

## Shared housing with solar photovoltaic and thermal installations financed by a third-party

### Le Préau des Colibris – Voiron

This project is supported by a group of people with common values of sharing, mutual aid, conviviality, ecology and sobriety.

This collective wished to create a grouped, cooperative, solidarity-based (social and generational mix), non-speculative and ecological habitat, where several entities (families or individuals) live, in which there are private spaces and self-managed collective spaces.

In 2015, 5 households were engaged in the construction of this habitat in Voiron, near public transport, schools, markets and a variety of places of activity.



This construction is based upon common spaces: a common room with a courtyard, a guest room, a laundry room, a garden and a workshop.

The construction took 14 months, and the residents moved in at the beginning of February 2019. The common room with its courtyard, are in the process of being built by the residents, with the recovery of materials and at a lower cost.

Its roof is home to a citizen's project to produce energy from solar photovoltaic (PV) and thermal installations.

This installation has benefited from third-party financing from the local, citizen-controlled company Buxia Energies. Buxia Energies, which normally undertakes solar PV installation projects to produce electricity, is for the first time integrating a solar thermal system for the production of heat in this project.

# The project

A former industrial zone, the project site included three buildings: a house, a storage shed and a small annex building used as an office. It was the inhabitant of the existing house who initiated the project to rehabilitate the old industrial buildings to transform them into a shared residence. In the end, only one bay of the storage building was retained and is now being renovated as a common room and guest room. The remaining buildings were demolished and the new building constructed in its place. The old office was converted into a communal bicycle room, and the workshop in the existing house became a communal workshop for all of the residents.

## Technical description

### Roof insulation

Mineral wool insulation in crossed layers.  
34 cm  $R=10,25 \text{ m}^2 \cdot \text{K} / \text{W}$

### Terrace roof insulation

Polyurethane 22 cm  $R=10 \text{ m}^2 \cdot \text{K} / \text{W}$

### Wall insulation

Cellular concrete  
25 cm  $R=2 \text{ m}^2 \cdot \text{K} / \text{W}$   
Interior insulation glass wool  
12 cm  $R=3,75 \text{ m}^2 \cdot \text{K} / \text{W}$

### Floor insulation

Polyurethane under floor heating.  
10 cm  $R=4,65 \text{ m}^2 \cdot \text{K} / \text{W}$   
Additional insulation on the ceiling of garages and service room.  
8 cm of slag wool  $R= 2 \text{ m}^2 \cdot \text{K} / \text{W}$

### Joinery

Double glazing wood/aluminium -  $U_w = 1.4$

### Ventilation

Single flow VMC hygro B

### Heating and hot water

Solisart® solar system (direct solar + 600L hydro storage)  
Viessman gas boiler as back-up.

### Photovoltaic system

Power: 9 kWp Surface area: approx. 60 m<sup>2</sup>  
Annual production: 10 000 kWh

## Third party financing of the solar installation

The solar PV and thermal installations were financed by the citizen-controlled cooperative company Buxia Energies.

In return, the company benefits from the sale of the electricity produced by the PV system for 20 years thanks to a purchase obligation. Buxia Energies pays a rental fee during this period for the occupation of the roof.

Concerning the solar thermal installation, the co-owners pay a rental fee to Buxia for a period of 10 years for the use of the panels, calculated based on the money saved from the reduced use of gas thanks to the solar thermal heat. This costs them no more if they only used gas and allows Buxia Energies a financial balance.

Upon terminating the contractual periods, the co-owners will have free use of the installations and have access to the electricity and heat produced.

## More informations :

- [Virtual visit](#)
- [Information's AURA-EE](#)
- [Buxia Energies web site](#)