


86 Copaya

by Jérémy FERNANDEZ-BILBAO / 2018-06-14 12:45:55 / France / 8279 / FR



Primary energy need :

14 kWhep/m².an

(Calculation method : RTAA DOM 2012)

ENERGY CONSUMPTION

Economical building *Building*


< 50	A
51 à 90	B
91 à 150	C
151 à 230	D
231 à 330	E
331 à 450	F
> 450	G

Energy-intensive building

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 m² SHON
Construction/refurbishment cost : 9 000 000 €
Cost/m2 : 1103.21 €/m²

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

Type of market

Realization

Energy

Energy consumption

Primary energy need : 14,00 kWhep/m².an
Primary energy need for standard building : 128,00 kWhep/m².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_{ef}/m².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 : Génie climatique, électricité / Ventilation, rafraîchissement

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 KgCO₂/m²/an

Methodology used :

Given the electricity mix in Guyana (2015 data), the carbon weight of the electric kWh is 0.678 KGeqCO₂ / kWh. Project emissions related to electricity consumption are therefore of the order of 41 tCO₂e / year (5 KGeqCO₂ / an.m²).

Contest

Reasons for participating in the competition(s)

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

Building candidate in the category



Energie & Climats Chauds



Coup de Cœur des Internautes



Prix des Etudiants

