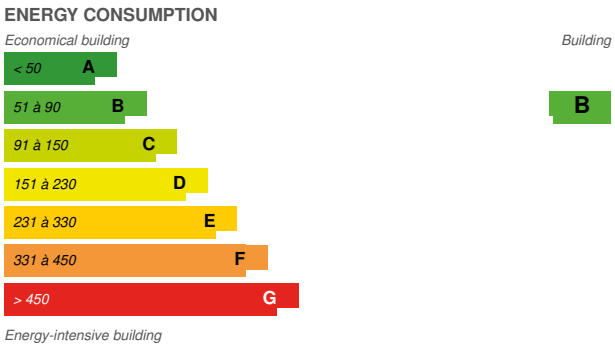
RenovActive

by Sabine Pauquay / 2015-07-06 11:15:37 / Belgique / 7473 / FR

Primary energy need :

57.7 kWhep/m^2.an

(Calculation method :)



Building Type : Isolated or semi-detached house
Construction Year : 1921
Delivery year : 2015
Address 1 - street : 1070 ANDERLECHT, Belgique
Climate zone : [Cfb] Marine Mild Winter, warm summer, no dry season.

Net Floor Area : 95 m^2 Superficie útil
Construction/refurbishment cost : 190 000 €
Number of Dwelling : 1 Dwelling
Cost/m2 : 2000 €/m^2

Proposed by :

VELUX

General information

Building users opinion

Building occupied for 1 month, the occupants are delighted

See more details about this project

http://renovactive.velux.be

Data reliability

Assessor

Stakeholders

Stakeholders

Function : Contractor representative

Velux

sabine.pauquay@velux.com

http://velux.be
Organization of studies and renovation + financing

Function :

Troubleyn NV

info@troubleyn.net

http://www.troubleyn.net
Completion of work and coordination of certain subcontracted works

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Function : Designer

ONO Architectuur

jonas.lindekens@ono-architectuur.be

http://ono-architectuur.be
development of the renovation concept

Function : Thermal consultancy agency

Daidalos Peutz

Friedl.Decock@daidalos.be

http://daidalos.be
Thermal and durability advice

Function : Contractor

Foyer Anderlechtois

foyeranderlechtois@foyeranderlechtois.brussels

http://foyeranderlechtois.be
renovation

Contracting method

General Contractor

Owner approach of sustainability

certification Active House label

Architectural description

Renovation of a three-facade house dating from the 1920s to bring it to high energy standards, while maximizing comfort. Aesthetic research linked to the original image of the garden city (characteristic of Brussels)

Energy

Energy consumption

Primary energy need : 57,70 kWhep/m^2.an

Primary energy need for standard building : 202,24 kWhep/m^2.an

Calculation method :

CEEB : 0.0008

Final Energy : 131,00 kWhef/m^2.an

Breakdown for energy consumption :
Heating: 44.7 kWh / m².an hot water: 17.4 kWh / m².an --> total consumption gas: 62.1 kWh / m².an Fans: 3.1 kWh / m².an Pumps: 2 , 9 kWh / m².year Lighting:

3,7 kWh / m².year Kitchen: 10,5 kWh / m².year Laundry: 3,8 kWh / m².year Multimedia: 6,0 kWh / m².year photovoltaic production: -5,8 kWh / m².an --> total electrical consumption: 24,2 kWh / m².an

More information :
Actual consumption and performance will be measured during the first two years of occupation.

Initial consumption : 1 300,00 kWhep/m^2.an

Envelope performance

Envelope U-Value : 0,31 $W.m^{-2}.K^{-1}$

More information :
Total heat transfer coefficient: 84.8 W / K average U-value of windows: 1.08 W / m².KU slab on floor: 0.14 W / m².KU existing exterior insulated facades: 0, 15 W / m².KU new facades extension: 0.11 W / m².KU roof sloping: 0.13 W / m².K

Building Compactness Coefficient : 1,50

Indicator : n50

Air Tightness Value : 2,90

Users' control system opinion : The building has been occupied for a month

Renewables & systems

Systems

Heating system :
- Condensing gas boiler
- Water radiator
- Low temperature floor heating

Hot water system :
- Condensing gas boiler

Cooling system :
- No cooling system

Ventilation system :
- Natural ventilation
- Nocturnal ventilation
- Nocturnal Over ventilation
- compensated Air Handling Unit

Renewable systems :
- Solar photovoltaic

Renewable energy production : 6,00 %

Photovoltaic panels 4.86 m2 orients south - 900 Wp

Other information on HVAC :
Hybrid ventilation that combines mechanical ventilation with natural ventilation in mid-season and summer. This natural ventilation allows free cooling to ensure summer comfort and avoid any air conditioning.

Solutions enhancing nature free gains :
The windows facing north-east are equipped with triple glazing. The windows are oriented to the south-east and south-west are equipped with double glazing. The solar protections are mobile (external blinds) to allow the solar contributions in winter.

Smart Building

BMS :
Connection of the mechanical ventilation system and the motorization and management of the windows. They open automatically in certain indoor and outdoor conditions.

Environment

Urban environment

Urban suburbs

Products

Product

VELUX automated roof windows

VELUX

velux-be@velux.com

http://velux.be

Product category : Table 'c21_spain.innov_category' doesn't exist SELECT one.innov_category AS current,two.innov_category AS parentFROM innov_category AS oneINNER JOIN innov_category AS two ON one.parent_id = two.idWHERE one.state=1AND one.id = '10'

Automated roof windows involved in ventilation strategy

Great ease of installation and operability by the occupants

Costs

Energy bill

Forecasted energy bill/year : 1 090,00 €

Real energy cost/m2 : 11.47

Real energy cost/Dwelling : 1090

Carbon

GHG emissions

GHG in use : 12,20 $KgCO_2/m^2/an$

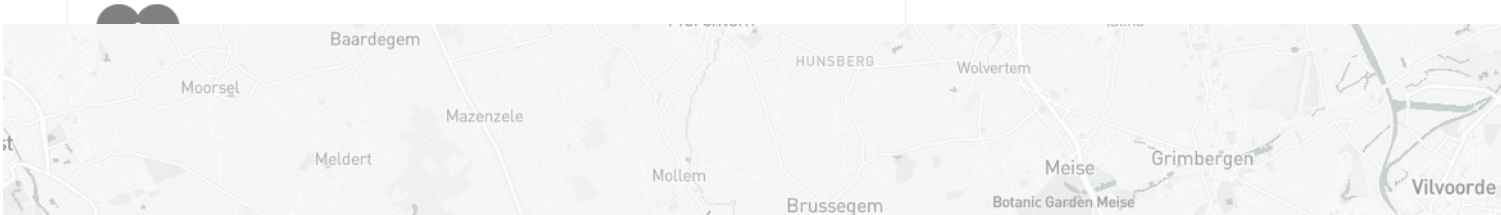
Methodology used :

WE Bruxelles

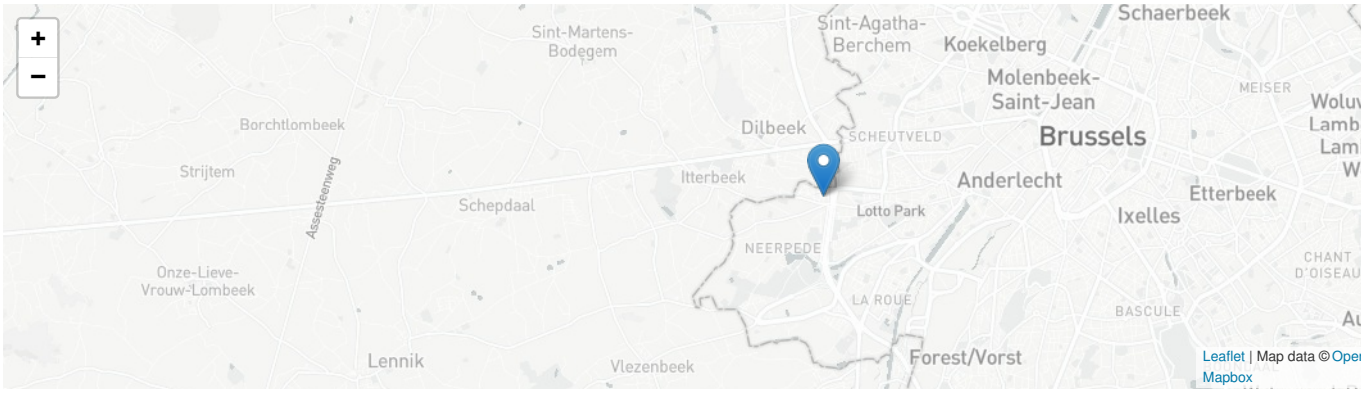
Contest

Building candidate in the category

Energie & Climats Tempérés



Coup de Cœur des Internautes



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