


## Accent Vert & Accent Eco

by Andrzej Soltysik / 2016-07-03 15:10:10 / International / 11048 / EN



New Construction

**Primary energy need :**

90 kWhpe/m<sup>2</sup>.year

(Calculation method : Other )

**ENERGY CONSUMPTION**

*Economical building* *Building*

< 50	A
51 à 90	B
91 à 150	C
151 à 230	D
231 à 330	E
331 à 450	F
> 450	G

*Energy-intensive building*

**Building Type** : Collective housing < 50m  
**Construction Year** : 2015  
**Delivery year** : 2016  
**Address 1 - street** : 01-305 WARSZAWA, Poland  
**Climate zone** : [Dfb] Humid Continental Mild Summer, Wet All Year

**Net Floor Area** : 12 557 m<sup>2</sup>  
**Construction/refurbishment cost** : 9 000 000 €  
**Number of Dwelling** : 292 Dwelling  
**Cost/m<sup>2</sup>** : 716.73 €/m<sup>2</sup>

**Certifications :**



**Proposed by :**



### General information

The **ACCENT VERT & ACCENT ECO** project is located on the outskirts of Warsaw on a former agricultural land, in a neighbourhood that is today rapidly developing and will soon be just next to the new metro line. The buildings are located just a few hundred metres from one of the main North-South motorways in Poland, making it easy to reach from the centre of Warsaw. Situated near **Gorczevska Park**, the project already benefits from all the infrastructure in the **Bemowo** district such as schools, businesses, shopping centres and service stations.

This scheme consists of two multi-family residential buildings with 292 apartments in total. Moreover, under each building there is an underground carpark and there are multiple places dedicated to storing bikes on the surface.

BOUYGUES IMMOBILIER POLSKA sp. z o.o. - a company from the French BOUYGUES S.A. Group, is the developer of this project. Sustainable development forms essential part of the Group's strategy, with a particular emphasis on the corporate social responsibility and environmental protection. BOUYGUES IMMOBILIER implements these policies in a formal and organized manner, in accordance with respecting all shareholders' interests, as well as maintaining employees' satisfaction. Group's efforts in this field have been visible in a variety of residential and office projects delivered within the last years, and also have been confirmed and appreciated by several prizes and certificates, including the HQE certificate.

The project has been designed by ARCHITEKCI DAWIDCZYK & PARTNERZY firm and constructed by PBM POLUDNIE S.A. - general contractors. Accent Vert has been handed to its inhabitants in December 2015, whereas the Accent Eco's commissioning is expected in Q4' 2016.

## See more details about this project

<http://www.bi-polska.pl/o-firmie/inwestycje-zrealizowane/accent-vert>

### Stakeholders

#### Stakeholders

Function : Designer

ARCHITEKCI DAWIDCZYK & PARTNERZY

<http://www.ad.waw.pl/>

Function : Construction company

PBM POLUDNIE SA

<http://www.pbmsa.pl/>

#### Contracting method

General Contractor

#### Type of market

Table 'c21\_maroc.rex\_market\_type' doesn't exist

### Energy

#### Energy consumption

Primary energy need : 90,00 kWhpe/m<sup>2</sup>.year

Primary energy need for standard building : 105,00 kWhpe/m<sup>2</sup>.year

Calculation method : Other

Breakdown for energy consumption : 46% Heating and ventilation

54% Hot utility water

#### Envelope performance

Envelope U-Value : 0,23 W.m<sup>-2</sup>.K<sup>-1</sup>

More information :

No average U-value available. The number presented (0.23) concerns external walls of reinforced concrete with styrofoam insulation in the Accent Vert part.

For other parts it looks as follows:

- Flat roof (reinforced concrete with styrofoam) - achieved 0.15 (required 0.2);
- External walls (Reinforced concrete with styrofoam and mineral wool) - achieved 0.23 / 0.25 (required 0.25);
- External windows (PVC) - achieved 0.9 / 1.3 (required 1.3);
- Windows and external doors (aluminium) - achieved 1.3 (required 1.3);
- Arcades (above the underground carpark ramp, made of reinforced concrete with styrofoam) - achieved 0.16 (required 0.2);
- Ceilings (reinforced concrete with styrofoam and mineral wool) - achieved 0.17 (required 0.25);

#### More information

Primary energy need for the building, as well as the one for standard building have been assessed by an independent auditor in accordance with Polish legal requirements regarding energy certificates for new buildings (EU compliant).

### Renewables & systems

## Systems

### Heating system :

- Urban network

### Hot water system :

- Urban network
- Solar Thermal

### Cooling system :

- No cooling system

### Ventilation system :

- Natural ventilation
- Free-cooling

### Renewable systems :

- Solar Thermal

## Environment

### Urban environment

The ACCENT VERT & ACCENT ECO project is located on the outskirts of Warsaw on former agricultural land, in a neighbourhood that is today rapidly developing and will soon be just next to the new metro line. The buildings are located just a few hundred metres from one of the main North-South motorways in Poland, making it easy to reach from the centre of Warsaw. Situated near Gorczewska Park, the project already benefits from all the infrastructure in the Bemowo district such as schools, businesses, shopping centres and service stations.

This scheme consists of two multi-family residential buildings with 292 apartments in total. Moreover, under each building there is an underground carpark and there are multiple places dedicated to storing bikes on the surface.

The main target of project's team was to create a pleasant environment. Apartments exposure has been set on the advantageous east-west axis ensuring lots of natural daylight inside. Attractive greenery and small architecture, presence of a water reservoir and vegetable garden are other 'green' aspects of this scheme.

The developer has also implemented solutions targeted at promoting 'eco-mobility' - provision of multiple bicycle racks for inhabitants and the bike path on the adjacent Batalionow Chlopskich st. delivered few years ago by Bouygues Immobilier Polska.

Furthermore, simple and aesthetic shape of buildings, designed in line with local zoning constraints, create pleasurable entourage advantageous for inhabitants' rest. Buildings' visual attractiveness has been achieved by its proportions, eye-catching arrangement of windows on the façade and unique shape of balconies.

Land plot area : 16 269,00 m<sup>2</sup>

Built-up area : 25,00 %

Green space : 4 868,00

## Products

### Product

Viessmann solar heating system - DIS 50

Viessman

<http://www.viessmann.com/com/en.html>

<http://www.viessmann.com/com/en.html>

Product category : Génie climatique, électricité / Chauffage, eau chaude

There are ten solar heating system panels installed on the roof of Accent Eco, with nearly 5 sqm of surface each.



Because of its innovative character and contribution to decreasing the pollution, the product received an undivided acceptance of all members of the project team.

Dynamic thermal modelling by Arup

ARUP

Ove Arup & Partners International Ltd Sp. z o. o. Oddział w Polsce

<http://www.arup.com>

Product category : Génie climatique, électricité / Ventilation, rafraîchissement

The DTM was used to analyse the building and its location (including sun path and shading analysis) and to provide a prediction of space temperatures and comfort conditions in the interior spaces.

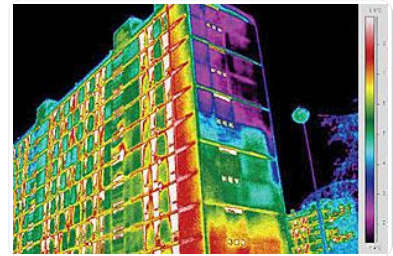
The modelling has been carried out using the Warsaw weather data file to ensure that the model accurately reflects the location of the building.

The weather data used by IES include 8760 hourly records which enable the software to carry out dynamic building performance simulations.

The three-dimensional detailed thermal model has been created using plans, sections, elevations and general arrangement drawings provided by the project architects. The building's orientation has been adjusted according to the site plan.

The results indicate that for this project, external conduction losses are only 6% of the total energy consumption for heating purposes. Improvement of external fabrics insulation resulted in unnoticeable energy savings when compared to increased investment costs.

not applicable



## Costs

## Carbon

### GHG emissions

GHG in use : 30,22 KgCO<sub>2</sub>/m<sup>2</sup>/year

Methodology used :

Assessed by an independent auditor in accordance with Polish legal requirements regarding energy certificates for new buildings (EU compliant).

## Contest

### Reasons for participating in the competition(s)

The weather and environment in Warsaw create difficult conditions for construction of residential buildings - hot in the summer, cold in winter with high amplitudes of temperatures and conditions, and what is more - multiple times within each year when the temperature crosses zero degree Celsius.

The presented case study confirms that the investor managed to create pleasant and nice place for its inhabitants which encompasses innovative solutions, previously unseen on the Polish residential market.

The combination of 'green' ideas at concept, design and construction stages contributed to delivering a project in which the investor has successfully demonstrated its expertise and commitment to sustainable development, which has been then finally confirmed by the HQE certificate.

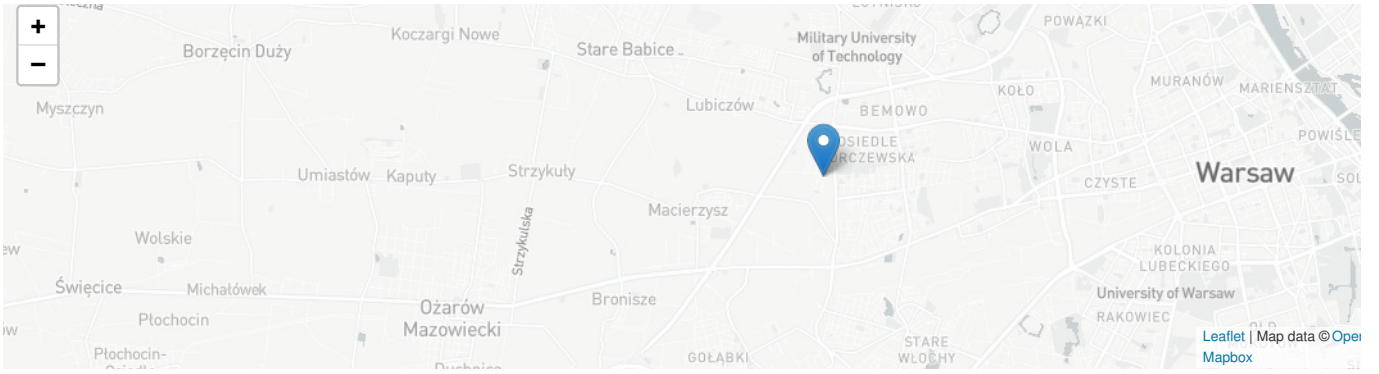
### Building candidate in the category



Energy & Temperate Climates



Users' Choice Award



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