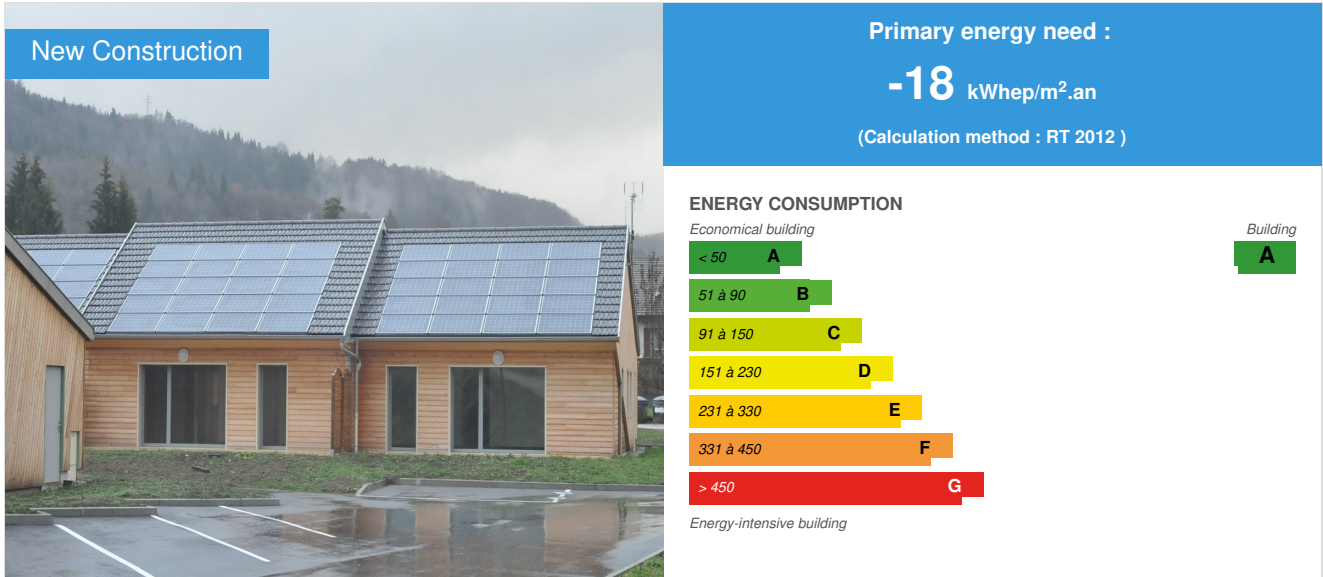


# 12 passive housing for seniors and people with reduced mobility

by Romain CLARET / 2022-03-29 00:00:00 / France / 1660 / FR



**Building Type** : Collective housing < 50m  
**Construction Year** : 2018  
**Delivery year** : 2019  
**Address 1 - street** : rue de ronchaud 39170 SAINT LUPICIN, France  
**Climate zone** : [Cbc] Mild, dry winter, warm and wet summer.

**Net Floor Area** : 836 m<sup>2</sup>  
**Construction/refurbishment cost** : 1 450 000 €  
**Cost/m2** : 1734.45 €/m<sup>2</sup>

**Certifications :**



## General information

Creation of 12 housing units for Seniors and PMR in the municipality of St Lupicin 39170. The request of OPH St Claude is to carry out a BEPOS project in wood frame and straw. The project management (Elie Bouche architect DPLG commissioned in November 2014 assisted by thermal engineer Romain Claret – PLAN 9) presents a team and leads the project to design a passive structure labeled by the Passiv Haus Institute. At the initiative of the project (2013) the BEPOS objective made it the first BEPOS social housing project in Bourgogne-Franche-Comté.

**Photo credit**

## Stakeholders

### Contractor

Name : OPH de SAINT CLAUDE / La maison pour Tous

Contact : Philippe BAILLY

<https://www.lmpt-coop.fr/>

### Construction Manager

Name : ATELIER DES MONTAINES

Contact : ELIE BOUCHE

### Stakeholders

Function : Thermal consultancy agency

PLAN 9

Romain CLARET

<https://www.plan-9.fr/>

Support for Passivhaus labeling

### Contracting method

Separate batches

### Type of market

Global performance contract

## Energy

### Energy consumption

Primary energy need : -18,00 kWh<sub>ep</sub>/m<sup>2</sup>.an

Primary energy need for standard building : 104,00 kWh<sub>ep</sub>/m<sup>2</sup>.an

Calculation method : RT 2012

CEEB : 0.0001

Breakdown for energy consumption : Heating 25.5 DHW 10 Lighting 1.1 Windward 3.8 Others 16.7

### Real final energy consumption

Real final energy consumption/m<sup>2</sup> : -22,00 kWh<sub>ef</sub>/m<sup>2</sup>.an

Year of the real energy consumption : 2 020

### Envelope performance

Envelope U-Value : 0,18 W.m<sup>-2</sup>.K<sup>-1</sup>

More information :

Exterior wall Wood wool 0,043 80

Straw 0,065 Wood 0,130 OSB 0,130 120

Straw 0,065 Wood fiber 0,043 OSB 0,130 140

Straw 0,065 Wood 0,130 OSB 0,130 120

OSB 3 0,130 15

Wood wool 0,040 0,130 40

Plaster 0,320 13

U-value = 0.115 W/(m<sup>2</sup>K)

Basement floor / floor slab Foam glass 0,093 400

concrete 2,100 250

U-value = 0.218 W/(m2K)

Roof Cellulose wool 0,047 480

Cellulose wool 0,047 Wooden structure 0,130 120

Empty space 1,220 200

Plaster 0,320 13

U-value = 0.077 W/(m2K)

Frame Paget Menuiserie, Schuco

U w-value = 0.8 W/(m2K) Glazing U g-value = 0.65 W/(m2K)

g -value = 63 %

Entrance door Minco Brenus

U d-value = 0.8 W/(m2K)

Indicator : n50

Air Tightness Value : 0,60

## More information

-34 kWhEP/m<sup>2</sup> according to RT2012 regulatory requirements Balance of consumption and photovoltaic production

## Renewables & systems

### Systems

Heating system :

- Electric radiator

Hot water system :

- Heat pump

Ventilation system :

- Double flow heat exchanger

Renewable systems :

- Solar photovoltaic

Renewable energy production : 100,00 %

Other information on HVAC :

Double flow ventilation with back-up by hot battery and additional towel dryer in bathrooms

4\*15 kWp of photovoltaic solar panels, producing an average of 4\*20,000 kWh per year

## Environment

### Urban environment

The construction is located in the center of the town, close to the shops. It is part of a rural area included in the Haut-Jura regional natural park, with many hiking trails and protected areas.

## Products

### Product

straw insulation

Product category : HVAC, électricité / lighting

Implementation of straw insulation

The natural straw insulation with a thickness of 45 cm makes it possible to naturally reinforce the insulation rate of the building. Combined with the photovoltaic panels, the building remains energy balanced throughout the year.

## Costs

### Construction and exploitation costs

Total cost of the building : 1 450 000 €

## Contest

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

- Des bâtiments passifs et confortables pour des publics vulnérables ;
- Utilisation de matériaux biosourcés et locaux : murs bois, isolation paille et fibre de bois, isolation laine de bois, isolation ouate de cellulose.

### Building candidate in the category



Prix du public

