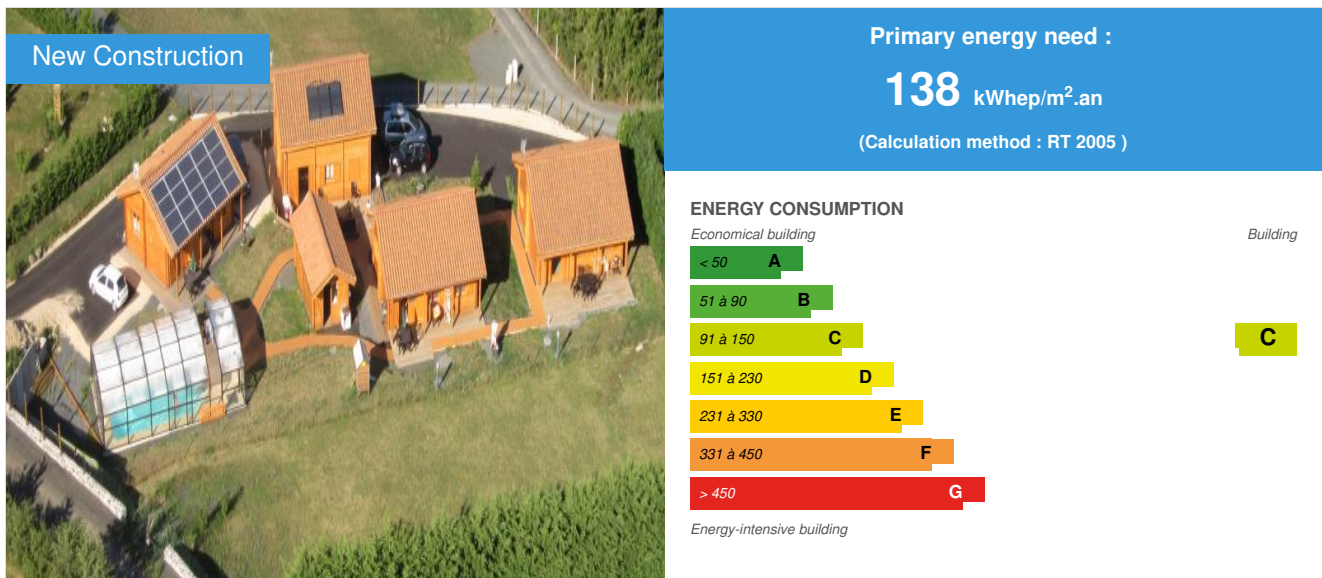


## Village of 4 eco friendly rental houses

by Guy SALAT / 2013-02-07 19:43:03 / France / 12867 / FR



**Building Type** : Hotel, boarding house  
**Construction Year** : 2010  
**Delivery year** : 2013  
**Address 1 - street** : Fraissinet 15100 SAINT FLOUR, France  
**Climate zone** : [Cfb] Marine Mild Winter, warm summer, no dry season.

**Net Floor Area** : 210 m<sup>2</sup> Other  
**Construction/refurbishment cost** : 354 166 €  
**Cost/m2** : 1686.5 €/m<sup>2</sup>

### General information

4 Rural biobased Bioclimatic at 1000m altitude, accessible, with successful applications of renewable energy (photovoltaics, solar water heaters, geothermal heating floors, Well "Auvergne").

Recovery of rainwater for toilets and washing machine, water source to 20m, light bulbs, electric hook for vehicles of the same name, solar pool shower ...

### Sustainable development approach of the project owner

Photovoltaic, Geothermal, Solar Water Heater, Rainwater, Spring Water, Light Bulbs Low Conso, Wells Canadian Tri-selective, Compost, Recycling glass bottles reuse, Etc ...

The pool is covered by a transparent shelter that allows a heating supplement - month of the year from 23 to 32 °. In winter geothermal heating to 20 ° to 24 °.

### Architectural description

4 Chalets made of wood / spruce.  
 Bioclimatic, Floors Geothermal heating by vertical 2 X 100m, Wall Insulation and Air 20cm foam under roof tiles Omega10 ...  
 No air conditioning: altitude 1000m

## Building users opinion

See assessments on the ad type into Google: "660876 ABRITEL" heading assessments and also says "ABRITEL 868572"

A tourist told me one day in 2011: "Sir with your exemplary achievement you should be recognized of public utility."

## If you had to do it again?

Choose by tenders more skilled craftsmen while limiting their number (+ plumber + electrician + heating renewables)

Look for examples of local authorities (unfortunately. .. Examples are scarce ...)

## Stakeholders

### Stakeholders

Function : Contractor

SALAT Guy et Grégory

SALAT Guy 15100 SAINT FLOUR

<http://gite.bon.air.stflour.free.fr/>

Function : Construction Manager

TARDIEU Joel Plombier Electricien Chauffagiste Energies Renouvelables

Tardieu joel et Salat Guy

<http://gite.bon.air.stflour.free.fr/>

### Contracting method

Separate batches

### Type of market

Global performance contract

## Energy

### Energy consumption

CEEB : 0.0001

Primary energy need : 138,00 kWh/m<sup>2</sup>.an

Primary energy need for standard building : 187,00 kWh/m<sup>2</sup>.an

Calculation method : RT 2005

Breakdown for energy consumption : 25,576 Kw to 220 m<sup>2</sup> of floor heating + heating of 44m<sup>3</sup> pool water

85 kW/m<sup>2</sup> = ECD (Class B at 1000m altitude)

### Real final energy consumption

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

### Envelope performance

More information :

Double wall wood is spruce 40mm, 100mm and 40mm air spruce is a wall of 180mm

### More information

Only the result counts ....DPE Estimate in February 2009 = 197 kw / m<sup>2</sup> D85 kW/m<sup>2</sup> reality in 2012 ===== Class B

## Renewables & systems

## Systems

### Heating system :

- Geothermal heat pump
- Low temperature floor heating
- Canadian well

### Hot water system :

- Individual electric boiler
- Solar Thermal

### Cooling system :

- Geothermal heat pump

### Ventilation system :

- Natural ventilation

### Renewable systems :

- Solar photovoltaic
- Solar Thermal
- Heat pump (geothermal)
- Heat Pump on geothermal probes

Renewable energy production : 40,00 %

## Environment

### Urban environment

Land plot area : 2 074,00 m<sup>2</sup>

Built-up area : 310,00 %

Green space : 200,00

Near a footpath on the one hand and the traffic route linking St flour C 44 (7000 inhab.). In the village Paulhac, 400 inhabitants.

Of the remaining 2 sides, 2 residential area of 1500m<sup>2</sup> each.

GPS N 45.03020 E 3.04150

## Products

### Product

BOIS SIPOC Belgique

SIPOC

Chrystelle COUCHOT

<http://www.sipoc.net/>

Product category : Structural work / Carpentry, cover, tightness

Construction wood planks 40mm spruce

Very competent company in construction of 40mm wood planks. Remarkable accuracy in measurements favoring the limitation of raw material waste (wood).

## Costs

### Construction and exploitation costs

Global cost/Bedroom : 14558.82

Global cost : 495 000,00 €

Renewable energy systems cost : 80 000,00 €

## Energy bill

Real energy cost/m<sup>2</sup> : 17.14

Real energy cost/Bedroom : 105.88

Forecasted energy bill/year : 3 600,00 €

## Health and comfort

### Water management

Water Self Sufficiency Index : 0.7

Water Consumption/m<sup>2</sup> : 0.43

Water Consumption/Bedroom : 2.65

Consumption from water network : 90,00 m<sup>3</sup>

Consumption of grey water : 150,00 m<sup>3</sup>

Consumption of harvested rainwater : 60,00 m<sup>3</sup>

Currently water network called "drinking" the city of SAINT FLOUR Soon networking groundwater to 20m bacteriological quality and an exceptionalexceptionally low mineral values between Volvic and Evian (especially recommended for pregnant women and infants ...

### Indoor Air quality

No Radon following Diagnosis Spruce wood coated with a clear glaze with a hint of "wood construction"

## Carbon

### GHG emissions

Building lifetime : 100,00 année(s)

### Life Cycle Analysis

Eco-design material : EPICEA WOOD

## Contest

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

1 chalet éco-construit en bois, orienté plein SUD pour Toit PHOTOVOLTAÏQUE Revendu à EDF 0,50€ Kw x 4,4Kw Crete

- Financierement = 3000€/an SUR 4000€ de consommation soit 75% financierement et 40% en autoproduction
- 1 chalet de 13 couchages Avec ECSolaire de 400l
- Géothermie pour les 4 planchers chauffants + chauffage eau de piscine
- 2 puits canadiens pour chauffage espace piscine + local technique
- Récupération eau de pluie pour WC et lave linge
- Eau de source en sous sol (pompage par pompe électrique)

### Building candidate in the category





Date Export : 20230320180137