentation of the file have been published on the website of the Contractor's Profile of the Generalitat of Catalonia and in the DOGC website (Official Bulletin of the Generalitat of Catalonia) in relation to the fact that the file forms part of the Capaci[u]tat project and which is 50% co-financed by the ERDF. During the intervention, 2 temporary posters about co-financing have been placed.



Final metal plates installed at the entrance of the rehabilitated buildings.

A triptych has been prepared to make the neighbourhood's residents aware of the energy rehabilitation project, the European financing program and the benefits of thermal insulation. It has been distributed to the homes in the Camps Blancs neighbourhood through an informant visiting the buildings to be rehabilitated and answering questions. They have also been distributed in the civic center.



10 meetings held between November 2 and December 23, 2022 with neighbours to inform about the **50% subsidy with ERDF and the planned work.**



11 meetings held with the presidencies of the communities of owners, **once the works have been completed**, between October 17 and November 2, 2023 to **report on the support device to declare the subsidy to the Treasury**. Later they will be done individually for each of the 135 communities. Images of the attendance on October 17 and 18, 2023.



Distribution in homes and in the civic center the following information documents, in paper:



City Council Informs, distributed in December 2019, about the planned actions, and in December 2020 about the start of information and advice on the project.

Press releases issued:



[Press release](#), 26.05.21. The mayor participated in the debate cycle “The transformation of the city”, explained the comprehensive improvement of neighbourhoods, Campes Blancs and C. Cooperativa.

[Press release](#), 30.02.22, Presentation party of the Campes Blancs TransForma Project, and the energy rehabilitation with co-financing from ERDF.

[Press release](#), 16.02.23, about the implementation of the action.

4 Publications in the **municipal magazine Viure Sant Boi**: General information about the ISUD Strategy, central pages 12-13 in the editions of [June](#) and [September](#) of 2019.



Specific articles on performance in [February 2022](#), page 5, and [March 2023](#), page 4.

2 Posts in the **Edusi Sant Boi** website:



Presentació de la intervenció de l'EDUSI a Camps Blancs a la reunió dels socis del Projecte Europeu Camelot a Gdansk

Post about the operation [Comfort Covering: Energy rehabilitation of private buildings in Camps Blancs](#).

Post, 27.02.22, of the [Presentation of the intervention in Camps Blancs at the meeting of the partners of the European Camelot Project in Gdansk](#) (Poland) and on the occasion of the III Pomorskie Forum of Climate Solidarity.

Social Media post, about the start of giving information and advice to the neighbours:



[Instagram](#), 10.03.21. Publication of an [informant's video](#) and his tour of the Camps Blancs neighbourhood to inform the residents of the blocks about the European Project for thermal insulation and energy saving. Co-financed with ERDF.

Social Media post Camps Blancs TransForma Project, 01.30.22: [Twitter](#), [Facebook](#), [Instagram](#), [Flickr](#).



Social Media post about Energy Rehabilitation Project, 02.16.23: [Instagram](#) and [Facebook](#)



[LinkedIn](#), 08.04.23

In mid-December, the public presentation of the results of the action to the representatives and citizens of the Camps Blancs neighbourhood will take place.

2. THE ACTION INCORPORATES INNOVATIVE ELEMENTS

The constructive solution that has been adopted in this action has the purpose of reducing the energy demand of homes and, therefore, contributing to the reduction of energy consumption for heating. Action has been taken in most of the residential buildings in the neighborhood, which has a built stock of 1,500 homes.

Before proceeding with the action, the City Council had done a distribution of the energy demand for heating and qualification for each type of property. In addition, a technical office assisted in the creation of condominium communities when they were not established to be able to access the subsidy.

The balance between the cost of the intervention and the savings achieved has also been taken into account to reach the optimal solution. To do this, intervention has been made in the air chambers of the facade, roof and sanitary slab, minimising the losses that occur through the building envelope.

The system adopted for facade insulation has been the injection of cellulose into the air chamber. Depending on the type of building, the air chambers range between 9.5 and 8 cm. thick, and the air chamber values have been obtained by means of coves *on site*. The material applied for insulation has been cellulose fibre, as it is an insulating material with excellent thermal and acoustic performance that is produced by shredding surplus newspaper in daily production, making it an ecological product that revalues a waste. At the same time, it prevents the spread of fire thanks to fireproof additives, regulating the humidity of the materials, thus preventing the spread of fungi.

The chamber injection system is the most optimal form in the relationship between cost and performance, although it does not eliminate the thermal bridges existing in the edges of the floors, the shutter boxes and the jambs of the openings. No action has been taken on the facades in which an external insulation system (SATE) had previously been executed.

Regarding the intervention in the lower deck slab, a 30 cm layer of insulation of cellulose has been provided directly on the upper face of the slab, thus respecting the semi-ventilated air chamber existing between the last slab and the inclined roof, ensuring the maintenance of the current ventilation conditions.

In cases where it was not feasible, it has been done through the existing access from inside the stair core of the buildings and in some cases access to the space below the roof has been done from outside the block, through the deck ventilation opening, with auxiliary means.

Finally, the sanitary floors have been rehabilitated with the insulated and cleaned in the basement of the building because the homes on the ground floor suffered energy losses. To reduce them, mineral wool has been sprayed on the lower part of the slabs with a thickness of 4 cm. In the intervention, the sanitation ducts have been sealed, and the ventilation grills have been renewed to prevent the entry of pests.

3. THE RESULTS OBTAINED WITH IT ADAPT TO THE ESTABLISHED OBJECTIVES

A significant part of the Sant Boi de Llobregat building stock, especially concentrated in the intervened neighbourhood, lacked structural energy efficiency measures and the buildings were very energy inefficient. The income of the neighbourhood's inhabitants is below average, with a high percentage of families in vulnerable situations due to energy poverty.

The action has taken the form of improving housing blocks with poorer insulation and greater energy demand in order to reduce energy consumption for heating. The energy improvement and rehabilitation of these buildings and the reduction of consumption are a contribution to sustainability and curbing climate change, as well as a matter of social equity.

In 2020, the City Council drafted a technical project to delimit the Conservation and Rehabilitation Area in the Camps Blancs neighbourhood, which had as its objective the improvement of the energy conditions of the building envelope of the neighbourhood's housing stock with the premise of the assumption of economic costs of the intervention by the administration with financing through subsidies.

The objectives of the drafted project were to identify the buildings and typologies; assess its level of conservation and rehabilitation needs; study the current energy behavior and determine the expected improvements in energy efficiency; propose actions to achieve improvements; calculate an estimated budget for the works based on the measurements and establish the management system taking into account that the action had guaranteed economic viability.

To justify the delimitation proposal, the City Council relied on two reports written by Cíclica, the Vallès School of Architecture of the Polytechnic University of Catalonia and Energia, and are summarized in three indices: energy vulnerability, economic vulnerability and effectiveness of the intervention.

The City Council also has done a distribution of the heating energy demand and qualification for each type of property. And a study of the situation of the neighbourhood to know how each community had been organised since the public developer stopped managing the buildings, transferring this responsibility to the owners. It also created a technical office to advise and facilitate the constitution of communities of owners that could qualify for the subsidy.

The main objective of the action to improve the neighbourhood, specifically its homes, has been to improve the heating energy demand rating of the target properties by one letter. At the same time, in the overall intervention of all buildings, a reduction of around 20% in the demand for heating and cooling has been achieved.

This action has been the largest made in the municipality in private homes, a total of 1,164, belonging to 135 communities in the neighbourhood's built park, and has been implemented with innovative and minimally invasive techniques. 23,174 m² of insulation under the roof and 17,295 m² of insulation on the facade have been injected by filling the air chamber.

These actions reduce the energy bill by avoiding heat or cold leaks in the different seasons of the year, especially in winter, with a very low investment, which is why they have a very high kgCO₂/euro ratio. The cost-benefit ratio of this action is very high taking into account that the average cost to insulate and improve a letter in each home is €1,800/home, when the average standard cost for this kind of action is €8,349/home (according to CQP_10 ICAEN of October 2016). The action will mean saving 2.146.613,45 kWh/year of energy and 732 TnCO₂/year. Resulting in an average saving of 216 euros per home and year in energy bills for the beneficiary population. The amortisation of this investment is contemplated over a period of 8.3 years.

Another objective achieved has been the improvement of the health conditions of sanitary floors. And as a consequence of the intervention, a structural reduction in the risk of energy poverty of the beneficiaries and an improvement in their hygrothermal conditions in their homes has been obtained. They will also be able to obtain the ITE (Technical Inspection of Buildings).

Finally, the interventions taken have allowed the rating of the heating energy demand of the properties to improve by one letter, achieving the main objective set.

As verification of the results of the solutions adopted, energy certificates will be made for each of the properties to verify the reduction in energy demand kWh/m² per year, comparing the results before and after the intervention.

4. CONTRIBUTES TO THE RESOLUTION OF A REGIONAL PROBLEM OR WEAKNESS

In the 1960s, a Neighbourhood Absorption Unit of 1,500 homes was built in Camps Blancs. The homes were awarded by the Obra Sindical del Hogar, dependent on the Ministry of Housing, with the desire to put an end to shanty towns and private self-construction initiatives, which were more or less illegal.

Years ago, the public developer stopped managing the homes and taking charge of the communities, to transfer this responsibility to the owners of the homes. However, for the majority of neighbours it has not been easy to understand what this transfer entails and to assume the management of a community of owners. Until recently, they understood that they could still claim the administration to repair any damage or problem at the community level.

These particularities, added to the fact that it is an increasingly ageing neighbourhood in which social needs are numerous in quantity and diversity, have meant that its capacity for self-management is very limited and, in some cases, non-existent.

In 2008, the public company ADIGSA, launched a process of rehabilitation and improvement of housing in the Camps Blancs area, placing external thermal insulation of 4 cm expanded polystyrene, only in the facades without building openings to improve the thermal performance of each of the buildings, although it was insufficient, because at that time they were not intervened the largest ones, that have more energy loss through windows and balconies.

It was feasible to achieve a high improvement if those areas not included in the previous facade action, and this energy rehabilitation action was designed to be undertaken with the ISUD Strategy Capa[c]jutat co-financed with ERDF funds. The difficulty in doing it was that many of the homeowners did not have a Horizontal Property Community established.

In order to influence this situation of vulnerability, the Sant Boi City Council launched a Strategic Plan to transform the neighbourhood: Camps Blancs TransForma. Its innovative actions are linked to cultural training, gender training and support for the formal constitution of communities of owners.

During the Plan presentation party, the neighbourhood was provided with information about the energy rehabilitation project for the neighbourhood's buildings, which was going to be done with 50% co-financing with European ERDF Funds.

Regarding the third initiative, Communities transform Camps Blancs, it has supported the neighbourhood in the process of establishing communities of owners in the neighbourhood buildings, taking into account that it was a fundamental requirement to request aid and subsidies to improve the housing stock. The

neighbourhood has been empowered with the ability to autonomously manage the affairs of their properties and, in parallel, strengthen coexistence relationships.

To make the action viable, it was essential that its execution be done by the administration. At an economic level, it had to be taken into account that, on the one hand, the cost of the action was reduced if the contracting was done by the entire neighbourhood and, on the other, that another of the requirements of the ERDF Funds is that the action have to be done by the Administration, therefore execution in kind was essential to benefit from these funds and to implement the action in all the buildings that are part of the neighbourhood.

To provide advice and follow-up to the communities, a work team of three people was formed and advice and follow-up was provided to those communities that needed it to formalise the permit to do the work. Buildings were found that did not have communities of owners established, others that, despite being formally constituted, were not operational and functional enough to be able to act. Once identified and classified, in a more exhaustive manner we helped to formalise and establish those communities that were not and to verify that those that were, had up-to-date documentation.

With this, it has been achieved that the communities know the advantages of establishing themselves, in addition to achieving a greater degree of autonomy and operability in front of the public administration, either to obtain public aid that may be released soon, or to solve any private aspect within the community.

5. IT HAS A HIGH DEGREE OF COVERAGE OF THE POPULATION TO WHICH IT IS AIMED

The Camps Blancs neighbourhood currently has a population of 5,363 inhabitants. Energy rehabilitation has been made in 135 multi-family buildings, affecting 1,164 homes.

Therefore, a large number of people in the neighbourhood benefit from the improvements made to the neighbourhood's apartment blocks with innovative, very minimally invasive rehabilitation techniques that until now had not been planned to be used on this scale that results in the well-being of the families occupying their homes.

Demographically, this neighbourhood lives a citizenry that, although it has the youngest average age in the municipality and the highest proportion of young people, those under 16 years of age make up 18% of the population, it is also the neighbourhood with the largest population over 65 years of age, together with Ciutat Cooperativa.

Regarding the migration component, the largest volume of foreign people in the neighbourhood is of North African origin (5.2% of the total population), followed by people from the South American continent (5%).

At the economic sphere, income levels are lower than the territory as a whole, and the percentages of the population with income per consumption unit are below the median, where Camps Blancs leads the volume of people in this situation.

Older people represent a large population group in the neighbourhood compared to the rest of the territory and have one of the lowest incomes. Ageing generates autonomy difficulties in displacements and other daily habits, development of degenerative diseases, social isolation, etc. which are accentuated in homes that are not optimised from the point of view of energy efficiency and accessibility and mobility. Furthermore,

many of these people live alone, above all more women because they have a longer life expectancy, although in worse conditions.

Ultimately, by implementing these actions and resources, the vulnerabilities of the territory are corrected and solved, improving the living conditions of citizens and contributing to their development and training to achieve a dignified existence.

These actions also generically benefit the entire population, since they allow to respond to European commitments and regulations on environmental matters, especially those that refer to the reduction of CO2 emissions.

6. THE HORIZONTAL CRITERIA OF EQUAL OPPORTUNITIES AND ENVIRONMENTAL SUSTAINABILITY HAVE BEEN TAKEN INTO ACCOUNT

During the energy rehabilitation of several homes in the Camps Blancs neighbourhood, the general principle of equality between men and women has been taken into account and has been applied generally in all areas, especially in social life and in strengthening relationships and coexistence, has also promoted social inclusion. A real gender perspective has been applied throughout the strategy process, with special attention to the existing gender gap. The communication strategy has also observed this principle, adopting a gender approach and using non-sexist language and images.

The principle of non-discrimination has continued to guarantee equal treatment between people regardless of nationality, sex, race or ethnic origin, religion or beliefs, disability, age or sexual orientation. Although it has been an operation aimed at improving the population as a whole, care has been taken not to discriminate against individuals or groups with economic precariousness or residents in housing at risk of social exclusion. It has also taken into account reducing inequality and achieving more equity for all neighbours.

This operation above all seeks sustainable development, through the implementation of transversal measures related to environmental protection and efficiency in the use of resources, especially revaluing a waste and converting it into an insulating material. In this way, it has contributed to greater efficiency in the use of resources, energy saving and minimisation of the consumption of natural resources, to the mitigation and adaptation to climate change.

7. SYNERGIES WITH OTHER POLICIES OR PUBLIC INTERVENTION INSTRUMENTS

This operation follows the line of the Camps Blancs Comprehensive Plan of 2017, and specifically with the [Community Plan of the Camps Blancs Neighbourhood](#), 2018. The improvements executed in this operation have had the objective of continuing with the progress established in the Plan and are complemented by the Project [Camps Blancs TransForma](#), started in January 2022 and still ongoing. It is also in accordance with the [Sant Boi Sustainable Energy Action Plan](#) (SEAP) of 2015, whose main objective is to reduce CO2 emissions by 20% and with membership of the [Pact of Mayors for Climate and Energy](#) (PAESC). It is linked to the priorities of the 2016-2019 Government Plan of the Sant Boi de Llobregat City Council.

The COMFORT COVERING operation is aligned with the [City Pact](#), which was approved in the Plenary Session on July 30, 2020, for a social and economic boost in Sant Boi. The City Pact has four transformation Levers as transversal axes in the policies of the coming years, the second being: innovation as a requirement to find truly transformative solutions; and the third: the social, economic and environmental sustainability of the actions in the future.

It is also with the [Government plan 2019-2023 \(City Strategy 2030\)](#), in the area of Sustainable City - having an excellent city in air quality and being a reference in the fight against the climate emergency -, with this concrete action: Promote the energy rehabilitation of residential buildings in the city to reduce consumption and improve the quality of life of the people who live there.



And regarding the area of Social Justice: -fight against situations of inequality by influencing the causes and promoting new scenarios for improvement, concretised with this action: Implement promotional measures for the rehabilitation of the built stock that guarantees a good state of conservation, the improvement of energy efficiency and the accessibility conditions of buildings.



Finally, also follow the lines present in the [Urban Agenda Action Plan](#), a roadmap that will strategically guide municipal policies towards the SDGs. The document is linked to the Sant Boi 2030 City Strategy and aligned with the objectives of the 2030 Agenda and the urban agendas of Catalonia and Spain. It has three axes, the first: Territory and city model, with a Green and Integrated City, and the determined action: 04. Urban regeneration of degraded sectors, and the specific action of energy rehabilitation of the 184 buildings of Camps Blancs. The second axis: Social and economic reactivation, the strategic one is Sant Boi, a Cohesive City, with the strategic action determined for this project: 29. Camps Blancs Trans-Forma, and these 3 actions defined: Communities of Camps Blancs (2021-2023); Improvements in the quality of housing (2021-2023) and Training for neighbourhood communities (2022).

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