


## Thai Health Promotion Center

by PIMPUN JIROJWONG / 2016-06-08 10:22:45 / International / 12058 / EN



Primary energy need :

# 159.34 kWhpe/m<sup>2</sup>.year

(Calculation method : )

**ENERGY CONSUMPTION**

Consumption Range (kWhpe/m <sup>2</sup> .year)	Grade
< 50	A
51 à 90	B
91 à 150	C
151 à 230	D
231 à 330	E
331 à 450	F
> 450	G

*Economical building* (Grades A-C) | *Energy-intensive building* (Grades D-G)

**Building Type** : Office building < 28m  
**Construction Year** : 2010  
**Delivery year** : 2012  
**Address 1 - street** : 10120 BANGKOK, Thailand  
**Climate zone** : [Aw] Tropical Wet & Dry with dry winter.

**Net Floor Area** : 24 735 m<sup>2</sup>  
**Construction/refurbishment cost** : 19 000 000 €  
**Number of Work station** : 250 Work station  
**Cost/m<sup>2</sup>** : 768.14 €/m<sup>2</sup>

**Certifications :**



### General information

This building has been built for the Thai Health Promotion Organization. It is located in Sathorn district in Bangkok. Thai Health Promotion Organization is a non-profit organization dedicated to promote health and well-being of Thai people. Thus the project aims to create an environmentally-friendly building in order to represent community-oriented philosophy of the organization through climate-responsive design features and user-friendly spaces.

The total floor area of this building is 26,000 square meter.

[See more details about this project](#)

## Stakeholders

### Stakeholders

Function : Investor

Thai Health Promotion Foundation

InterRelations@thaihealth.or.th

<http://en.thaihealth.or.th/>

To inspire, motivate, coordinate, and empower individuals and organizations in all sectors for the enhancement of health promotive capability as well as healthy society and environment to support health promotion movement in Thailand

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Function : Environmental consultancy

Africvs Co.,Ltd.

info@afrcivs.com

<http://www.afrcivs.com/>

Green building consulting

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Function : Designer

Plan Studio Co.,Ltd.

plan\_studio@yahoo.com

Architectural design

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Function : Designer

P49 Deesign and Associates Co.,Ltd.

p49deesign@p49deesign.com

<http://www.p49deesign.com/>

Interior design

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Function : Other consultancy agency

Plan Motif Co.,Ltd.

64 Soi Sathorn 10, North Sathorn Road, Sathorn, Bangrak, 10500 Bangkok Thailand

Exhibition designer

### Contracting method

Separate batches

### Type of market

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

### If you had to do it again?

Glass roof under a pond to have natural light in the basement. This was a good idea but due to inexperience in this domain, there is water leakage, and it damages the wall and the paint.

### Building users opinion

Users are very pleased by this building.

It's very oriented about communication and human interaction.

## Energy

### Energy consumption

Primary energy need : 159,34 kWhpe/m<sup>2</sup>.year

Primary energy need for standard building : 532,22 kWhpe/m<sup>2</sup>.year

Calculation method :

Breakdown for energy consumption : Lighting 8%

Equipment 26%

HVAC 59%

Misc 7%

## Envelope performance

Envelope U-Value : 1,08 W.m<sup>-2</sup>.K<sup>-1</sup>

## Real final energy consumption

Final Energy : 145,10 kWhfe/m<sup>2</sup>.year

Real final energy consumption/m<sup>2</sup> : 64,61 kWhfe/m<sup>2</sup>.year

Real final energy consumption/functional unit : 66,40 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 :

- No domestic hot water system

Cooling system :

- VAV Syst. (Variable Air Volume system)

Ventilation system :

- Single flow

Renewable systems :

- Solar photovoltaic

Renewable energy production : 6,10 %

Other information on HVAC :

HVAC system with 3 sets of 200 tons chiller supplied to VAV system with direct outdoor air system.

Solutions enhancing nature free gains :

Rainwater harvesting to use it at flush toilet and to water plants. Solar shading protection to avoid heat gain on the windows and the walls.

## Environment

### Urban environment

Situated in the government office zoning, quiet neighborhood of Bangkok, the building is surrounded by parks from the South East and the North. Shuttle bus to the MRT Station of Lumpini is provided.

## Products

### Product

System Monitoring

Honeywell

Muang Thai-Phatra Office Tower II Ratchadaphisek Rd Khwang Huai Khwang Khet Huai Khwang Province Bangkok 10310

<http://www.honeywell.com>

Product category :

System monitoring as a method to communicate realtime energy usage result to occupants.

Users and visitors are convinced and come closer to building consumption. People care more about energy use and interested in energy saving.



## Costs

### Construction and exploitation costs

Total cost of the building : 21 000 000 €

## Health and comfort

### Water management

Consumption from water network : 20 315,00 m<sup>3</sup>

Water Consumption/m<sup>2</sup> : 0.82

Water Consumption/Work station : 81.26

### Indoor Air quality

Airflow sensors are installed at the outdoor air inlets to confirm that outdoor air intake will function as designed. Additionally, CO2 sensors are equipped in densely occupied space such as meeting room and be able to alarm when carbon dioxide concentration exceeds limit. All materials, coating, adhesive and sealants for indoor use are complied with VOC limit by SCQMD rule#1168. Building flush-out is performed before occupancy to ensure that air will not be polluted by construction activities.

### Comfort

**Health & comfort :** Light shelf along with tilted ceiling is designed to gain more benefit from daylight as the daylight can go deeper in to the room depth. Furthermore, the light shelf also acts as shading for windows. Private office is partitioned by glass to allow the open-plan inside access to view.

## Carbon

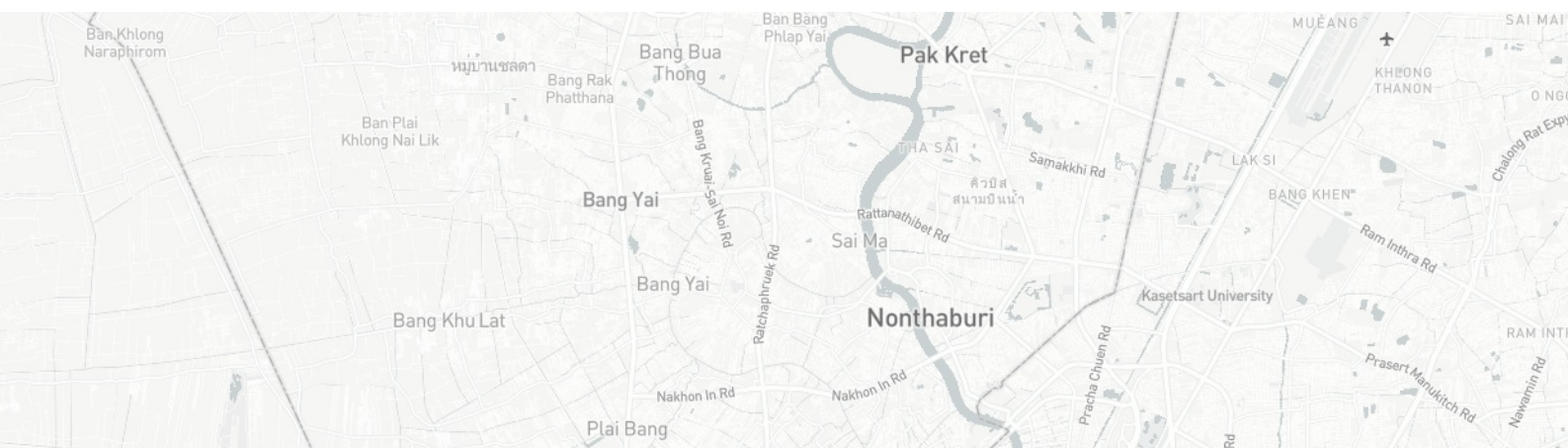
### GHG emissions

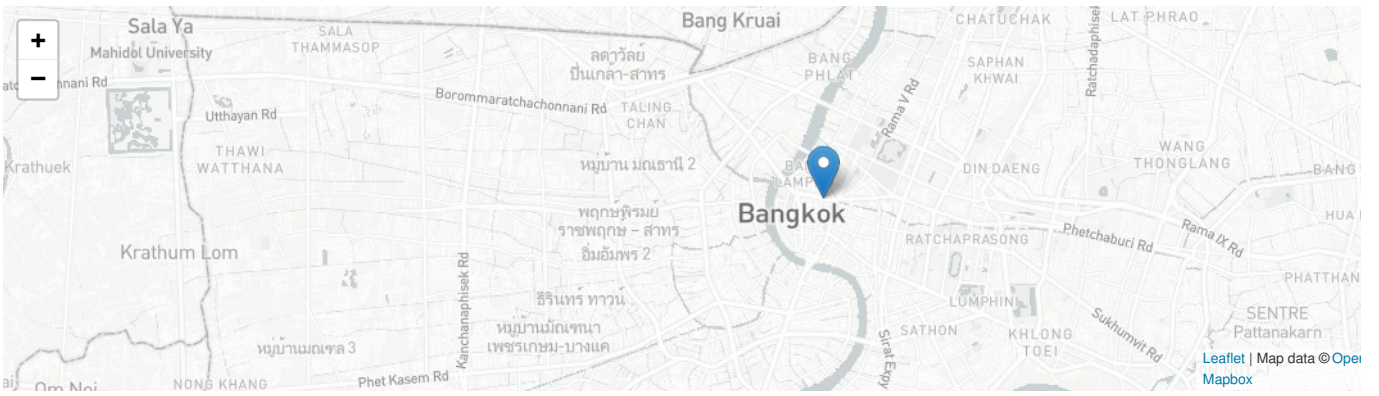
GHG in use : 54,00 KgCO<sub>2</sub>/m<sup>2</sup>/year

## Contest

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

The building design is inherited from traditional Thai house which is native to hot climates. Intellectual knowledge from the past along with building technology is adapted to the design to create the best performance and fit for local climate.





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