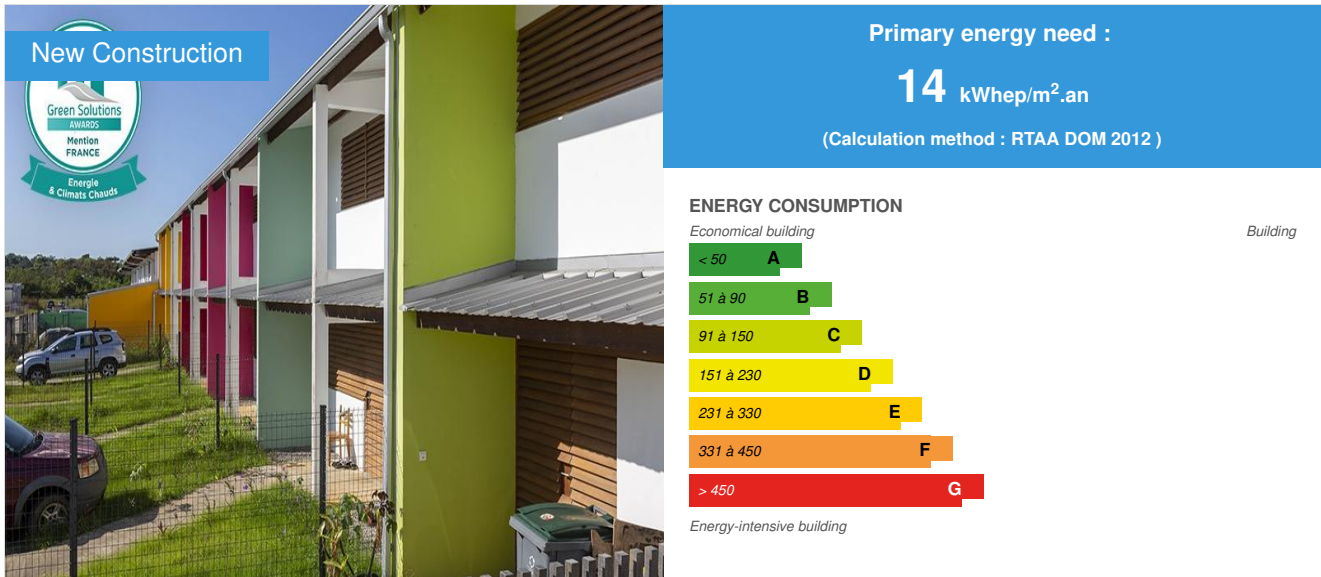


## 86 Copaya

by Jérémy FERNANDEZ-BILBAO / 2018-06-14 12:45:55 / France / 8565 / FR



**Building Type** : Terraced Individual housing  
**Construction Year** : 2017  
**Delivery year** : 2017  
**Address 1 - street** : 97354 MATOURY, France  
**Climate zone** : [Aw] Tropical Wet & Dry with dry winter.

**Net Floor Area** : 8 158 m<sup>2</sup>  
**Construction/refurbishment cost** : 9 000 000 €  
**Number of Dwelling** : 86 Dwelling  
**Cost/m<sup>2</sup>** : 1103.21 €/m<sup>2</sup>

Proposed by :



### General information

Housing operation that has followed an Ecodom + approach (equivalent to Guyanese THPE) Optimized through ventilation Solar protection of walls and openings reinforced Supply of air blowers in all rooms Significant use of French Guiana timber for the frame but also for exterior joinery and interior

### Sustainable development approach of the project owner

Ecodom + approach, equivalent THPE adapted to Guyana

### Architectural description

The housing project located in Zac Copaya Matoury. It is a set of 15 buildings consisting of 80 townhouses LLS LLTS and 6 semi-detached homes in accession, all on 2 levels. The team of mastering is composed of 4 architects giving 4 writing distinct architectural style. In addition, the buildings of each architect are

arranged to create a heterogeneous whole. All the houses are crossing with the large opening bringing a large porosity. Wide roof overhangs and sunshades provide optimum protection for the facades. Particular attention has been given to the materials thanks to the important use of local wood.

## See more details about this project

<https://www.construction21.org/france/data/sources/users/2548/86-copaya-v3.docx>

## Stakeholders

### Contractor

Name : SEMSAMAR GUYANE  
Contact : PATRICK WEIRBACK  
<http://www.semsamar.fr>

### Construction Manager

Name : Boa Architecture - SAS Peres Cottalorda - Cécile Lo-Mie  
Contact : Jérémy Fernandez-Bilbao

### Stakeholders

Function : Construction Manager  
Boa Architecture - SAS Peres Cottalorda - LO-MIE  
Jérémy Fernandez-Bilbao

### Contracting method

General Contractor

### Type of market

Realization

## Energy

### Energy consumption

Primary energy need : 14,00 kWhep/m<sup>2</sup>.an  
Primary energy need for standard building : 128,00 kWhep/m<sup>2</sup>.an  
Calculation method : RTAA DOM 2012  
Breakdown for energy consumption : The conversion of final energy into primary energy is based on the values of the 2015 regional energy balance. The Guianese electricity mix shows a coefficient of around 1.88 (for information, about 61% ENR and 39% thermal, in 2015). ).

### Real final energy consumption

Final Energy : 7,00 kWh<sub>ef</sub>/m<sup>2</sup>.an

### Envelope performance

More information :  
The parameters Ubat and compactness of the building are irrelevant because in tropical climate, the most powerful solution (bioclimatic) is based on the natural ventilation through (it is better not to be compact) and the solar protection (the solar factor and not not the thermal conductance).

## Renewables & systems

### Systems

#### Heating system :

- No heating system

#### Hot water system :

- Solar Thermal

#### Cooling system :

- No cooling system

#### Ventilation system :

- Natural ventilation

#### Renewable systems :

- Solar Thermal

#### Other information on HVAC :

In Guyana, the temperatures are always high, there is no need for heating. For housing, the main source of energy saving is to avoid the use of air conditioning. For this, we work on natural ventilation.

Each unit is equipped with an individual solar water heater type thermosiphon monobloc that cover 100% of domestic hot water needs (no extra).

According to the Regional Energy Plan (2012), these avoided DHW needs are 1278 kWh per dwelling per year on average. The total energy avoided is therefore about 110 MWh per year.

## Environment

### Urban environment

The project is part of the ZAC COPAYA. This is the first reconstruction operation in the area.

It will be accompanied by a set of collective buildings and shops oriented around the central mall, with local amenities (nursery, school, neighborhood house) sports equipment and a business cluster. This formerly isolated area will be connected to a main road connected by a roundabout. The buildings are served by a two-way street and a one-way street to give a residential character to the whole. Each house has a green space on the street including a parking space and a green area overlooking the garden. A pedestrian walkway provides access to the central mall.

## Products

### Product

Air brewer Tribeca

Hunter

tel:18888301326

<https://www.hunterfan.com/international>

Product category : HVAC, électricité / ventilation, cooling

Air brewer with large wooden blades allowing ventilation of the parts in low winds.



The Ecodom + Label imposes the supply of brewers in rooms and expectations in stays. In the rooms brewers can pose a problem in the case of bunk beds. It could be propose an alternative by the use of wall fans with grid of protection.

## Costs

## Carbon

### GHG emissions

GHG in use : 5,00 KgCO<sub>2</sub>/m<sup>2</sup>/an

Methodology used :

Given the electricity mix in Guyana (2015 data), the carbon weight of the electric kWh is 0.678 KGeqCO<sub>2</sub> / kWh. Project emissions related to electricity consumption are therefore of the order of 41 tCO<sub>2</sub>e / year (5 KGeqCO<sub>2</sub> / an.m<sup>2</sup>).

## Reasons for participating in the competition(s)

Opération de logements ayant suivi une démarche Ecodom+ (équivalent du THPE guyanais) Ventilation traversante optimisée Protection solaire des parois et ouvrants renforcée Fourniture de brasseurs d'air dans toutes les chambres Utilisation importante du bois de Guyane pour la charpente mais aussi pour les menuiseries extérieures et intérieures

## Building candidate in the category



Energie & Climats Chauds



Coup de Cœur des Internautes



Prix des Etudiants

