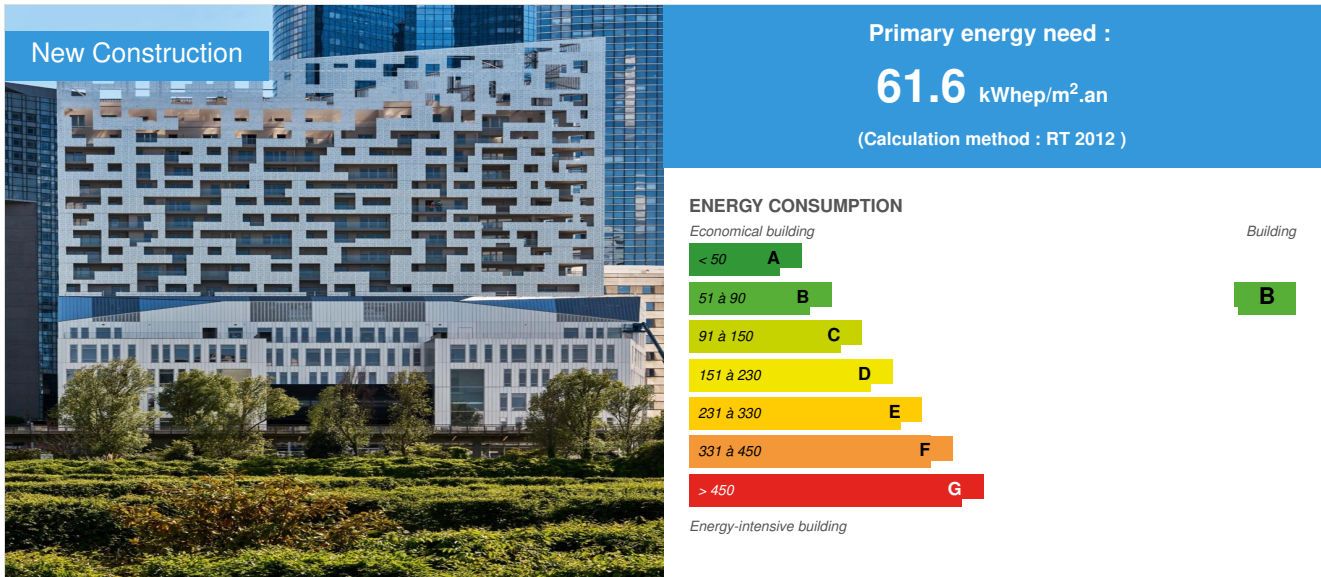


# The Skylight building - Campusea Grande Arche

by Alizée Litzler / © 2021-03-18 15:20:27 / France / 3991 / FR



**Building Type :** Student residence  
**Construction Year :** 2015  
**Delivery year :** 2017  
**Address 1 - street :** 1-3 Terrasse Valmy 92800 PUTEAUX, France  
**Climate zone :** [Cfb] Marine Mild Winter, warm summer, no dry season.

**Net Floor Area :** 11 357 m<sup>2</sup>  
**Construction/refurbishment cost :** 23 700 000 €  
**Cost/m<sup>2</sup> :** 2086.82 €/m<sup>2</sup>

**Certifications :**



## General information

Skylight - Campusea Grande Arche is the first residential program built for 30 years in La Défense, the business district of Paris. This lighthouse of beauty reaches the highest degree of modernism and technicality in symbiosis with humans and nature. Placed next to the Arche de La Défense, it stretches towards the sky with a luminous, dynamic and colorful headdress at its summit, animated in coordination with the public spaces of the Jardins de l'Arche.

The real estate complex offers a mix of uses and generations, between student residences and free-access housing, creating a new urban dynamic on this site with the arrival of students and young households.

Skylight - Campusea Grande Arche links the functions of the city together, offers a new centrality and recreates the link between La Défense, which is predominantly tertiary, and the predominantly residential terraces district of Nanterre, enjoying an exceptional view of the Grande Arche and the the Jardin de l'Arche district.

This building contributes to the renewal of La Défense through its architectural innovation designed to echo the urban environment, contributing to a gentle integration: the shiny materiality of the buildings evokes the codes of the facades of office buildings and the opening of balconies and terraces in facade refers to residential attributes. But also by the materials used for its facades (steel, annealed mirror, ...). Surrounded by glass towers, the Skylight building adopts a metallic

appearance in order to protect the privacy of its occupants.

A unique architecture, a new landmark in La Défense, which can be seen from afar from all over Paris.

The building, which rises over 18 floors, includes:

- a student residence with 168 housing units distributed around a compact central nucleus. These floors are student accommodation optimized in terms of space and natural lighting and benefiting from shared spaces on the ground floor (cafeteria, office, laundromat, etc.)
- a program of 113 housing units, from studios to 2 rooms exclusively. Located between the 10th and the 18th floor, the home ownership units feature top-of-the-range services, double or triple orientation, as well as loggias-balconies offering unobstructed views and beautiful light to most of the apartments.

This program meets the RT 2012 EFFINERGIE + environmental criteria and the Habitat and Environment Profile A standard.

## Sustainable development approach of the project owner

Nexity is convinced that the city of tomorrow will have to combine urbanity and intensity. The city of tomorrow is the multidimensional city where it is good to live and work, where the rhythm, uses, modes of circulation and exchange are "urban", designed on the right scale. That of the district and beyond, of the municipality or even of the agglomeration: because the living city is balanced and mixed.

As the owner of Skylight - Campusea Grande arche, Nexity deploys its conviction: a building in the heart of the business district of Paris combining a mix of uses and generations.

## Architectural description

Skylight - Campusea Grande Arche is covered with perforated cassettes in natural anodized aluminum. Its shape comes directly from the size constraints imposed by the urban regulations of the area concerned. Located in an enclave of Puteaux on a triangular plot open to the north, directly above two metro lines and a motorway tunnel, the building has indeed been geometrically constrained.

Louis Paillard added a touch of humor to his colonnade by multiplying the references to other renowned architects, and in particular the "V" column inherited from Le Corbusier or the cross-shaped column, dear to Mies van der Rohe, which adjoins round and square columns.

The base of the tower is marked by cutouts, linked to obligations of passage vis-à-vis the emergency exit of an adjoining hotel or a problem of access to firefighters. Town planning rules have shaped the south face in particular the minimum distance from the edge of the plot (1.90 meters) to obtain the right to create openings in the facade. The tower is at the maximum volume of the possibilities of the plot.

The metal facades extend beyond the symbolic cap roof. A wish of the mayor of Puteaux who wanted a strong identity for the apartment building, the first to be built in the district for about thirty years.

## Photo credit

UMLAUT - Monsieur Christophe VALTIN - 66bis rue Daguerre - 75014 PARIS

## Stakeholders

### Contractor

Name : SCI PUTEAUX VALMY

### Construction Manager

Name : Louis Paillard Architecte

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

### Stakeholders

Function : Construction Manager

SEERI

<https://www.nexity.fr/ville/paris/actualites/realisation-seeri>

Project management

## Energy

### Energy consumption

Primary energy need : 61,60 kWhep/m<sup>2</sup>.an

Primary energy need for standard building : 81,30 kWhep/m<sup>2</sup>.an

Calculation method : RT 2012

Breakdown for energy consumption : Heating: 39.20 kWhep / m<sup>2</sup>.an DHW: 12.20 kWhep / m<sup>2</sup>.an Lighting: 4.50 kWhep / m<sup>2</sup>.an Auxiliaries: 5.80 kWhep / m<sup>2</sup>.an

## Envelope performance

Envelope U-Value : 0,78 W.m<sup>-2</sup>.K<sup>-1</sup>

Building Compactness Coefficient : 0,62

## Renewables & systems

### Systems

Heating system :

- Electric heater

Hot water system :

- Other hot water system

Cooling system :

- No cooling system

Ventilation system :

- Humidity sensitive Air Handling Unit (Hygro B)

Renewable systems :

- No renewable energy systems

## Environment

### Urban environment

Land plot area : 1 120,00 m<sup>2</sup>

The whole is part of the promenade of the arch, high-line inhabited around a new urban convergence constituted by the U-Arena, the university and the district of the terraces, and benefits from the proximity with the public transport hub, and the new public spaces linking La Défense to the surrounding municipalities.

SKYLIGHT is the ideal address that combines all the advantages of Defense. At the heart of the largest European business district bringing together the head offices of the largest French companies but also close to the Westfield Les 4 Temps shopping center and the CNIT.

SLYLIGHT is at the foot of transport: RER A, Metro line 1, Transilien with lines L and U, Tramway T2 and about fifteen bus lines.

## Products

### Product

PAC FACTOR 7

SOLARONICS

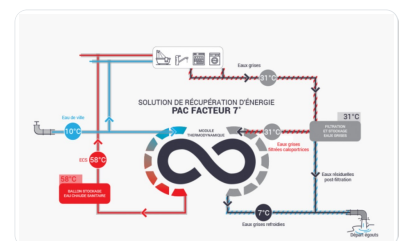
<http://www.solaronics.com/fr/eau-chaude-sanitaire/pac-facteur-7>

Product category : HVAC, électricité / heating, hot water

The entire production of domestic hot water (DHW) in the 282 housing units of Skylight - Campusea Grande Arche is provided by "PAC Factor 7", an innovative system combining the recovery of heat (calories) from gray water and a pump. heat (PAC).

The company Solaronics Chauffage has set up four "HP Factor 7" modules, covering a DHW need of approximately 18,600 L / d, in the basement of the Skylight - Campusea Grande Arche building: two modules for the hot water for the 113 housing units, two others for the 169-room student residence. The choice of installing two modules rather than a single one with double power allows the second to take over in the event of failure of the first.

Concretely, gray water from showers, bathtubs, sinks or washing machines is collected, filtered and then stored in two 8 m<sup>3</sup> tanks at an average temperature of 29



° C. This water crosses the city water in a counter-current plate heat exchanger patented by the company Solaronics Chauffage and is discharged at 8 ° C to the sewers. A reserve of clear water makes it possible to rinse the gray water circuit daily to prevent the deposit of biofilms and thus any risk of blockage. Thus, the temperature of the city water drops from a temperature of 10 ° C to around 26 ° C. Then, the heat pump takes over to raise the temperature of this water to 58 ° C. The city water heated in this way is stored in 10 1000 liter tanks for the student residence and in 4 1000 liter tanks for the apartments and ready to supply the users of the building. The coefficient of performance of DHW production is greater than five.

The operation is continuously monitored via ninety control points on the water loop by an automatic control system. The technicians are immediately notified in the event of an anomaly and also carry out a bimonthly visit to check the installation for preventive maintenance.

The cost including supplies, transport, installation and commissioning of the four "PAC Factor 7" modules represents approximately € 278,300 excluding VAT.

## Costs

### Construction and exploitation costs

Cost of studies : 600 000 €

Total cost of the building : 24 300 000 €

Subsidies : 150 000 €

## Carbon

### GHG emissions

GHG in use : 3,26 KgCO<sub>2</sub>/m<sup>2</sup>/an

## Contest

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

Premier programme immobilier à La Défense depuis 30 ans.

La totalité de la production d'eau chaude sanitaire (ECS) des 280 logements est assurée grâce la récupération des calories des eaux grises. L'eau provenant des douches, vaisselles ou encore lave-linges alimentent quatre PAC Facteur 7 de 40kW.

La gestion de toutes les contraintes a été rendue possible grâce au BIM et à Revit.

### Building candidate in the category



Energie & Climats Tempérés



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