New headquarters Bilbao, Naturgas energía Grupo SA.EDP

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Building Type : Office building < 28m
Construction Year : 2013
Delivery year :
Address 1 - street : GENERAL CONCHA 20 48010 BILBAO, España
Climate zone : [Csb] Coastal Mediterranean - Mild with cool, dry summer.

Net Floor Area : 2 827 m^2 Superficie útil
Construction/refurbishment cost : 9 000 000 €
Number of Work station : 220 Work station
Cost/m2 : 3183.59 €/m^2

General information

A BOX INSIDE A BOX

The Project is part of a listed and protected building of the Bilbao city planning , which requires to keep the rationalist facades like representative elements of the historical memory of the city.

However inside, the weak patrimonial value of the existing structure and the dysfunctionality of atomized distribution , with a few useful heights and a big servitude of the space occupation by the structure elements , became incompatible with the objectives of the client. This one emphasizes the need for a flexible, versatile and modular architecture able to adopting different distributions nowdays and in the future, but what for it not generates significant conditions in the facilities systems ,partition walls even the structure.

Result of this the solution of the project consists in constructing a new building facades wrapped in old ones. In other words it is to insert a “new box” inside an “historical” box.

A HANGING STRUCTURE AND A FREE GROUND

The new conception and organization of the interior has as primary objective to liberate the useful spaces of the different plants to achieve the continuity ,transparency and versatility desired by the client

The supporting structure is conceived as an hanging system on the deck, with a big crosshead, constructed of metal beams which assumes major efforts.

The solution helps to reduce the occupation of the functional spaces by the vertical structure of the column.

AN INTERIOR BIOCLIMATIC YARD WHICH QUALIFIES THE SPACE AND BRING NATURAL LIGHT

The new order of the space is based on the idea of introducing natural light inside of the building through a vertical irregular glazing prism , like a yard, whose shape represents, metaphorically, the vortex of a tornado that is introduced inside the internal structure of the building, alluding to a force of the nature that’s represents a form of energy.

A LOW ENVIROMENT IMPACT BUILDING AND REDUCED CARBON FOOTPRINT

Keep the facades far from being a restrictive condition for the design brinds the opportunity to generate an bioclimatic chamber .The space between the old facade and the new one and the interior lights yard, are treated as bioclimatic spaces ,able to interacting with one another exchanging air by motor mechanisms.

The control of the sunlighting and the natural ventilation let rule the heat captures and dissipations.

The control and the optimization of the contribution of the natural light improve the customer´s conditions.

The different strategies adopted of the passive systems , so how the use of renovated energys to satisfy part of the demand, fundamentally by geothermal, redound to reduction of the energetic demand.

The conventional facilities , with a very big size of the ducts, are substantially minimizing, as much in the dimensions and in the power production system (Machine on the roof) as in the distribution systems(internal nets) Both of them has been selected by maximum efficiency criteria.

Installing an intelligent lighting system and another series of cautions help to the high energetic efficiency that reaches the highest rating(Class A)

The ecodesign methodology, adjusted to a management system approved, meditate the action required to minimized the energy consumption during the use phase and maintenance of the building, the materials consumption, water and waste generation, such that the building is certificated with the high green calcification according to the American standard LEED by the U.S Green building Council.

Data reliability

Assessor

Stakeholders

Stakeholders

Function : Environmental consultancy
SOCIETAT ORGANICA

so@societatorganica.com

http://www.societatorganica.com/

Function : Thermal consultancy agency
TELUR

info@telur.es

http://www.telur.es/web/

Function : Certification company
LKS INGENIERIA

bilbao@lksingenieria.es

http://www.lks.es/Default.aspx

Owner approach of sustainability

Naturgas Energy at the moment to choose the architect team, their needs evaluate at all times , the comfort of the contributors, the energetic efficiency and of course the sustainability based the last one on: the environmental, the economic and the social. As a reference energy company, the aspects relative to the energetic efficiency become binding however our commitment with the persons , with the environment and the society go further. With this optical we ask our architects the search of leading and global strategies for the design and construction of our headquarters. The objective was to create a comfortable building to work inside, bright, with open and tidy spaces and also it would favor teamwork and culture of coexistence, so how the optimization and improvement of the workstation and of course the responsible use of the resources.

Architectural description

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Energy

Energy consumption

Primary energy need : 137,10 kWhpe/m^2.year
Primary energy need for standard building :431,90 kWhpe/m^2.year
Calculation method : RD: 47/2007

Renewables & systems

Systems

Heating system :
- Gas boiler
- Geothermal heat pump
- Fan coil

Hot water system :
- Gas boiler

Cooling system :
- Reversible heat pump
- Fan coil

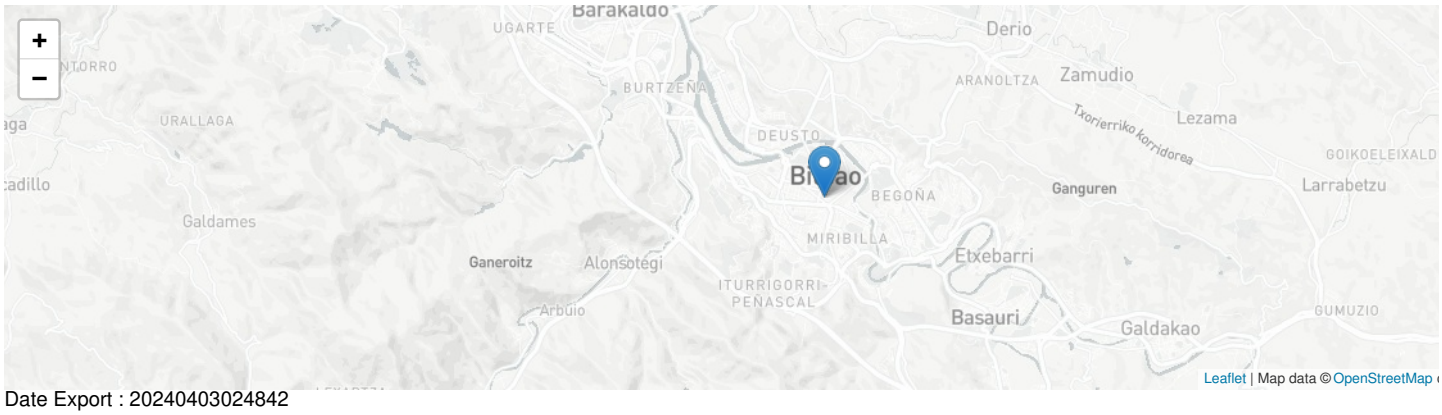
Ventilation system :
- Natural ventilation

Renewable systems :
- Heat pump (geothermal)

Environment

GHG emissions

GHG in use :32,90 KgCO_2/m^2/year
The building has been used for a sort time thus the data will be introduced later.



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