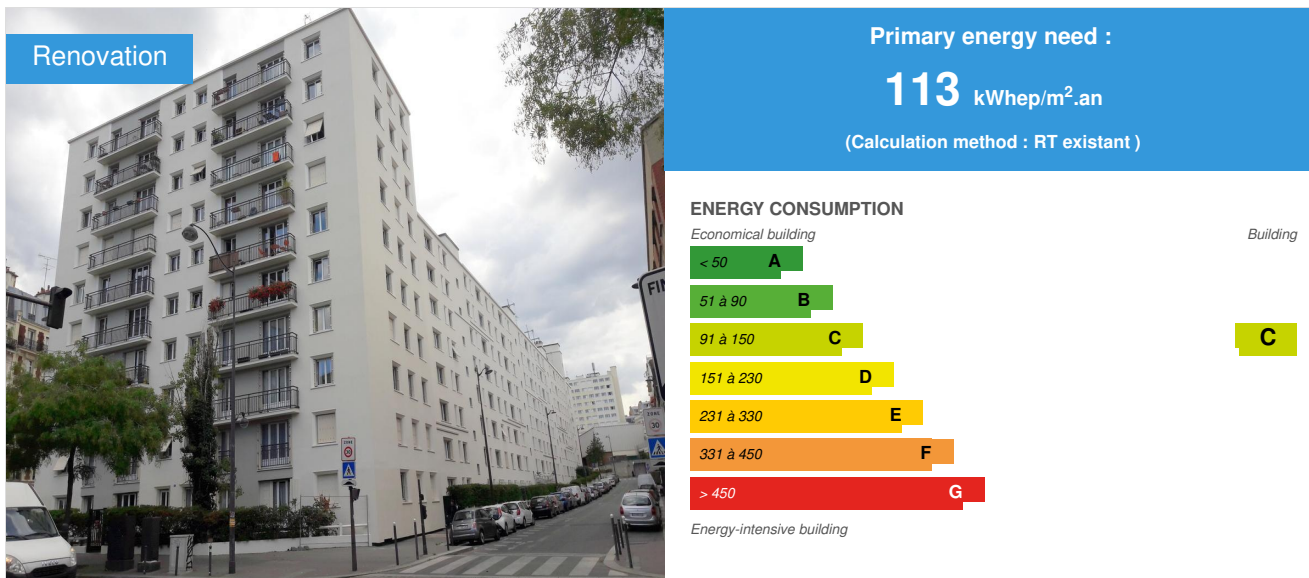


## Bizot Residence

by Jean-Luc PERRIN / 2019-01-28 16:12:36 / France / 6147 / FR



**Building Type** : Collective housing < 50m  
**Construction Year** : 1959  
**Delivery year** : 2018  
**Address 1 - street** : 117 avenue du Général Michel Bizot 75012 PARIS, France  
**Climate zone** : [Cfb] Marine Mild Winter, warm summer, no dry season.

**Net Floor Area** : 10 885 m<sup>2</sup> SHON  
**Construction/refurbishment cost** : 2 473 701 €  
**Cost/m2** : 227.26 €/m<sup>2</sup>

### General information

This condominium of the 12th district of Paris, built in 1959, passed by a real renovation process. It is the regulatory obligation to carry out a clean-up that was the starting point, with support from the PCA.

Although some substantial work had already been done - renovation of the boiler room and repair of some terraces with insulation - the exact needs remained poorly identified.

A global audit of this condominium in 2014, decided by the union council, was a prerequisite for taking the relevant decisions for thermal improvement.

Consult the map of renovated condominiums on the Paris metropolis  
<https://paris.coachcopro.com/pages/carte-des-coproprietes-renovees>

### Sustainable development approach of the project owner

**An ambitious isolation scenario for the condominium was adopted** in the fall of 2014, after the presentation of the audit results. Following the choice of the project management, a **collaborative work** was carried out, involving a working group within the condominium with the support of the APC and the REANOVA project management agency. Its objective: to consult on the design phases of the project, evaluate the calls for tenders and finally, **inform the co-owners** about the work before the vote. At the 2016 general meeting, the co-owners voted almost two-thirds in favor of the works. Among the different scenarios proposed the following interventions were decided:

- Insulation of facades from the outside and replacement of shutters.

- Establishment of a humidity-sensitive ventilation.
- Insulation of low floors.
- Replacement of the original joinery.
- Waterproofing and insulation of the terrace of building 5
- Redesign of basement lighting.

## Architectural description

Buildings A, B and C offer a beautiful exhibition on the South, East and West. The buildings are actually one and the same building from an energy point of view. It's very compact with a very simple architecture. The buildings are relatively small, but the main windows are the largest on the best directions, providing a comfortable energy supply.

The concrete structure has been preserved and enhanced by the gardens at the entrance areas. The facades are highlighted and volumes are valued, while wooden finishes complete the renovation of the covered areas.

## See more details about this project

<https://paris.coachcopro.com/fiche-de-site/58c9ae38-fb9e-4430-afc5-3dd7f068e935>

## Stakeholders

### Contractor

**Name :** Syndic Valière-Cortez / contact: Mme Sollier

**Contact :** 7, boulevard Diderot 75012 PARIS

### Construction Manager

**Name :** Reanova

**Contact :** M. Hugonenc

<http://www.reanova.fr>

### Stakeholders

**Function :** Company

Atelier des Compagnons

M.Fernandes

<http://www.latelier-sas.com/>

Basement ceiling insulation, insulation of all facades, installation of metal shutters in RdC and PVC for floors.

**Function :** Company

Lorillard - Lorenove

grands-comptes@lorenove.fr / M.Letoffet

<http://www.lorillard.fr>

Joinery

**Function :** Other consultancy agency

Pouget Consultants

coproprietes@pouget-consultants.fr

<http://www.pouget-consultants.eu/>

Waterproof ventilation. Definition for the apartments of the necessary air inlets via dry rooms and extraction outlets.

**Function :** Company

Descamps

M. Charbonnier / contact@descamps-ventilation.fr

<http://www.descamps-ventilation.fr/>

Ventilation

**Function :** Company

ITEC

M. Da Silva

Total reconstruction of the terrace of building 5: insulation (12cm of polyurethane) and waterproofing. (The other terraces were redone before in 2013 and 2014)

Function : Company

Cascarini

Redesign of basement lighting: LED cabling and ceiling lights

## Type of market

Global performance contract

## Energy

### Energy consumption

Primary energy need : 113,00 kWh/m<sup>2</sup>.an

Primary energy need for standard building : 130,00 kWh/m<sup>2</sup>.an

Calculation method : RT existant

Breakdown for energy consumption : Heating consumption: 52 kWh/m<sup>2</sup>

Lighting: 7 kWh/m<sup>2</sup>

All uses: 78 kWh/m<sup>2</sup>

The lighting is reviewed with LED luminaires managed by presence detectors in the halls and unheated premises (except the boiler room), this self-regulation system is completed by timers.

Initial consumption : 260,00 kWh/m<sup>2</sup>.an

### Envelope performance

Envelope U-Value : 1,02 W.m<sup>-2</sup>.K<sup>-1</sup>

More information :

Insulation of facades:

- Thin coating on 160 mm rock wool insulation on common facades.
- Thin coating on 90 mm resilient foam insulation on balconies.
- Ventilated facade in wood-effect laminated panel on glass wool insulation of 14 cm on the ground floor and 1st floors.

Initial Ubat: 2.67 W / m<sup>2</sup>.K

## Renewables & systems

### Systems

Heating system :

- Condensing gas boiler

Hot water system :

- Individual gas boiler

Cooling system :

- No cooling system

Ventilation system :

- Humidity sensitive Air Handling Unit (Hygro B)

Renewable systems :

- No renewable energy systems

Other information on HVAC :

- The CTA has been renovated with single flow ventilation.

- Heating with 2 boilers De Dietrich C610 -1140, modulating and gas recovery (Boiler completely redone in 2007 by Cofely - Contract P1, P2 and P3)

### Urban environment

Building located in dense and mixed urban area (Paris), with gardens and courtyards.

## Products

### Product

ITE insulation Webertherm XM ultra 22 wedged-pegged

Weber Saint-Gobain

<http://www.fr.weber>

**Product category :** Second œuvre / Cloisons, isolation

ITE system with stretched sololic foam and undercoated with aerated lime:

- Maximum insulation with minimum thickness:  $\lambda$  0.022.
- Good behavior in fire resistance.
- Does not require any tape integration for fire protection.
- The flexibility of implementation of a mineral undercoat with air lime.
- Multitude of choice of finishes: silicates, organic, mineral thin or semi-thick.
- Resistance in depression to the wind.



Joinery PVC range Design 5

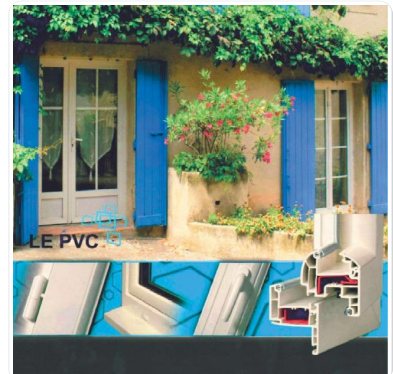
Lorillard

<http://www.lorillard.fr>

**Product category :** Second œuvre / Cloisons, isolation

The PVC joineries range DESIGN 5 are intended for the collective buildings, individual constructions, as well for the new works as for the works of rehabilitation.

- These joineries are made from multi-chamber profiles in new generation PVC with reduced tolerances, tinted in the mass white tone Lorillard design, integrated into the REHAU range.
- The insulating double glazing of 28 mm total thickness according to the description of the CCTP of the lot Exterior joinery is certified CEKAL.
- The profile has 5 rooms, used to design the range Design 5 was studied to ensure a perfect thermal insulation of joinery. The range is equipped with double or triple glazing. ( $UW = 1.0W / m^2K$  for triple glazing).



VMC regulating humidity and indoor temperature.

Ventilation and indoor air quality improved.

## Costs

### Construction and exploitation costs

**Cost of studies :** 42 900 €

**Total cost of the building :** 2 473 701 €

## Health and comfort

### Indoor Air quality

The absence of building insulation and poor ventilation were detrimental to the indoor air quality and the comfort of the inhabitants. Thanks to this renovation:

- The ventilation maintains hygrometry permanently between 40% and 70%.
- The air change is permanent, and the sanitary quality of indoor air improved.

#### Principle of ventilation :

- Air entrances on joinery in dry rooms (living room, bedroom, living room).
- The low ventilation grilles (air inlets of damp rooms) are blocked by PVC sheets.
- The doors are cut off.
- Extractions of air are made by wet rooms: extraction vents connected to SHUNT ducts.

#### Benefits of renovation:

- Air quality and interior comfort.
- Disappearance of building pathologies due to poor renewal of indoor air (mold).

## Comfort

#### Health & comfort :

The insulation and the double glazing make it possible to increase the surface temperatures of the walls. The work also helped treat thermal bridges (avoid condensation and mold formation around the windows). The renovation thus ensures a minimum comfort temperature for everyone and eliminates the associated health risks.

## Carbon

### GHG emissions

GHG in use : 19,00 KgCO<sub>2</sub>/m<sup>2</sup>/an

#### Methodology used :

GHG emissions concern consumption of heating, DHW and cooling. Emissions GHG before renovation: 50 KGCO<sub>2</sub> / M<sup>2</sup> / AN

GHG and energy label according to CSTB THCEX V.1.0.3 engine

### Life Cycle Analysis

#### Eco-design material :

The insulation of all the concrete facades was done thanks to a mineral coating. Detail of the insulation under plaster: 16 cm of mineral wool. Insulation of paintings, lintels and window sills using a 3 cm thick woolen insulation.

## Contest

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

Among the different scenarios proposed the following interventions were decided:

- Insulation of facades from the outside and replacement of shutters.
- Establishment of a humidity-sensitive ventilation.
- Insulation of low floors.
- Replacement of the original joinery.
- Waterproofing and insulation of the terrace of building 5
- Redesign of basement lighting.

### Building candidate in the category



Energie & Climats Tempérés

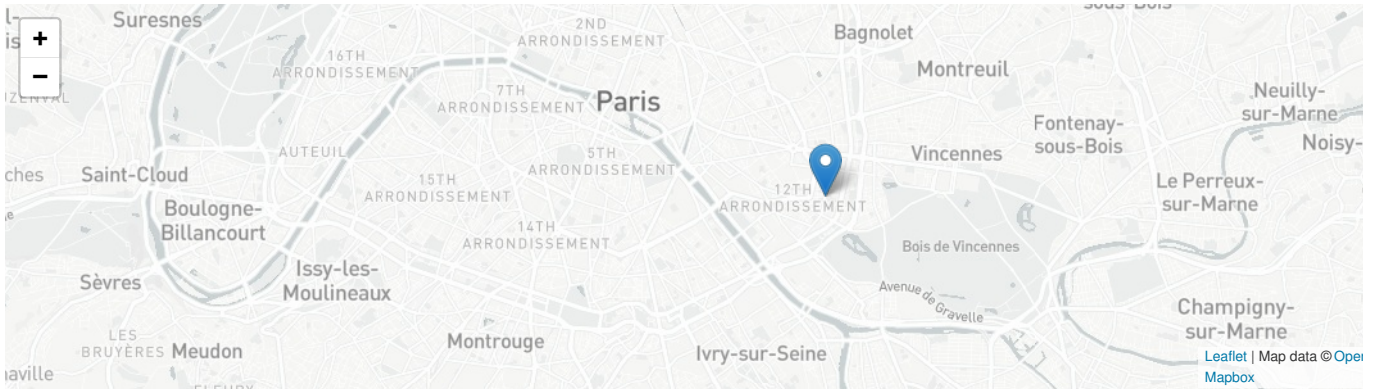




Prix du public



Prix des Etudiants



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