

The outdoor space has been conditioned and conceived as a rest area, which increases its

5 Exterior conditioning

The improvements made in terms of the accessibility of the building, including a pedestrian access ramp, with railing and non-slip, makes it possible to access the headquarters for users in wheelchairs, which would allow the development of an adapted tourist route.

4 Improved accessibility

The PNF headquarters have been equipped with an intelligent and compact weather station "MeteoINT", designed and developed by the SOSTURMAC project. The device monitors the building to apply simple actions such as closing or opening windows, shutters and doors in order to improve its thermal conditioning. These actions, when carried out on time, will guarantee the thermal comfort of the building without consuming additional energy. In addition, it has another "MeteoINT" equipment, for the parameterization of "Funcos", traditional architecture mainly linked to rural environments, very present in the Chã das Caldeiras area.

3 Optimization of energy resource consumption

regulation of the amount of radiation that enters the building; therefore, it reduces the interior temperature and allows excessive lighting to be adjusted. The installed LED luminaires (indoor and outdoor) represent 50% savings in energy consumption, with a longer lifespan with less maintenance and replacement costs.

possibilities for tourist use and for the local community. The built square is equipped with a pergola, two benches, USB electrical connectors for recharging small electronic equipment, a recharging point for electric bicycles and urban furniture for integrated advertising (MUPI).

The pergola helps to limit the space, it provides protection from the sun and helps refresh the west façade of the headquarters, which is the one that supports the most radiation. The MUPI provides useful information about the PNF which is available when the headquarters are closed. The recharging points offer new services to both the visitors and the local population. In addition, the square has been improved according to the aesthetic code of Chã das Caldeiras public works. The floor has been paved with pieces manufactured by the Technical Cabinet of Chã das Caldeiras and the perimeter walls of the square and the building have been lined with volcanic stones and finished off with prefabricated pieces.

The whole intervention demonstrates the viability of these type of actions in buildings associated to protected natural areas, setting a precedent for its possible replicability and consolidating the Fogo Natural Park as an example of an entity committed to sustainable development with tangible measures. Having an energetically sustainable headquarters should be a priority for the entities that manage natural spaces, aimed at protecting biodiversity and improving natural resources from the perspective of sustainable development.

Other studies and results of this European project, such as the SOSTURMAC Sustainable Routes, highlight the valuable natural and cultural heritage of this protected area, resources that must be conserved and enhanced so that ecotourism and cultural tourism become an opportunity for socioeconomic improvement.

The improvements made to the envelope of the building and the energy consumption optimization, reduce the overheating of the interior of the building and improves its thermal comfort, reducing the need to consume additional energy. The exterior of the building has been painted with a high efficiency ecological paint and the colours chosen have been selected taking into account the color chart of the Detailed Plan of Chã das Caldeiras. The 14 lattice shutters installed allow the

2 Improved energy efficiency

An isolated solar photovoltaic plant with a battery backup, totally autonomous, makes it a 100% energy-sustainable site, and guarantees its operation 365 days a year, with 3,065 kg / CO2 potential annual average emission reduction from the electricity savings. In addition to the environmental benefits, this allows the headquarters to extend its opening hours, to improve the attention to residents or tourists along with the working conditions of the Park's management team, since the area of Portela, where the headquarters are located, has no electricity supply. The installation also allows some extra services for both visitors and the local population, such as energy supply for small electrical appliances through USB chargers or electric bicycles, making the headquarters the centre piece focal of a population without electricity supply.

1 Photovoltaic solar energy installation

Sustainable SOSTURMAC intervention at the PNF headquarters in Chã das Caldeiras



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The headquarters of the Fogo Natural Park

an example of sustainable infrastructure in protected natural areas

The headquarters of the Fogo Natural Park, an example of sustainable infrastructure in protected natural areas. 100% sustainable energy consumption, improving its energy efficiency and creating a new outdoor space that enhances its use for tourism and for the local community.

This intervention, together with the one carried out by the SOSTURMAC project in the CMSF headquarters building and the recent appointment of the island of Fogo as a World Biosphere Reserve by UNESCO, will contribute to add value to the tourist offer of the island of Fogo, focusing on new market trends related to cultural, scientific and natural tourism and to the environmental awareness of travelers.

natural area. commitment to sustainability in a protected population. This makes Fogo Natural Park, one of its tourist use and as a resource for the local park's natural values, perfectly suited for sustainable building in line with the intervention carried out has contributed to create a more protected natural area. The intervention in this administrative headquarters located in the INTERREG MAC Program 2014-2020, and is in the Canary Islands and Cape Verde development of low-carbon tourism initiatives and architectural heritage and the aimed at the sustainable revaluation of natural partner in the European SOSTURMAC project, Fogo Natural Park (DNA - MAA) participates as

Sustainable SOSTURMAC intervention at the PNF headquarters in Chã das Caldeiras



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