

Una manera de hacer Europa



BUENAS PRÁCTICAS

Actuaciones Cofinanciadas

Energy Renovation of Existing Buildings Programme (PAREER II),
by the Community of Owners of the building at the Condado de
Treviño, 2 street, Madrid

IDAE

**Programa Operativo
Plurirregional de España**

Año 2022

Fondo Europeo de Desarrollo Regional

Best practice of the IDAE's call for the Energy Renovation of Existing Buildings Programme (PAREER II), for the project carried out by the Community of Owners of the building at the Condado de Treviño no. 2 street, in Madrid.

The IDAE, as the Intermediate Body for the management of the ERDF Funds 2014 - 2020, specifically Axis 4 of the Low Carbon Economy of the Spanish Multiregional Operational Programme, in the field of Sustainable Growth (POCS), presents, as a best practice, the project implemented by the Community of Owners of the building located at the Condado de Treviño no. 2, street in Madrid.



Condado de Treviño 2 building, after refurbishment. Source IDAE

The PAREER II Programme, managed by the IDAE, had a budget of 202 million Euros and its main objective is to achieve a reduction in the final energy consumption and CO₂ emissions of buildings by improving energy efficiency, thermal envelopes, heating, cooling and lighting installations, as well as by replacing conventional energy with solar thermal and geothermal energy in thermal installations.

Thanks to PAREER II, 1,185 energy renovation projects have been carried out, with eligible costs of 333 million Euros, with support from the National Energy Efficiency Fund or the European Regional Development Fund (ERDF) of 116 million Euros and financing, via loans, of 86 million Euros, which has led to a reduction in carbon dioxide emissions of 58,640 tCO₂/year.

The action in the community of owners of the building of the Condado de Treviño no. 2 street in Madrid consisted of improvements of the insulation of the building envelope, including terraces, and

of the arcade roof, and of the heating and domestic hot water installations. This project involved an eligible investment of 2,343,324 € and received direct ERDF support of 719,970 € and a repayable loan of 1,249,688 €, with an 11-year term and interest of Euribor + 0%.

The energy refurbishment of the building at Condado de Treviño no. 2, is considered a best practice because it complies with the assessment criteria designed for this purpose:

1. The role of the ERDF in the action has been adequately disseminated to potential beneficiaries and the general public.

a) Fulfilment of reporting obligations by beneficiaries



The building has complied with its communication and publicity obligations, publicising the ERDF aid by displaying plaques as stipulated in the conditions of the aid received.

As a community of owners, they are not obliged to have a website, so they are exempted from publicising the performance on the website.

b) Award from the Official College of Architects of Madrid



On 15 November 2023, the Official College of Architects of Madrid (COAM) awarded the INMOMAT mention, in the Refurbishment Category, to the community of owners of the Embajador I building, as promoters of the energy refurbishment work on the building at the Condado de Treviño no. 2 street in Madrid. The INMOMAT awards seek to provide public recognition from an architectural point of view to the best initiatives in the real estate sector.

The event was widely disseminated through the social networks and websites of both COAM and IDAE.



<https://x.com/IDAEnergia/status/1726897895843271006?s=20>



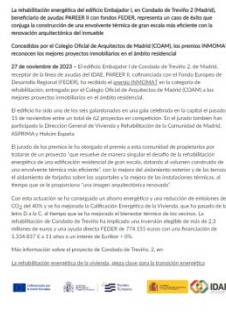
<https://www.linkedin.com/feed/update/urn:li:activity:7132666172960911360>



COAM awards ceremony, 15 November 2023. Photo courtesy of COAM

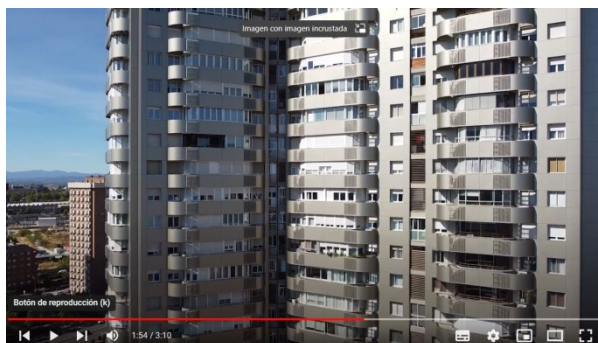


<https://www.idae.es/noticias/un-edificio-receptor-de-fondos-del-idae-premio-inmomat-la-mejor-rehabilitacion>



c) Specific dissemination actions carried out by the IDAE

As part of its communication obligations under the ERDF, the IDAE produced a promotional video of the project, as well as a brochure to increase the impact of its results and enhance its replicability. Both the video and the brochure were distributed via the IDAE's YouTube channel and website.



[Energy refurbishment. Case study: Building 'Condado de Treviño, 3', Madrid - YouTube](#)



[Aid for the energy rehabilitation of buildings and housing: an opportunity for everyone](#)

2. The action incorporates innovative elements

The building tower at the Condado de Treviño no. 2 street, is one of the five tallest residential buildings in the city of Madrid. The work carried out has been very complex, both because of its size and budget, and because of the irregular shape of the building. Important wind calculations had to be considered for both the brick removal tests of the ventilated façade structure and the stability of the auxiliary means.

The proposed solution has also involved the relocation of hundreds of air conditioning units, eliminating the negative visual impact in a simple way, giving the building a new aesthetic adapted to the 21st century.

As stated in the INMOMAT mention awarded by the COAM to this project, it is a project that uniquely addresses the challenge of energy refurbishment of a large-scale residential building, providing the built volume with a more efficient thermal envelope and a renewed architectural image.

The innovative element has been the simple and aesthetically elegant architectural solution implemented by extending the envelope of the terraces to cover approximately 350 individual air conditioning units installed on the external façade of the building, maintaining the energy improvement through the thermal envelope by combining two types of thermal insulation: mineral wool and expanded polystyrene. All this with a finish in keeping with the modernity of a renovated image.



New building façade with integration of the outdoor air-conditioning units. Photo IDAE

3. Adequacy of the results obtained to the established objectives.

The planned objectives have been fully achieved, since, thanks to the coordinated and joint implementation of the operations, the improvement of thermal comfort in 206 dwellings (26,501 m² of rehabilitated surface area), energy savings of 40% (1,506 MWh/year), economic savings in energy consumption of 120,500 €/year, and 378 tCO₂/year of emissions avoided have been achieved.

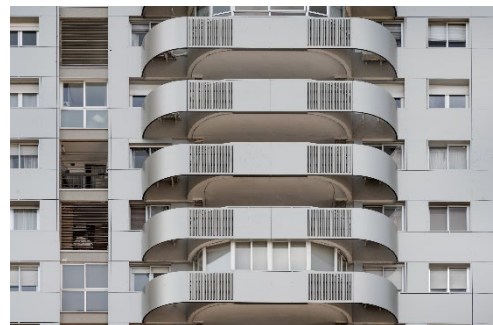


Image of the work carried out. Photo IDAE

It has been possible to execute a high-quality project in a building with a high complexity due to its size and residential use, which has been inhabited during the development of the envelope renovation works and the change of the boilers. This project demonstrates that the energy renovation of buildings, with efficiency criteria, is possible on any scale.

The result is a building with renewed lines, with an improvement in interior wellbeing that brings quality of life to the building's occupants.

At the same time, during the execution of the work, more than 39 direct jobs and 60 indirect jobs have been generated in the various phases and with different types of profiles. (Source: Publication "La generación de empleo en la rehabilitación y modernización energética de edificios y viviendas" (Employment generation in energy rehabilitation and modernisation of buildings and housing) published by the Fundación Conde del Valle de Salazar).

4. Contribution to the resolution of a problem or weakness detected in the territorial area of implementation.

The building was constructed in 1977 and has 25 habitable floors with 206 flats (8 flats per floor).

The building was totally exposed to the weather on all nine façades. If this exposure is combined with the age of the building, it implies a significant deterioration of the brick façade with problems of porosity, loss of wind and water tightness due to the deterioration of the expansion joints, cracks, etc., which, in addition, had thermal installations of more than 20 years old.

To solve these problems, a series of improvements were made:



Façade renovation. Photo courtesy of Estudio de Arquitectura De Lapuerta+Campo

- On the main façade, a **ventilated façade** has been built with a **composite finish**, also providing **10 centimetres of mineral wool insulation on the flat areas of the terrace and façade**.

- On the curved terrace façades, a **10-centimetre thick SATE** (External Thermal Insulation System) has been installed with **expanded polystyrene (EPS) sheets**.

- **Outdoor air-conditioning units** were hidden by **extending the cover of the composite panels**.

- **Projected polyurethane insulation 10 centimetres thick** has been installed in the arcade roof.

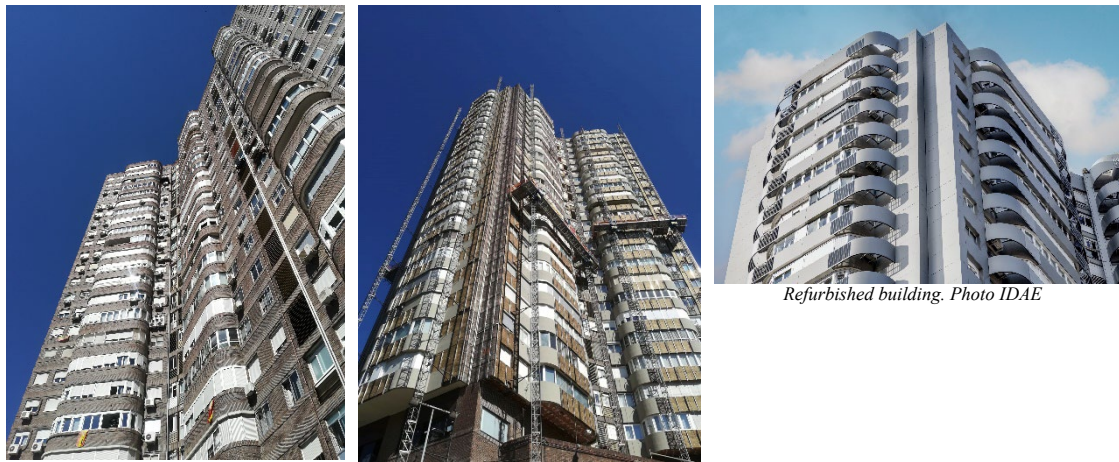
- Complete refurbishment of the boiler room with the installation of **new, lower power and more efficient equipment**. The two existing 3,137 kW diesel boilers were replaced by four natural gas

boilers, two of 125 kW and two of 470 kW, for the production of heating and domestic hot water in cascade operation. In addition, the new installation is completed with a control and management system. The insulation of the common domestic hot water pipes was also renewed.



Renovation of the boiler room.

All the actions comply with the Technical Building Code, basic energy saving document (CTE DB HE). The implementation of these actions guarantees energy savings for the building and thermal comfort for those who live in it.



Building Condado de Treviño, 2 before the refurbishment and during the execution of the work. Photograph: De Lapuerta+Campo architecture studio

Refurbished building. Photo IDAE

5. High degree of coverage of the target population

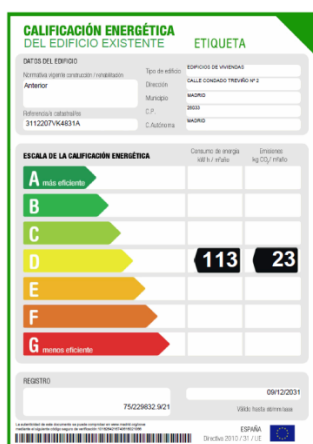
It is a tower with 206 flats, eight floors per floor, which also includes offices and commercial premises. This building houses more than 700 people every day.

The successful implementation of this project has been due, in part, to the strong involvement of the residents, as well as their high level of awareness of energy saving. A consultative committee was formed, led by the president of the owners' community, which met weekly to discuss the details of the project until the work was completed.

On the other hand, as already mentioned, the execution of the works was carried out in the least disruptive and annoying way for the building's occupants, without the need to evict them during the works, who also had to face serious problems, such as confinement due to the COVID 19 health crisis and the "Filomena" storm. These factors meant that coordination between the companies carrying out the work and the residents was essential in this case to minimise disruption and maximise the pace of work in order to reduce delays and complete the work in a timely manner. Finally, the duration of the financed works was 24 months.

The effort made is rewarded with a renovated building, improved energy efficiency and a saving in economic and CO₂ emissions into the atmosphere, which will contribute to social connection and improve the air quality of urban spaces in a large city such as Madrid.

6. Consideration of the horizontal criteria of equal opportunities and non-discrimination, as well as social responsibility and environmental sustainability.



The PAREER II Programme implicitly involves carrying out the projects with energy saving and environmental sustainability criteria. This building, like all the buildings subject to the projects carried out, have improved their energy rating in one or more letters, achieving overall significant savings in final energy consumption, as well as in the reduction of CO₂ emissions, thus helping to reduce energy dependence on fossil fuels.

Thanks to this action, the building's energy rating has been upgraded from E to D, with a reduction in CO₂ emissions from 37.60 kgCO₂/year to 22.90 kgCO₂/year.

7. Synergies with other policies or instruments of public intervention

At European level, this action is in line with the "Renovation Wave for Europe: Greening our buildings, creating jobs and improving lives" initiative ("*Renovation Wave*"), published by the European Commission on 14 October 2020, in the framework of the *European Green Deal*, which aims to improve the quality of life of people living in buildings and their use, reduce Europe's greenhouse gas emissions, promote digitalisation and improve the reuse and recycling of materials. At European level, the "*Renovation Wave*" initiative sets as its main goal to double the energy renovation rates of buildings in the next 10 years, as well as to ensure that these renovations lead to greater energy and resource efficiency.

The existing building stock in Spain consumes around 30 % of final energy, which is why energy refurbishment is a priority measure in the Integrated Energy and Climate Plan 2021-2030, which has set the target of energy refurbishing 1,200,000 dwellings by 2030. This objective has also been included in the long-term strategy for energy refurbishment in the building sector in Spain.

In this context, and as measures aimed at reducing final energy consumption and contributing to meeting energy and climate targets, the support programme, PAREER II, also contributes to meeting the energy savings target set in Article 7 of Directive (EU) 2018/2002 of the European Parliament and of the Council of 11 December 2018 for the European Union to achieve its energy efficiency targets for 2030. Furthermore, it helps to implement the long-term strategy by mobilising investments in the comprehensive and cost-effective renovation of residential buildings to improve the energy performance of the building stock and reduce its energy consumption, as referred to in Article 4 of the above-mentioned Directive.

"The challenge of energy refurbishment: building in Condado de Treviño no. 2 street in Madrid, a success story".



*Image of the Condado de Treviño building before rehabilitation.
Source: De Lapuerta+Campo architecture studio.*



*Image of Condado de Treviño building after rehabilitation.
Source: Photo IDAE.*

Una manera de hacer Europa



BUENAS PRÁCTICAS

Actuaciones Cofinanciadas

Fondo Europeo de Desarrollo Regional