**The Granada Conference Centre launches Project to Cancel**
**its CO2 Emissions and Improve its Energy Efficiency by More Than 40%**

The Palacio de Congresos de Granada is an emblematic building in the city of Granada. The 33,019.00 m² structure, distributed over seven floors, has given itself the objective of eliminating its atmospheric CO2 emissions in less than a year and reducing its consumption of non-renewable primary energy by more than 40% thanks to a comprehensive remodelling project that will involve an investment of €7 million.

The aim is to achieve this challenge by March 2026, and to be one of the most efficient congress venues in Spain -- more so than other recently built or remodelled venues. To this end, a series of reforms will begin imminently, aimed at cancelling atmospheric CO2 emissions from the combustion of diesel in the venue’s boilers and expanding its renewable-energy capture systems together with the replacement of low energy efficiency elements the most modern equipment on the market.

All actions will be subject to the DNSH principle “do no significant harm” to the environment as a cross-cutting principle established in the Recovery, Transformation and Resilience Plan, and in line with national and European regulations and recommendations.

Once these projects have been implemented, corresponding standardised energy certificates of the highest level will be obtained for enclosures of this type.

**REPLACEMENT OF AIR-CONDITIONING EQUIPMENT WITH HIGH ENERGY-EFFICIENCY HEAT AND COLD PUMPS**

**ENERGY EFFICIENCY**

In order to eliminate the emission of CO2 into the atmosphere as a result of oil-boiler combustion (between 1,000 and 1,500 tonnes per year) and to optimise installation performance, the plan includes eliminating all boilers in the Granada Conference Centre, which will be replaced by highly energy-efficient cold-heat pumps, combining heating and cooling systems.

The units will be high energy efficiency (A+ classification), thus increasing the energy efficiency of the building. These units will consume electricity, which, combined with the existing and planned solar photovoltaic installation in the building, means that part of their consumption will be obtained from renewable sources.

**REPLACEMENT OF HOT WATER PRODUCTION WITH HIGH EFFICIENCY HEAT PUMPS**

**ENERGY EFFICIENCY**

The building has 20 electric storage heaters for hot-water production, which are currently considered non-energy efficient systems. The plan includes the removal of these accumulators and replacement with various independent systems of energy-efficient heat pumps or aerothermal water heaters that will efficiently serve different areas of the building. These units will consume electricity, which combined with the existing and planned solar photovoltaic installation in the building, means that part of their consumption will be obtained from renewable sources.

**REPLACEMENT OF LUMINAIRES**

Nearly 2,000 luminaires are to be replaced with other LED-type luminaires, thus ensuring that 100% of the Palace's lighting is derived from systems with maximum energy efficiency. The energy required for its consumption will be obtained from renewable sources with the installation of new photovoltaic panels.

**INSTALLATION OF NEW PHOTOVOLTAIC PANELS WITH PERFORMANCE MONITORING SYSTEM**

The building has a photovoltaic installation consisting of 192 panels of 455 w, giving a total installed power of 87.7 kW.

This project envisages the installation of 124 new panels with a nominal power of 540w, which can produce 100,120.51 kWh of energy per year.

Thus, between the existing installation and the planned installation, the building will reach 154.66 kWp installed in the coming months, which will significantly reduce energy consumption.

**IMPROVEMENT OF THE THERMAL ENVELOPE OF THE ‘GLASS CUBE’ AT THE MAIN ENTRANCE**

The curtain wall at the main entrance to the building will be replaced with low emissivity and solar control glass (reducing energy transmission by up to 33%), and an opaque system will be installed on the roof.

This action will be accompanied by the installation of air curtains at the main entrances to the building to prevent air conditioning losses.

**IMPROVEMENT OF ENERGY EFFICIENCY THROUGH THE SECTORISATION OF COMMUNAL AREAS**

The seven levels of the building, which are now interconnected and generate a transfer of cold and hot air masses between the floors as they are considered as a single sector, will be sectorised. In this way, the aim is to achieve energy savings thanks to the independent air-conditioning of each floor.

**REPLACEMENT OF AIR-CONDITIONING UNITS**

The project envisages the replacement of the current 34 air-conditioning units -- of considerable age and low energy efficiency -- with new equipment to serve the entire building, using highly energy-efficient systems.

**REPLACEMENT OF GLAZED OPENINGS AND EXTERIOR DOORS**

The building's glazed openings, made of black lacquered aluminium and double glazing, are original to the construction of the site. Although these are high-end elements for the time, even incorporating thermal breaks, they are far removed from the energy performance of today's elements. It is planned to completely replace the doors and windows of the building with more energy-efficient elements, achieving a thermal performance of up to 0.91 W/M2.