


## City Hall Venlo

by Ronald Schlundt Bodien / 2016-06-22 13:55:10 / Internazionale / 19949 / EN



**Primary energy need :**

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

(Calculation method : Other )

**ENERGY CONSUMPTION**

*Economical building* *Building*

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

*Energy-intensive building*

**Building Type** : Office building < 28m  
**Construction Year** : 2009  
**Delivery year** : 2016  
**Address 1 - street** : Eindhovenseweg 18 5912AB VENLO, Netherlands  
**Climate zone** : [Cfb] Marine Mild Winter, warm summer, no dry season.

**Net Floor Area** : 27 700 m<sup>2</sup> Other  
**Construction/refurbishment cost** : 35 316 112 €  
**Number of Work station** : 630 Work station  
**Cost/m2** : 1274.95 €/m<sup>2</sup>

Proposed by :



### General information

The brief for the new City Hall presented a unique challenge in the form of stringent sustainability requirements set by Venlo municipality, which is the first region in the world to seek full implementation of the Cradle-to-Cradle principles. This resulted in an unique design process and an extraordinary (visionary) building that combines a comfortable working environment with sustainable innovations.

The project incorporates several strategies to guarantee sustainability: the heavily polluted air from the adjacent road is cleaned by the building and cooled down with the help of the Maas River and the underground car park; the offices and glass house generate heat for the surrounding homes by implementation of a geothermal heat pump; rain water will be collected and used, then cleaned and released into the Maas. The building will be mainly constructed out of wood

The new City Hall combines several municipal services that currently are scattered all over town in one open, accessible complex. The lay out of the building is efficient and includes offices, a plaza, a public hall with exhibition spaces, meeting rooms and an underground parking. The public hall located on the ground floor offers a view on the river Maas and its flood plains. The work places are situated in the tower.

## See more details about this project

<http://www.kraaijvanger.nl/en/projects/94/stadskantoor-venlo/>

### Stakeholders

#### Stakeholders

Function : Contractor

Municipality of Venlo

<https://www.venlo.nl/>

Function : Designer

Kraaijvanger Architects

mail@kraaijvanger.nl

<http://www.kraaijvanger.nl/nl/>

### Energy

#### Energy consumption

Primary energy need : 1,00 kWhpe/m<sup>2</sup>.year

Primary energy need for standard building : 23,00 kWhpe/m<sup>2</sup>.year

Calculation method : Other

#### Envelope performance

Envelope U-Value : 0,10 W.m<sup>-2</sup>.K<sup>-1</sup>

### Renewables & systems

#### Systems

Heating system :

- Heat pump
- Solar thermal

Hot water system :

- Solar Thermal

Cooling system :

- Water chiller
- Geothermal heat pump

Ventilation system :

- Natural ventilation

Renewable systems :

- Solar Thermal
- Heat pump

Renewable energy production : 75,00 %

### Environment

## Urban environment

The lay out of the building is efficient and includes offices, a plaza, a public hall with exhibition spaces, meeting rooms and an underground parking.

### Products

#### Product

Air Purifying Green Facade

Kraaijvanger Architects, TU Eindhoven, Royal HaskoningDHV, Venlo City, C2C Expolab, BBN, Laudy Bouw, Mostert De Winter

Hans Goverde, Kraaijvanger Architects, [hansgoverde@kraaijvanger.nl](mailto:hansgoverde@kraaijvanger.nl)

<http://www.kraaijvanger.nl>

**Product category :** Table 'c21\_italy.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 = '6'

The green facade and the trees purify the air from the road and railway line alongside the building. More than 100 varieties of flora & fauna contributes to the wellbeing of the employees, combat heat stress and form part of the insulation layer, but most of all they reduce 30% of the SO<sub>2</sub> and NO<sub>x</sub> in the filtered air. The facade filters out the particulate matter produced by 3000 m<sup>2</sup> of roads and makes the surrounding air cleaner in general.

The city of Venlo established the ambition to create this green facade but needed measurable result before committing to the project. The stakeholders set out with The Eindhoven University of Technology and Royal HaskoningDHV to create a test set-up as proof of concept. This proved a considerable reduction of SO<sub>2</sub>, NO<sub>x</sub> and particulate matter, enough for the city to greenlight the project.



Holtz100 wooden inner leaf cavity wall

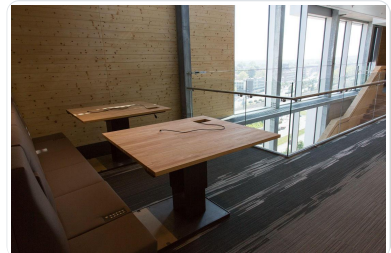
Thoma

Erwin Thoma, [info@thoma.at](mailto:info@thoma.at)

<http://www.thoma.at/en/holz100>

**Product category :** Table 'c21\_italy.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 = '6'

The inner leaf of the cavity wall is made by the Thoma Company from Austria. Their Holtz100 system creates a non-glued solid wood shell on the interior of the Venlo City Hall.



The absence of glues and other chemicals makes the inner leaves completely Cradle to Cradle. In case of a future internal refurbishing all the wood can be disassembled and up-cycled into new and useful products.

### Costs

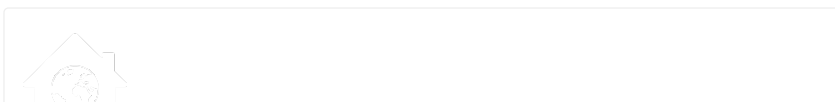
### Contest

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

The Venlo City Hall is not only unique for it being the first public Cradle to Cradle building on this scale in the Netherlands, it is also unique that it filters the surrounding air from pollutants with its green façade while using very little energy in general by harnessing natural airflows and a well-balanced internal climate. The Cradle to Cradle philosophy was part of the whole design and materials were chosen for their sustainability in their full life-cycle. The investments in energy efficiency will be cost effective within three years.

The office floors are divided into domains, thereby increasing the flexibility. Each domain has a diverse cluster of zones with different qualities and functions. This makes it possible for each individual to find the workplace best suited for their activities. The floors and open spaces are arranged so that each workplace receives the best possible amount of daylight. Green open spaces and stairs that promote interaction create a working environment that doesn't end at the office floor. "Meeting others" is the heart and soul of the Venlo City Hall.

#### Building candidate in the category





Low Carbon

# Green Building Solutions Awards 2016

powered by  Construction21.org



Smart building



Sustainable Construction Grand Prize



Users' Choice Award

