


## Rehabilitation of the Chedigny Presbytery

by Emmanuel d'Envirobot Centre / 2019-06-06 18:04:23 / Francia / 4130 / FR



Renovation

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**Primary energy need :**  
kWhep/m<sup>2</sup>.an  
(Calculation method : )

**ENERGY CONSUMPTION**

Consumption Range (kWhep/m <sup>2</sup> .an)	Energy Class
< 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 Building  
Energy-intensive building

**Building Type** : Other building  
**Construction Year** : 1600  
**Delivery year** : 2017  
**Address 1 - street** : 5 Place de la Mairie 37310 CHÉDIGNY, France  
**Climate zone** : [Cfb] Marine Mild Winter, warm summer, no dry season.

**Net Floor Area** : 280 m<sup>2</sup>  
**Construction/refurbishment cost** : 390 731 €  
**Number of none** : 7 none  
**Cost/m2** : 1395.47 €/m<sup>2</sup>

Proposed by :



### General information

The village of Chédigny enjoys a certain notoriety because of the quality of its development by some 800 rosebushes (including 200 of "old" variety). This qualitative character of the village, in particular linked to its good environmental management, allowed it to obtain the distinction of "remarkable garden". In this context, the development of the Presbytery and its "parish garden" is an element that complements this plant and cultural heritage. The presbytery was owned by the municipality and rented for decades to a family who had made his second home, with a rent more than modest. The tenant can not come on site and maintain the premises, so the municipality has decided to take over his building, to redevelop into bed and breakfast and the surrounding closed field to make a garden priest as he was probably at the origin. The building was no longer habitable in the state, the heating oil obsolete, the joinery not waterproof, the ceilings not isolated.

### Sustainable development approach of the project owner

Attention has been paid as much as possible on the use of local and recyclable materials. It was favored the clay that comes from a local production (about 50 km), as well as straw rapeseed produced within a radius of 25 km. A parish garden has been developed, with the planting of many plants, fruit trees from old local

species somewhat forgotten, annuals and perennials of local origin.

## Architectural description

The architectural qualities of the building will be preserved and improved: -the wooden joinery will be replaced by woodwork of the same type, same material and same invoice, while having the qualities required to meet the requirements of sufficient energy saving recommended today by the thermal offices.-the coldest walls located on the north facade of the building will be doubled and insulated with materials corresponding to the thermal regulation required in existing buildings, as well as for the attic where will be unrolled from the Mineral wool in 300 mm minimum.-Tiles and old parquet will be preserved and restored, as well as all the remarkable architectural pieces, such as stairs, interior doors, beams, plastered ceilings, etc.-the roof in small flat country tiles, currently in poor condition will be restored to the same existing with materials reuse.

## See more details about this project



[http://www.envirobatcentre.com/upload/document/biosource/palmares/2017/participants/FILE\\_5a20267f999ff\\_10\\_\\_chedigny\\_\\_presbytere\\_vf.pdf/10\\_\\_chedigny\\_\\_presbytere\\_vf.pdf](http://www.envirobatcentre.com/upload/document/biosource/palmares/2017/participants/FILE_5a20267f999ff_10__chedigny__presbytere_vf.pdf/10__chedigny__presbytere_vf.pdf)

## Photo credit

Chédigny town hall

## Stakeholders

### Contractor

**Name :** Commune de CHEDIGNY

**Contact :** communication.chedigny[at]gmail.com

<https://www.chedigny.fr/>

### Construction Manager

**Name :** Commune de CHEDIGNY

**Contact :** communication.chedigny[at]gmail.com

<https://www.chedigny.fr/>

### Stakeholders

**Function :** Thermal consultancy agency

ENERYA

info[at]enerya.fr

<https://www.enerya.com.tr/>

**Function :** Thermal consultancy agency

ENERGIO

accueil[at]energio.fr

<http://www.energio.fr/>

**Function :**

Entreprise LAURENCON -Entreprise BVI- Entreprise DOMINGUES

Companies of biobased lots

## Energy

### Energy consumption

**Breakdown for energy consumption :** Need for heating: 39kWh/m<sup>2</sup>.an

### Real final energy consumption

Final Energy : 85,00 kWh/m<sup>2</sup>.an

## Envelope performance

More information :

Roofing: Up = 0.13 W / m<sup>2</sup>K

Floor Low: Up = 2 W / m<sup>2</sup>K

## Renewables & systems

### Systems

Heating system :

- Boiler fuel
- Heat pump
- Electric radiator

Hot water system :

- Individual electric boiler

Ventilation system :

- Nocturnal Over ventilation

Renewable systems :

- No renewable energy systems

## Products

### Product

Materials implemented

-Structure: Moellons and cut stone

-Isolation: Wood wool / clay mix, natural lime and rapeseed straw chips

-Exterior coating: lime plaster sand and plaster

-Interior furnishings: Wood

**Product category :** Table 'c21\_spain.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 = '9'

DRC

Peripheral walls

Walls of 50 cm in rubble and stone (tuffeau), covered with a lime sand and plaster.

- Pursed walls to rid them of all their old disparate coatings,

-Isolation by adding by bunching a clay / lime mixture

-natural and rapeseed straw chips with a thickness of about 15 cm.

-Finition made by applying a coating of the same kind, but with much finer shavings of hemp fiber.

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Floor - Peripheral Walls

Insulation with 15 cm thick wood wool panels.

**Product category :** Table 'c21\_spain.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 = '9'

Intermediate floor Oak joists of 20/20 on which are laid mud floors 12 to 15 cm thick over a large part, with a floor tiles old tiles, and oak flooring on a part more small (about 1/3 of the surface).

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Low Up Floor: W / m<sup>2</sup>K Low floor partly on solid ground, partly on vaulted cellar, flooring and two different types. Part is poplar flooring traditional laying, and another part of the building (about 2/3) is terracotta tiled from the beginning of the 20th century. All these elements have been preserved and restored.

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roofing

Traditional roof with two sides at 45 °, made of small flat country tiles.

The insulation under the slope and partly in the flat ceiling, is made by two crossed layers of wood wool panels of 2 times 15 cm thick.

## Costs

### Construction and exploitation costs

Total cost of the building : 390 731 €

## Health and comfort

### Indoor Air quality

Over-ventilation of the building has been deployed to guard against the risk of entraining water vapor in the walls following their implementation.

### Comfort

#### Health & comfort :

A garden in the streets, rose bushes climb on the facades, sidewalks have given way to shrubs of roses, perennials and bulbs. A flower village with 800 roses, thousands of perennials and bulbs.

The garden gathers different varieties: old vegetables, annual and perennial flowers, medicinal and auxiliary plants, orchard.

The vault is bloomed with rosebushes and clematis trellised by some braces of wire which allows to obtain a stained glass effect. In the center of the vault, apple trees and pear trees.

The walker is invited to cross this long flowery and greedy vault to discover the "square of the apothecary" or the garden of simple (the priest used frequently the medicinal plants to cure). In the center a basin, evokes the baptistery by welcoming the water and the heavens. The pergola has, on this side, arches in the shape of arches evoking a medieval cloister.

Then there is the garden of the highly symbolic cross, the quintessence of the parish garden with its friendly companion of familiar flowers, old and mossy roses, utilitarian plants. To feed they are grown vegetables, berries and condiments. In his heart is erected a high metal cross.

#### Acoustic comfort :

The presbytery has a banquet hall and often hosts concerts

## Carbon

### Life Cycle Analysis

#### Eco-design material :

The use of biobased materials has been favored to help preserve the intrinsic qualities of this building of the seventeenth century stone tufa. The peripheral walls of the ground floor are insulated by a mixture of clay and rapeseed straw and the insulation of the floor and the attic was made with wood wool and hemp wool. Thus the implementation of the clay / straw mixture on the ground floor is carried out as part of a research project currently under way locally on the development of an insulation based on plant aggregates.

## Contest

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

The project concerns the rehabilitation of the presbytery and its garden. The garden is open to the public, and the building has a reception area-tea room on the ground floor, a training area, and guest rooms on the floors (1st floor and attic). The use of biobased materials has been favored to help preserve the intrinsic qualities of this building of the seventeenth century stone tufa. The peripheral walls of the ground floor are insulated by a mixture of clay and rapeseed straw and the insulation of the floor and the attic was made with wood wool and hemp wool. the clay / straw mixture on the ground floor is produced as part of a research project under way locally on the development of an insulator based on plant aggregates. (Test of the conditions of implementation, the mixtures used as well as the drying times). The main limitation to the use of this mixture was the very long drying time which delayed the construction of several months. Over-ventilation of the building has been deployed to guard against the risk of entraining water vapor in the walls following their implementation. Another observation, that we were able to do is that the wood wool panels tended to settle over time, we had to pack the materials to the pose to limit the phenomenon. The joinery is manufactured by a company of the municipality that uses wood from a local sector. Wood wools have been favored for their thermal, ecological and recyclability qualities.

## Building candidate in the category



Energie & Climats Tempérés



Prix du public



Prix des Etudiants

