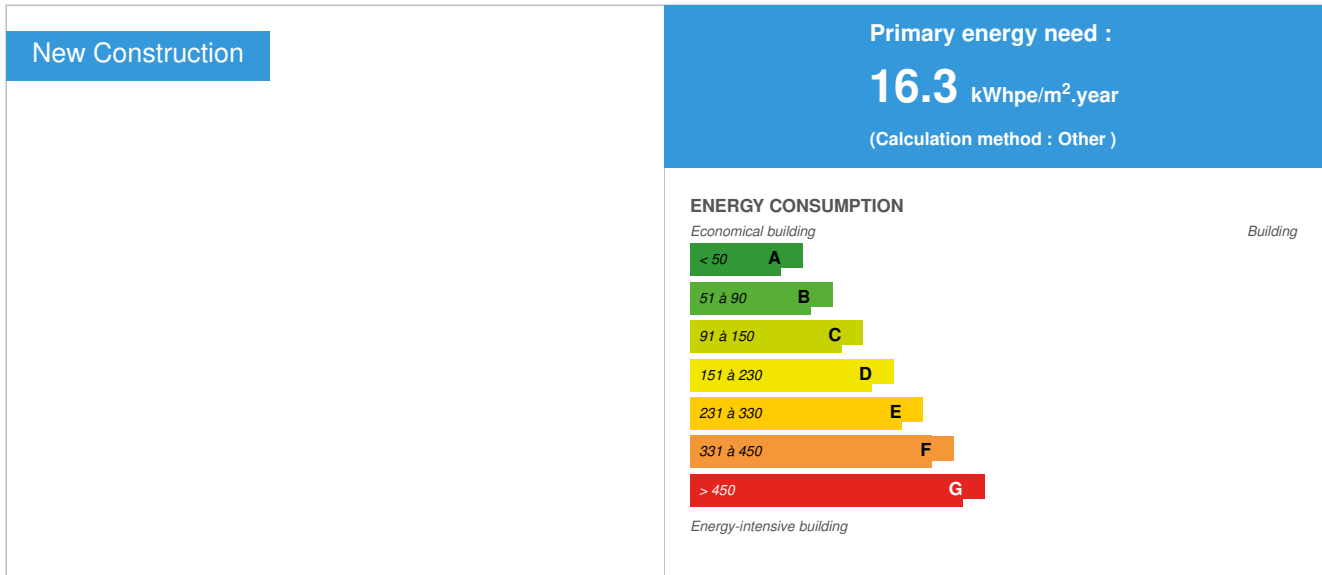


## Palm tree residential area

by Tu Nguyen Ngoc / © 2016-06-25 05:47:04 / International / © 3156 / EN



**Building Type** : Collective housing > 50m  
**Construction Year** : 2013  
**Delivery year** : 2015  
**Address 1 - street** : 100000 HANOI , Other countries  
**Climate zone** : [Cfa] Humid Subtropical - Mild with no dry season, hot summer.

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**Net Floor Area** : 169 654 m<sup>2</sup> Other  
**Construction/refurbishment cost** : 120 000 000 €  
**Cost/m2** : 707.32 €/m<sup>2</sup>

### General information

Project: Palm Tree Residential Area, Ecopark, Hung Yen  
 Building investor: Viet Hung Company (VIHAJICO)  
 Architecture designer: Kume Sekkei  
 Total land area: 40,100m<sup>2</sup>  
 Ecopark blocks were designed in accordance with the functional city model with full utilities. The buildings are covered by trees surrounding and water ponds, which are combined harmonizing between citizens and nature. The investor also create new bus lines for citizens and visitors. So that the distance between ecopark and city center may be not a trouble for citizens to come.

### See more details about this project

<http://www.ecopark.com.vn/vi/khu-%C4%91%C3%B4-th%E1%BB%8B-ecopark/gjai-%C4%91o%E1%BA%A1n-1/gjai-%C4%91o%E1%BA%A1n-1.html>  
<https://www.construction21.org/data/sources/users/19262/1.pdf>

### Stakeholders

#### Stakeholders

Function : Investor

Viet Hung Company (VIHAJICO)

Email: [info@ecopark.com.vn](mailto:info@ecopark.com.vn)

<http://khudothiecopark.vn/chung-cu-ecopark/>

## Contracting method

General Contractor

## Type of market

Realization

## If you had to do it again?

Create a place for PV systems to use renewable energy for some part of the buildings such as hot water heating

## Building users opinion

The building with great infrastructure and landscape surrounding. The outdoor activities are often performed here to attract people to live. However, it is quite far from city center.

## Energy

### Energy consumption

Primary energy need : 16,30 kWhpe/m<sup>2</sup>.year

Primary energy need for standard building : 43,50 kWhpe/m<sup>2</sup>.year

Calculation method : Other

Breakdown for energy consumption : Lighting,coolings , fans, hot water heating, other appliances (we do not have specified different energy use)

### Envelope performance

Envelope U-Value : 1,39 W.m<sup>-2</sup>.K<sup>-1</sup>

More information :

Non-baked brick, low U-value for better insulation concrete (light coloured painting) + plasterboard  
(Uvalue is ~1.39 W/m<sup>2</sup>K)

Building Compactness Coefficient : 0,01

### Real final energy consumption

Final Energy : 40,00 kWhfe/m<sup>2</sup>.year

Real final energy consumption/m<sup>2</sup> : 40,00 kWhfe/m<sup>2</sup>.year

Year of the real energy consumption : 2 015

## Renewables & systems

### Systems

Heating system :

- No heating system

Hot water system :

- Individual electric boiler

Cooling system :

- Others

Ventilation system :

- Natural ventilation

Renewable systems :

- No renewable energy systems

Domestic solar water systems are installed in only private houses but not in the highrise buildings.  
Street lights use solar energy.

#### Solutions enhancing nature free gains :

Guidelines for wind flows: + Tower only, no podium to allow more channels for air to move at ground level + Staggered tower arrangement across park. + Taller tower along edge of park to accelerate air movement through wind tunnel effect.

## Environment

### Urban environment

Trees are grown for shading and water ponds are installed for evaporative cooling. Reducing the concrete surface by weed area is to increase permeable surface. More weed and trees surface helps to reduce heat island effect.

Water ponds also reduce the heat by 2-3°C surrounding the buildings. Ecopark offers a comprehensive environment where communities live, work, and relax. Creating opportunities for personal and professional growth, Ecopark is a place where families can live healthy, safe and comfortable lives and professionals can seek quality employment. Residents can enjoy a modern lifestyle within their resort-like community, while visitors can immerse themselves in the relaxing ambience of Ecopark's lush, picturesque landscape.

Land plot area : 40 100,00 m<sup>2</sup>

Built-up area : 9 020,00 %

Green space : 31 080,00

## Products

### Product

Non-baked brick, low U-value for better insulation

khangminh

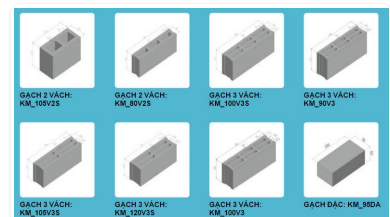
5th floor VG Building, 235 Nguyen trai stree, thanh xuan, Hanoi

[http://gachkhangminh.vn/vn/tin-tuc/tin-tuc-su-kien/thi-truong-vat-lieu-xay-khong-nung-con-lam-gian-na\\_103\\_339\\_55.news](http://gachkhangminh.vn/vn/tin-tuc/tin-tuc-su-kien/thi-truong-vat-lieu-xay-khong-nung-con-lam-gian-na_103_339_55.news)

Product category : Structural work / Structure - Masonry - Facade

Non-baked brick, low U-value for better insulation  
concrete (light coloured painting) + plasterboard (Uvalue is ~1.39 W/m2K)

Meet the requirement of EEBC 09:2013/BXD



## Costs

### Construction and exploitation costs

Total cost of the building : 64 000 000 €

### Energy bill

Forecasted energy bill/year : 384 000,00 €

Real energy cost/m2 : 2.26

Real energy cost/Dwelling : 256



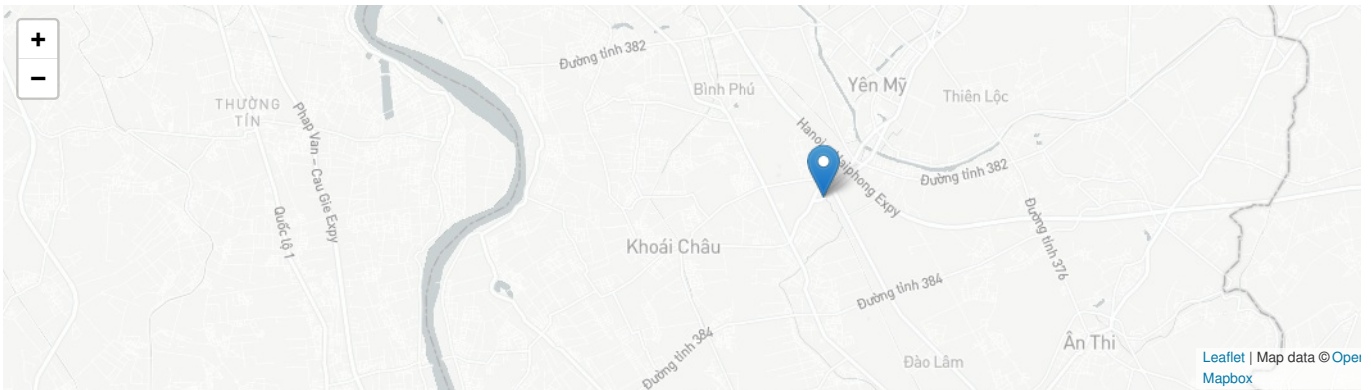
## Contest

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

Palm tree residential buildings located in Ecopark area, which has strongly friendly environmental design. The building design has been considered with several passive strategies such as: - Building envelope with U-value of wall and roof meet the energy efficiency building code in Vietnam. - Shading devices systems are installed on the windows. - The building shapes are considered carefully to optimize the natural ventilation and daylighting:- Natural ventilation for all main function spaces/auxiliary spaces+ Daylighting for all main function spaces/auxiliary spaces- Vegetalisation of the surroundings for reducing heat island effect as

well as permeable surface- Water Efficient equipments has been installed by tenants- Evaporated cooling by water surface surrounding the area The green and eco strategies for residential buildings are always more difficult than the other type of buildings. The buildings which are using in this period of time not only to save energy but also have to meet the requirement of tenants in the modern life.

### Building candidate in the category

  
  
**Energy & Hot Climates**  
**Green Building Solutions Awards 2016**  
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