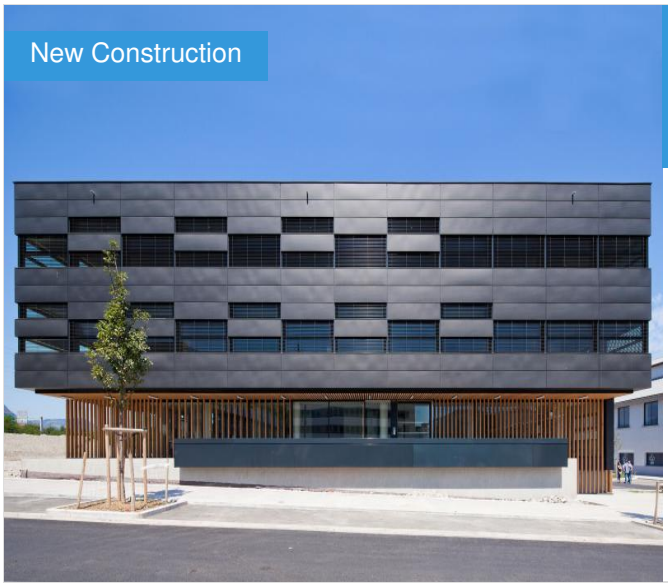
New agency Groupe-6 in Grenoble (38)

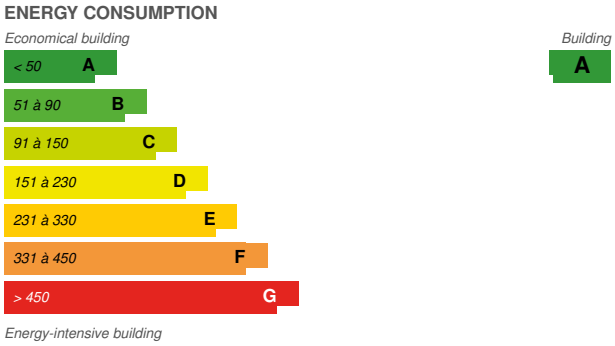
by Caroline PAUL / 2013-02-25 16:41:31 / France / 14411 / FR



Primary energy need :

36.55 kWhep/m².an

(Calculation method : RT 2005)



Building Type : Office building < 28m
Construction Year : 2012
Delivery year : 2012
Address 1 - street : 12, rue des Arts et Métiers 38000 GRENOBLE, France
Climate zone : [Dfb] Humid Continental Mild Summer, Wet All Year

Net Floor Area : 2 200 m²
Construction/refurbishment cost : 4 000 000 €
Cost/m2 : 1818.18 €/m²

General information

For its new office in Grenoble, located in the heart of the new Bouchayer Viallet district, Groupe-6 has designed a passive building, exemplary in terms of sustainability and proposing bright and warm life and work spaces : overlooking an atrium , the public garden and magnificent landscape of Vercors.

The open spaces or individual offices are complemented by shared workspaces and usability with various and scalable configurations. Compact, the building has a powerful thick façade with long horizontal openings. It has a natural ventilation system an efficient heating and cooling system, based on the use of groundwater and an automated control of lighting and ventilation, to optimize energy consumption.

Sustainable development approach of the project owner

The choice to create a new building, on the exemplary sustainable, as manifested for the agency. - The location in a neighborhood full conversion, in Grenoble, a symbol of urban renewal, and virtuous in terms of transport, close to the center and the train station - The respect of the limitation of parking, which includes enhanced use for users of public transport and clean transport - The insertion site and respectful of the Charter of the area, including the treatment of stormwater discharges into the plot without the network of the city, - The use of materials with low embodied energy, reinforced insulation with insulating organic sourced, treatment of facades with wooden components to address the possible needs of the thermal envelope built, - Technical systems efficient and low energy consumption, use of refresh by the groundwater without CAP during "normal" periods, outside heat, symbolize a solution simple and local, to meet the needs of the agency on conventional uses. This approach has also been pushing for lighting and office. Enhancement of natural lighting ty thrust through openings optimized and central atrium. Management of sunscreens is made by a system controlled according to the course of the sun and the seasons. For office measures were réalisaées on generations of computers in the former agency and proposed directions for indicatuers on consumption énrgie by generations of hardware. An assessment of comfort level considered was conducted by a design based on simulations and by local requirements. Finally, the implementation of a system for

monitoring energy and environmental performance will validate the choice of designers, monitor and improve if necessary the use and exploitation.

Architectural description

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See more details about this project

http://groupe-6.com/#/fr/projects/view/26

Stakeholders

Stakeholders

Function : Contractor

SCI Rue des Arts et Métiers, groupe-6

Bruno Hallé, groupe-6

http://www.groupe-6.com

Function : Construction Manager

groupe-6

Yves Pervier

http://www.groupe-6.com

Function : Structures calculist

Echologos

http://www.echologos.com

Function : Thermal consultancy agency

ADRET

Yves Doligez

http://www.adret.net/

Function : Environmental consultancy

Gaujard technologies

M. Plassard

Contracting method

Separate batches

Type of market

Global performance contract

Energy

Energy consumption

Primary energy need : 36,55 kWhep/m^2.an

Primary energy need for standard building : 104,49 kWhep/m^2.an

Calculation method : RT 2005

Breakdown for energy consumption : - Heating: 5.66 kWh Ep - ECS: 0 - Raffraichissmeent: 0 - Fans: 13.79 kWh Ep - Lighting: 14.62 kWh Ep - Auxiliary: 2.49 kWh Ep

Envelope performance

Envelope U-Value : 0,49 $W.m^{-2}.K^{-1}$

More information :

- Timber frame walls: film vapor barrier rigid mineral wool panels 14.5 cm, wooden boxes filled with cellulose wadding 12 cm, additional insulation wood fiber 6 cm, rain protection film, air knife and zinc cladding.
- Floor on parking: 8 cm concrete screed, polyurethane rigid panel 8 cm, 30 cm full concrete, wood composite panel polystyrene 10 cm.
- Slight wood Roofing: TLB, wooden floor composed of cellulose wadding 20 cm, cellulose blown 12 cm, rigid mineral wool panels 6 cm.
- Roof terrace common: solid concrete, 25 cm two crossed layers of polyurethane foam 12 cm each, sealing and revegetation of the roof.

Indicator : I4

Air Tightness Value : 0,46

Renewables & systems

Systems

Heating system :

- Low temperature floor heating
- VAV System

Hot water system :

- Other hot water system

Cooling system :

- No cooling system

Ventilation system :

- Double flow heat exchanger

Renewable systems :

- Heat pump (geothermal)

Smart Building

BMS :

GTC with visualization and temperature probes by local monitoring energy consumption

Environment

Urban environment

This new agency is connected to smooth transport networks: - Near a tram line, - Bicycle It has in its basement spaces for bicycles, car sharing vehicles within the agency and limited booked places for staff. The site is part of a changing neighborhood, preservations and conversion of former industrial website, evidence of its past, new housing and new commercial premises energy requirements and environmental induced by the charter of the ZAC

Products

Product

Product category : Structural work / Carpentry, cover, titghtness

Prefabricated wooden boxes assembled to form a part of the roof

Carbon

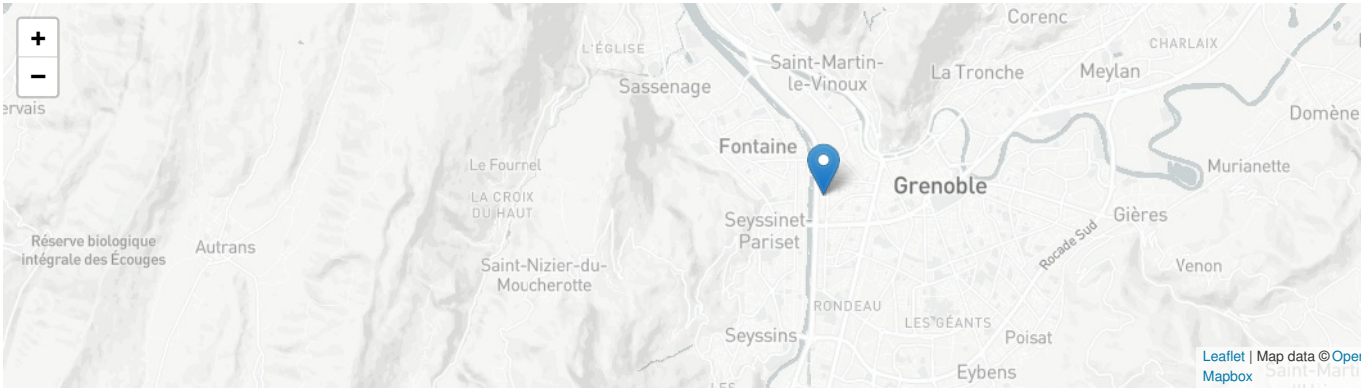
GHG in use : 1,00 $KgCO_2/m^2/an$

Methodology used :
U22win version 4.8.0.

Life Cycle Analysis

Eco-design material : insulating walls by wood wool in thicknesses establishment of panels to wooden frames for the treatment of the facades, roof panels made of the atrium Lignotrend insulated with cellulose wadding, in the caissons, establishment of oak wood floor A + vegetated roofs

Contest



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