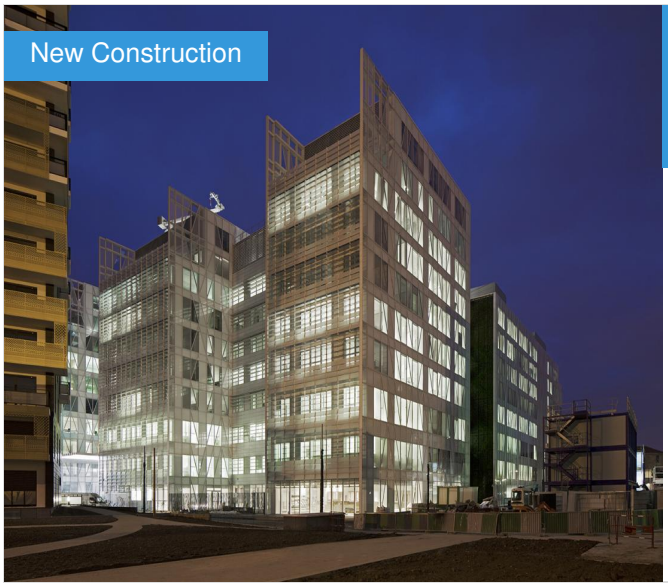
Zenora (VEGA & NODA)

by Communication BNP Paribas Real Estate / 2015-06-29 16:30:55 / France / 19472 / FR

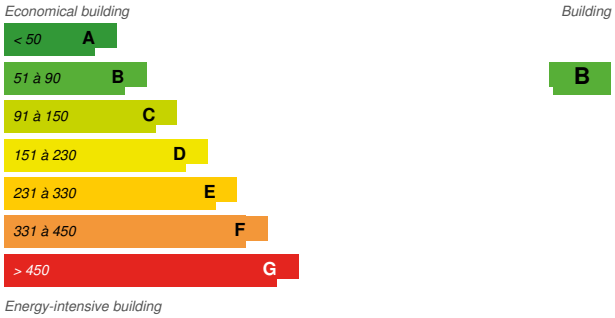


Primary energy need :

67.13 kWhep/m².an

(Calculation method :)

ENERGY CONSUMPTION



Building Type : Office building < 28m
Construction Year : 2014
Delivery year : 2014
Address 1 - street : 179,quai de la Bataille de Stalingrad 92130 ISSY-LES-MOULINEAUX, France
Climate zone : [Cfb] Marine Mild Winter, warm summer, no dry season.

Net Floor Area : 44 800 m²
Construction/refurbishment cost : 146 000 000 €
Cost/m2 : 3258.93 €/m²

Certifications :

Proposed by :

General information

Located at 179, quai de la Bataille de Stalingrad, facing the St-Germain island on the Seine inIssy-les-Moulineaux, ZENORA is composed of two buildings:

- VEGA (22,700 sq. m), sold to the Rocher Group to combine nearly all ofits Paris entities (Yves Rocher, Stanhome, Dr Pierre Ricaud, Daniel Jouvance,Kiotis & ID Parfums)
- NODA (22,100 sq. m), sold to the Wereldhave Dutchproperty investment company to set up the France head office of the Coca ColaGroup.

Designedby the architect Jean-Paul Viguier and developed by the Development teams ofBNP Paribas Real Estate, in partnership with Poste Immo, the real estate operator of the La Poste Group, ZENORA was delivered in Q4 2014.

Thetwo ZENORA buildings obtained high levels of environmental certificationsduring the design phase:

- Low energy building (BBC) label,
- EXCEPTIONAL level HQEpassports,

- OUTSTANDING international level BREEAM certification with an 86%score for VEGA and a 92% score for NODA,
- without forgetting the environmentalquality charter of the Issy-les-Moulineaux town, ISSEO+ level.

Sustainable development approach of the project owner

ZENORA is an international building which has brought together French co-developers, French and Dutch investors, and French and American users to work on a common project.
It is notable for its high technical and environmental performance, intrinsic to the building itself, particularly as regards energy which is produced energy-efficiently from natural sources.
The project was designed in association with its users from the outset, and is the result of an ongoing determination to address environmental challenges, from design to operation. The HQE and BREEAM certification awarded to the co-developers during the construction phase will be extended by the users in the operational phase (HQE for buildings in use and BREEAM in use).

Architectural description

ZENORA is a property development whose architecture has been designed with a view to limiting visual impact for neighbouring properties (‘sawtooth’ design and capping of the top floors to preserve views and maximise sunlight).
The glazed, ventilated, frontage is clad in diagonal white silkscreen printing and boasts pleasant triangular open areas. It also acts as a thermal regulator with a thin, ventilated double skin and external solar protection on the façades with greatest exposure.
The development is built around green spaces which have been planted with local species on the advice of an ecologist: on the ground floor, terraces, roofing and a living wall.
The property development is the result of the rehabilitation of a former postal sorting office logistics site, formerly used for industrial purposes. The ground has been cleaned up. The conversion of the site, which sits on a veritable territorial divide, has allowed a mixed area allowing residential, commercial and tertiary territories and clusters of schools to be brought together.

Building users opinion

Six months after completion, the users have had time to take possession of the property and familiarise themselves with their new working environment over both a winter and a summer period. From discussions with those responsible for general services, it appears that staff are fully satisfied with the new premises and the attention paid to their health and well-being:
- use of ‘soft’ HVAC terminals (radiant panels to avoid the effects of cold air flow)
- efficient internal solar protection, operating through energy and technology management using solar-powered probes on the terrace, which can be individually controlled
- comfortable internal acoustics, through a variety of efficient removable partitions and the installation of a suspended ceiling and floating floor (exceeding regulatory requirements)

See more details about this project

https://www.realestate.bnpparibas.fr/bnppre/en/property-development/master-projects/actualites/zenora/zenora-p_1585672.html

Stakeholders

Stakeholders

Function : Developer

BNP PARIBAS IMMOBILIER PROMOTION IMMOBILIER D'ENTREPRISES

Benoît FRAGU - Directeur Général Adjoint - 01.55.65.25.65

https://www.realestate.bnpparibas.fr
Co-developer. We have developed more than 1 million HQE-certified sq. m, and are in a position to produce, both in new construction and in renovation, buildings to meet the highest environmental requirements with performance accredited by HQE certificatio

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Function : Developer

POSTE IMMO (CO-PROMOTION)

Marie-Astrid MORIN

http://www.poste-immo.fr/
Co promoter

Function : Designer

JEAN-PAUL VIGUIER ET ASSOCIES

Jean-Paul VIGUIER

http://www.viguier.com/fr

Function : Contractor

SCI LA BATAILLE

Benoît FRAGU et Marie-Astrid MORIN

Function : Thermal consultancy agency

BARBANEL

Philippe GROSSIER

http://www.barbanel.fr

BET all fluids

Function : Others

ALTO INGENIERIE

Sylviane SOUBIE

http://www.alto-ingenierie.fr/

BREEAM and HQE AMO

Function : Investor

WERELDHAVE

Damien LIOT

http://www.wereldhave.com/

Function : Investor

GROUPE ROCHER

Cyril REYNARD

http://www.groupe-rocher.com/fr

Function : Certification company

CERTIVEA

01 40 50 29 09

http://www.certivea.fr

Function : Company

Groupe GCC

http://www.gcc-groupe.com/fr

Contracting method

Off-plan

Energy

Energy consumption

Primary energy need : 67,13 kWhep/m^2.an

Primary energy need for standard building : 176,00 kWhep/m^2.an

Calculation method :

Breakdown for energy consumption : - Heating: 2,86
- Cooling: 1.62
- Hot water production: 2.84
- Ventilation: 8.5
- Lighting: 6.32
- Auxiliaries: 3.87

Real final energy consumption

Final Energy : 26,01 kWhef/m^2.an

Envelope performance

Envelope U-Value : 0,71 $W.m^{-2}.K^{-1}$

More information :

Particular treatment of the building envelope as regards the façades with greatest exposure:
- to the west: installation of a thin, ventilated, double-skin façade with internal solar protection (motorised Venetian blind) located in the air gap
- to the south: installation of a single-skin façade with solar protection internally (motorised Venetian blinds) and externally (horizontal shading devices with glass or metal blades depending on location).

Building Compactness Coefficient : 0,30

Indicator : I4

Air Tightness Value : 1,14

Renewables & systems

Systems

Heating system :

- Geothermal heat pump
- Radiant ceiling

Hot water system :

- Individual electric boiler
- Solar Thermal

Cooling system :

- Geothermal heat pump
- Radiant ceiling

Ventilation system :

- Double flow

Renewable systems :

- Solar Thermal
- Heat pump (geothermal)

Renewable energy production : 2,00 %

Smart Building

BMS :

The energy and technology management used during the operation enables the following actions: - monitoring of technical equipment (HVAC, lifts, electricity, plumbing, access control, round-the-clock management of meter alarms) - Consolidation of lighting

Environment

Urban environment

Land plot area : 10 376,00 m^2

Built-up area : 56,00 %

Green space : 4 583,00

The ZENORA building is situated 2 minutes by foot from the T2 tramway stop and Velib' (Jacques-Henri Lartigue),
7 minutes from the RER C Issy Val de Seine station and 15 minutes from the no. 12 underground line (Mairie d'Issy). It is situated in the new eco district of Bords de Seine, which is a harmonious mix of offices, shops, residences, crèches and schools.
Situated on the banks of the Seine, opposite Île Saint Germain, it is an active part of the redevelopment of the banks of the Seine.

Products

Product

Thermo fridge pumps (TFP) CARRIER 30XWHP0712

CARRIER, installé sur le projet par le groupement d'entreprise AXIMA SEITA / SIETRA PROVENCE

Dominique Deguerville (dominique.deguerville@carrier.utc.com - +33 (0)6.22.63.56.36)

http://www.carrierrentalsystems.fr/

Product category :

This equipment, combined with geothermal wells using the water table, supplies the building's heating and cooling production.
This high energy efficient equipment (COP of 5.9 and EER of 7.63) fully participates in reducing energy consumption, and obtaining the BBC RT 200 low energy consumption label.

Recommended from the design phase by the BARBANEL Fluids design office, the technical data sheet of the final product was submitted by the companies holding the HVAC contract. The equipment chosen in the end has features and energy efficiency that exceed the design phase.

Costs

Construction and exploitation costs

Reference global cost : 2 500,00 €

Renewable energy systems cost : 200 000,00 €

Reference global cost/Work station : 2500

Cost of studies : 7 800 000 €

Total cost of the building : 146 000 000 €

Health and comfort

Water management

Consumption from water network : 6 557,00 m^3

Consumption of grey water : 3 256,00 m^3

Consumption of harvested rainwater : 774,00 m^3

Water Self Sufficiency Index : 0.38
Water Consumption/m2 : 0.15
Water Consumption/Work station : 1.98
Total annual water consumption breaks down as follows:
- WC: 5,783 m3/year
- cleaning of car park: 114 m3/year
- cleaning of halls and dining rooms: 42 m3/year
- watering of green areas: 618 m3/year

Reclaimed rainwater represents a potential of 800 m^3/year, but only used for watering and cleaning (77 4 m^3/year).

The greywater includes only part of the wastewater recovered from toilet flushes (only 3,256 m^3/year of 5,783 m^3/year available).

Comfort

Health & comfort : Operation of the internal motorised blinds (raising/lowering) is controlled by several systems:
1) by programming times on the basis of the database showing the predicted position of the sun and its intensity throughout the year
2) by solar-powered probes located on terrace which, depending on real weather conditions, override the positions determined by the time programming (with a delay to reduce changes)
3) by individual remote controls, which override the 2 preceding systems

At the same time, multisensors located in the ceiling allow the intensity of artificial lighting (lights) to be adjusted depending on the intensity of external lighting (solar).

Acoustic comfort : Acoustic comfort: An acoustic leaflet, which takes account of the requirements of NF 16032 and HQE (level P), defines the characteristics of the following materials:
- external noise: façades with a DnAT of between 30 and 38 dB depending on exposure
- internal noise: removable partitions with an SRI of between 41 and 46 dB(A) depending on location and type of premises + acoustic barriers with an SRI = 30 dB(A) in suspended ceiling and floating floor to exceed the requirements

Carbon

GHG emissions

GHG in use : 2,50 $KgCO_2/m^2/an$

Methodology used :

Indicator assessed in relation to the 2005 regulatory calculation

GHG before use : 2,50 $KgCO_2/m^2$

Building lifetime : 30,00 année(s)

, ie xx in use years : 1

Life Cycle Analysis

Material impact on GHG emissions :

237.5

Material impact on energy consumption : 786,50 kWhEP

Eco-design material : 2 types of bio-based materials have been used in the project: wood decking and fibrastyrene insulation.

https://www.construction21.org/france/data/sources/users/2715/synthese-isolants-150705.xlsx

Contest

Reasons for participating in the competition(s)

Certifications/labels/awards

- HQE (2008 version – Tertiary buildings): EXCEPTIONAL level Passport awarded for Project and Design phases.
- ISSEO (Environmental Charter of the municipality of Issy-les-Moulineaux): ISSEO level + (post-construction phase pending)
- EXCEPTIONAL level Passport currently pending for Construction phase
- BBC-Effinergie Label 2005: Pec < Pec ref – 61.5% pending
- BREEAM (Europe 2009 – V1.1): OUTSTANDING certificate for Design Stage awarded, with 86.10% for VEGA and 92.07% for NODA (best European score). Post-Construction Stage certificate currently pending, aiming to achieve OUTSTANDING.

Energy strategy:

- 100% of heat and cold needs are covered by geothermal systems. Energy production for heat and cold is ensured by an innovative geothermal solution, combining underground water pumping and relasing in the river Seine, associated with high energy thermo frigo pumps (Performance Coefficiency of 5.9 et Energy Efficiency Ratio of 7.63).
- Air conditioning and heating are provided by a "4 tubes" radiant ceiling system with certified regulation (EU BAC).
- 30% of hot water for the restaurants is produced through solar panels set up on the terrace roofs.
- Control of thermal solar gains
- Western façade with a thin ventilated double skin
- Southern façades equipped with external solar protections
- Electric blinds slaved to daylight probes
- 30% reinforced air pearmibilty (1.2 $m^3/h.m^2$)
- Articficial lighting slaved to presence detection and graduation depending on the natural luminosity on the outside

Building candidate in the category

Bas Carbone

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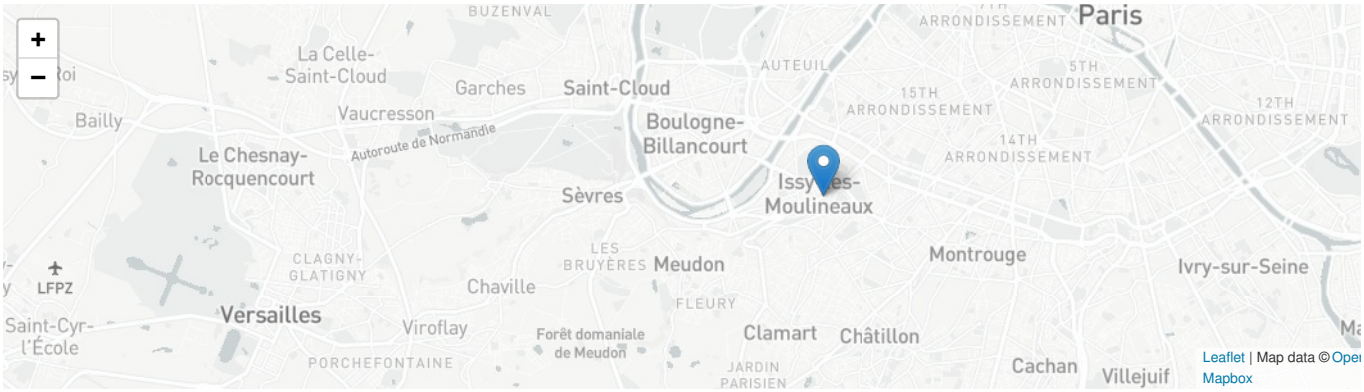

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