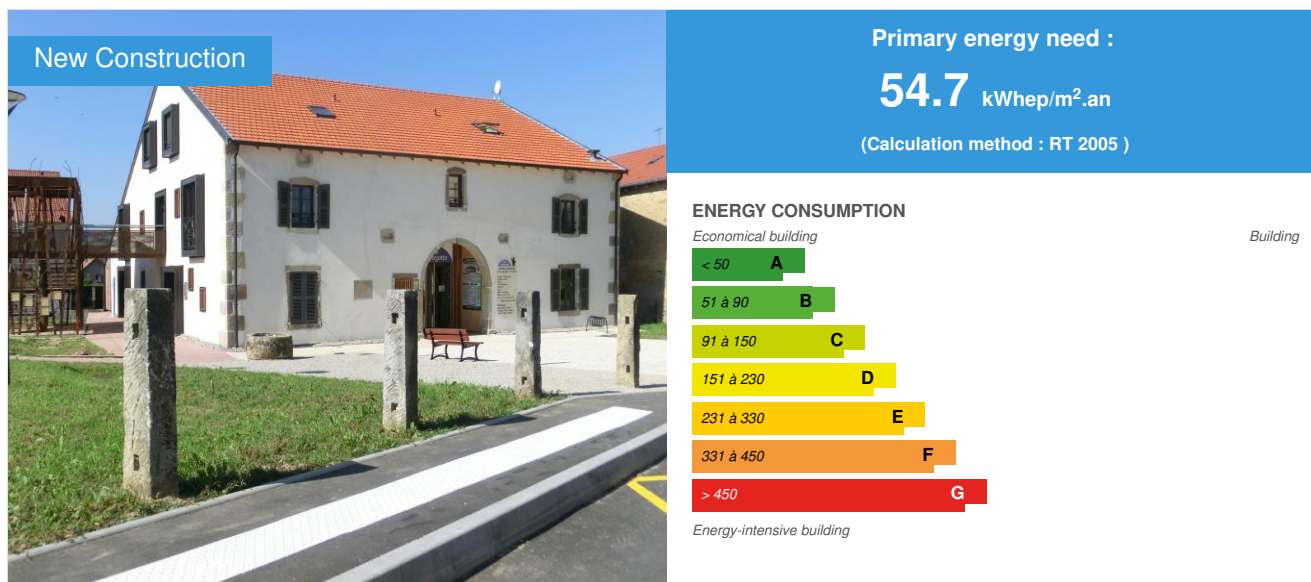


# Reconstruction of a farmhouse in shops, services and housing in Forges

by Envirobat Grand Est Communication / 2014-06-24 00:00:00 / France / 3451 / FR



**Building Type** : Collective housing < 50m  
**Construction Year** : 2011  
**Delivery year** : 2011  
**Address 1 - street** : 19 route de Mirecourt 88390 LES FORGES, France  
**Climate zone** : [Cfb] Marine Mild Winter, warm summer, no dry season.

**Net Floor Area** : 800 m<sup>2</sup> SHON  
**Construction/refurbishment cost** : 2 120 000 €  
**Cost/m<sup>2</sup>** : 2650 €/m<sup>2</sup>

## General information

- Self-declaration of BBC approach
- Prebat 2009 prizewinner

The project was initially a major renovation of an old farmhouse in the Vosges region, located in the historical center of the city. But the supervising office's refusal led to the total demolition of the building and its reconstruction in its original form.

The general design and the façade of the building have been preserved in order to fit 4 housings, an agricultural and food products' shop and a local for nurses and veterinarians.

After demolition, the cornerstones, the vault of the carriage gateway and window frames were refitted. Floor slabs and walls' rubble stones were reused.

## Sustainable development approach of the project owner

- Self-declaration of BBC approach
- Prebat 2009 prizewinner

Low environmental impact building site:

- Prefabrication of the wooden structure
- Charter of green building site, dry toilets

#### Business waste:

- Waste sorting, composting, shelter for waste containers

#### Acoustic comfort

- Sound insulation: walls: 14.7 cm cellulose + 4cm wood / Floors: rigid wood wool
- Sound attenuators (ventilation ducts)

#### Visual comfort

- External blinds (South + West)
- Skylights

## Architectural description

The project was initially a major renovation of an old farmhouse from the Vosges in the commune centre. But the supervising office's refusal led to the total demolition of the building and its reconstruction in its original form.

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#### Green Spaces:

Green spaces, flowery meadow, fruit trees

Orientation: North-South-East-West (South frontage mostly glazed).

## See more details about this project

<http://www.lqe.fr/home/upload/fiches/FicheFermeForgeronneLesForges.pdf>

## Stakeholders

### Stakeholders

Function : Contractor

Commune Les Forges

Function : Designer

Vitalis Architecture

<http://vitalis.architecture.pagesperso-orange.fr/>

Function : Designer

Ascendense Architecture

Function : Others

B. Kubler

<http://www.kubler-paysage.fr/>

Function : Other consultancy agency

Trigo

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

Function : Thermal consultancy agency

Permanergie

Function : Others

Apave

<http://www.apave.com/>

Function : Company

FG construction

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Function : Company

Socopa

<http://www.constructions-socopa.fr/>

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Function : Company

Ecodenn'Ergie

<http://ecodenn.monsite-orange.fr/>

## Type of market

Global performance contract

## Energy

### Energy consumption

Primary energy need : 54,70 kWh<sub>ep</sub>/m<sup>2</sup>.an

Primary energy need for standard building : 169,00 kWh<sub>ep</sub>/m<sup>2</sup>.an

Calculation method : RT 2005

CEEB : 0.0001

### Envelope performance

More information :

Materials

- Structure: Monomur, wood
- Insulation: Monomur bricks (37cm), wood wool (4cm), cellulose wadding (12cm)
- Floors: prefinished engineered hardwood floor, cement and woodchips screed, linoleum, wood floor, porcelain tiles
- Frontage: rubble in existing reused sandstone, lime plaster on reeds, wall paneling in zinc
- Windows and doors: Wood.
- Insulation: internal, external, distributed
- Glazing: double, triple (North)
- Sun protections: external blinds and wooden shutters

## Renewables & systems

### Systems

Heating system :

- Wood boiler

Hot water system :

- Other hot water system

Cooling system :

- No cooling system

Ventilation system :

- Double flow heat exchanger

Renewable systems :

- Wood boiler

- Heating: wood/pellets boiler, heat recovery provided by the refrigeration unit
- ECS: wood/pellets boiler
- Thermal bridges: thorough study (stones from the previous building were reused for the frame)

### Smart Building

BMS :

Technical room accessible from outside

## Environment

### Urban environment

"Town center" for the inhabitants (meeting spot, pedestrian crossings)

## Costs

### Construction and exploitation costs

Cost of studies : 212 249 €

Total cost of the building : 2 120 000 €

Subsidies : 826 188 €

## Health and comfort

### Water management

- Infiltration of rainwater by landscaped ditches
- Green roof
- Flow restrictor and wells

### Indoor Air quality

- VOC free material
- Ventilation: single flow (shop) double flow (offices and housing)

## Carbon

### GHG emissions

GHG in use : 1,00 KgCO<sub>2</sub>/m<sup>2</sup>/an

### Life Cycle Analysis

Eco-design material : Wood; wood wool; cellulose wadding; lime; reeds; porcelain stoneware

