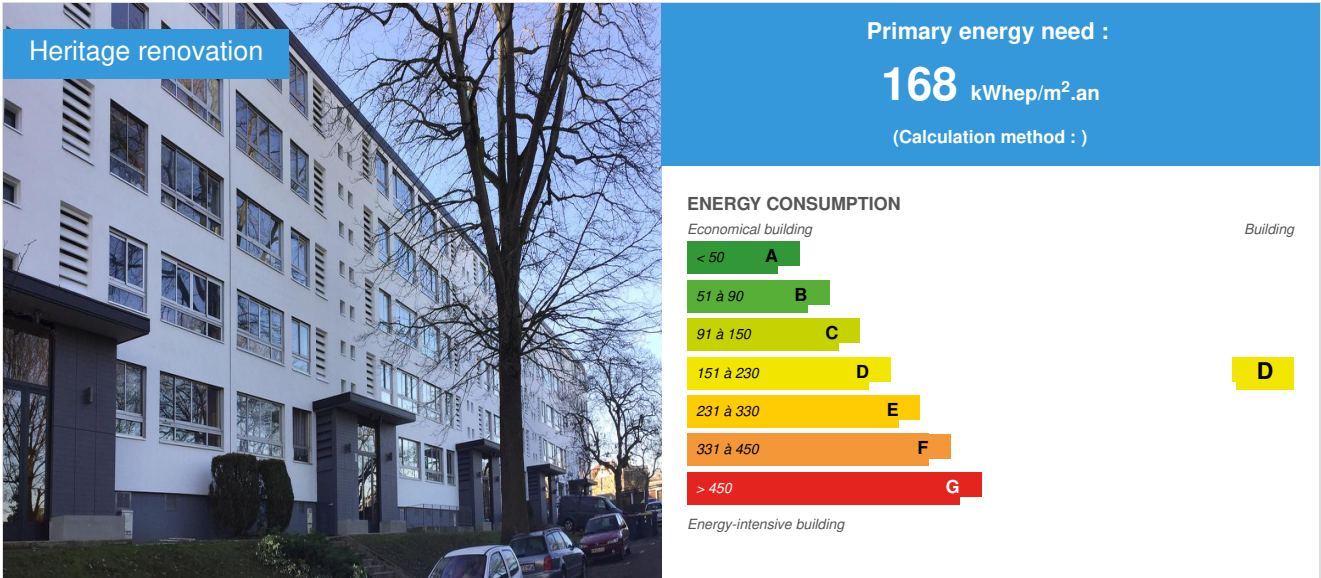


## Palaiseau condominium

by Philippe Alluin / 2019-04-30 14:22:27 / France / 5663 / FR



**Building Type** : Collective housing < 50m  
**Construction Year** : 1960  
**Delivery year** : 2018  
**Address 1 - street** : Parc d'Ardenay 91120 PALAISEAU, France  
**Climate zone** : [Cfb] Marine Mild Winter, warm summer, no dry season.

**Net Floor Area** : 28 059 m<sup>2</sup>  
**Construction/refurbishment cost** : 9 200 000 €  
**Number of Dwelling** : 395 Dwelling  
**Cost/m<sup>2</sup>** : 327.88 €/m<sup>2</sup>

Proposed by :



### General information

#### Reducing consumption while preserving the architecture of buildings

Built in the 60s by a disciple of Auguste Perret whose works are listed in the heritage of the 20th century, the buildings reveal a high-quality architecture: the apartments are in a balcony around a beautiful park, the facades on the tracks are pure and smooth, and the whole is largely glazed, which explains the high energy consumption.

The reduction of energy consumption could not be imagined without preserving the architecture of the buildings: the use of innovative techniques (injection of insulation into the air space and the use of airtight mattresses) made it possible to reduce consumption of 40% while respecting the architecture of the facades.

This operation is the largest project of energy renovation in co-ownerships in the Parisian region (excluding programmed operations).

#### Leading the co-ownership into a consensual project

Through the implementation of a generative, innovative condominium programming process, ReeZOME supports co-owners in a participatory approach, making

them stakeholders in the project from the early stages of the energy audit and the patrimonial diagnosis up to operational phases of financial engineering.

In terms of property valuation, the results obtained are very encouraging: the value of the apartments jumped on average by 29% after completion of the works, which confirms the reality of the Green Value. The value of the property is significantly higher than the investment that has been made by each co-owner, without even reasoning financial aid and energy savings.

### Adapted support

The operation was supported by the Essonne Department, Ile-de-France Region and ANAH.

ReeZOME <http://www.reezome.com> conducted this operation as part of a project management assistance (AMO) mission, including global audit, technical design, financial engineering and communication. project, financial arrangement and representation with institutional bodies, support of co-owners during the implementation, management and closing of the operation.

Project management was provided by A & M Architecture <http://www.groupe-aetm.com/architecture.html>

## Sustainable development approach of the project owner

The reduction of energy consumption could not be imagined without preserving the architecture of the buildings: the use of innovative techniques (injection of insulation into the air space and implementation of mattress of aerogels) has allowed to reduce consumption by 40% while respecting the architecture of facades. The renovation was also imagined in a global way by intervening on all the positions of wastage (walls, roofs, ceilings of the cellars, ventilation, sheaths on stages, doors of entries) so that the energetic and environmental gains are striking and real. It was also important for the building owner to significantly improve the winter / summer thermal comfort and to eliminate the high humidity due to the wooded park and ventilation that was non-existent.

## Architectural description

The property complex consists of 7 buildings, 38 staircases and 395 dwellings. It is located on a plateau in a beautiful park.

## If you had to do it again?

It would be interesting to work on the surrounding area

## See more details about this project

<http://www.reezome.com/palaiseau.html>

## Stakeholders

### Contractor

**Name :** Copropriété du parc d'Ardenay

**Contact :** IMMO DE FRANCE, il01 30 24 99 00

### Construction Manager

**Name :** A&M ARCHITECTURE (GROUPE A&M)

**Contact :** 01 46 04 57 55

<http://www.groupe-aetm.com>

### Stakeholders

**Function :** Assistance to the Contracting Authority

REEZOME

01 41 31 51 50

<http://www.reezome.com/index.html>

## Energy

### Energy consumption

Primary energy need : 168,00 kWh/m<sup>2</sup>.an

Primary energy need for standard building : 250,00 kWh/m<sup>2</sup>.an

Calculation method :

Breakdown for energy consumption : Collective heating, individual ECS partly gas, partly electric

## Real final energy consumption

Final Energy : 150,00 kWh/m<sup>2</sup>.an

## Envelope performance

More information :

Combined insulation in injection facades of graphite polystyrene beads and external insulation in polystyrene graphite panels

Insulation of roof terraces

## Renewables & systems

### Systems

Heating system :

- Condensing gas boiler

Hot water system :

- Individual electric boiler
- Individual gas boiler

Cooling system :

- No cooling system

Ventilation system :

- humidity sensitive Air Handling Unit (hygro A)

Renewable systems :

- No renewable energy systems

## Environment

### Urban environment

The 7 buildings are located on a plateau in a wooded park near the center of Palaiseau (Paris Suburb)

## Products

### Product

Injection of insulation in the thickness of the walls and ceilings of the cellars

BATI TECHNIQUE

03 85 29 18 28

<http://www.bati-technique.com>

Product category : Second œuvre / Cloisons, isolation

Injection of polystyrene beads in the thickness of the walls allowing frontage, to reduce the thickness of insulation in frontage and to keep the windows almost to the bare outside. In the ceiling of the cellars, the technique avoids a ceiling height too low and the management of congestion linked to the networks.



## Costs

## Construction and exploitation costs

Total cost of the building : 9 200 000 €

Subsidies : 640 000 €

## Carbon

### GHG emissions

GHG in use : 30,00 KgCO<sub>2</sub>/m<sup>2</sup>/an

GHG before use : 42,00 KgCO<sub>2</sub>/m<sup>2</sup>

Building lifetime : 60,00 année(s)

Life cycle in use years : 1.4

## Contest

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

- Renovation overall with thin insulation in front to keep the windows close to the bare exterior facades
- Injection of insulation inside facades and floors
- Use of high performance insulation for the treatment of thermal bridges



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