Sol House Taghazout bay

by Housna MEDAGHRI ALAOUI / 2017-05-22 15:01:21 / Maroc / 14814 / FR

Primary energy need :

62 kWhep/m^2.an

(Calculation method : Other)

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 : Other building
Construction Year : 2016
Delivery year : 2016
Address 1 - street : 80022 AGADIR, Maroc
Climate zone : [BSk] Mid-latitude Dry Semiarid (Steppe)

Net Floor Area : 6 190 m^2 Useful area (es)
Construction/refurbishment cost : 9 256 850 €
Number of none : 75 none
Cost/m2 : 1495.45 €/m^2

Certifications :

HQE
THE WAY TO PROGRESS

General information

Sol House Taghazout Bay is an eco-friendly tourist resort overlooking the sea and occupying an area of more than 5 hectares, it forms an essential component of the resort Taghazout Bay which naturally benefits from the best surf spots in the world. It houses various buildings:

- 75 bungalows of 2, 4 and 6 beds,
- 2 dormitories
- 1 restaurant
- 1 surf shop
- 1 surf academy
- 1 reception

See more details about this project

http://www.taghazoutbay.ma/index.php/fr/offres-touristiques/le-village-de-surf

Data reliability

Self-declared

Projet certifie Green Globe

Stakeholders

Stakeholders

Function : Contractor

SAPST

Ahmed OULAHNA

http://www.taghazoutbay.ma

Contracting method

Separate batches

Owner approach of sustainability

Sol House Taghazout bay is a component part of the project to develop the Taghazout Tourist Station, which itself is part of the Azur Plan and more widely within the framework of the tourism development strategy "Vision 2020". The SAPST, a development and promotion agency for the Taghazout station (SAPST), fully adheres to this national strategy, which consists of a responsible approach that has set itself three main objectives: * To preserve the culture, values, Traditions and identity, * Protecting the environment, * Working for tourism as a vehicle for economic and social development. In order to confirm its commitment to this strategy and its commitment to sustainable development, SAPST decided to An integrated approach, namely: * QSE approach (For all activities and processes of the SAPST) * HQE approach for development (for the entire station) * HQE approach Residential (for the residential component) Residences (for hotels such as Sol House Taghazout bay) * Green Globe approach (Golf, Hyatt Place hotel and Sol House Taghazout Bay hotel) All these approaches, which are different and complementary, and which form the core of the SAPST Management System, affect all aspects of sustainable development while placing the environmental component as a core to which they converge.

Architectural description

The architectural concept of the village has been defined in such a way as to follow a logic of eco-construction. The buildings are entirely oriented south with large openings which allow a real saving of energy in winter while protecting themselves from the summer rays by judiciously sized sun protection. Volumetry does not exceed R + 1 for dorms and surf academy; And the compactness of the buildings makes it possible to control and reduce the energy consumption by limiting the losses. The roofs of the accommodation constitute an advance that goes beyond the walls and acts like sun breezes. The latter attenuate the rays of the sun in summer in order to reduce the rise in temperatures inside the buildings. In winter, they allow the radiation to penetrate to take advantage of calories. These solar protections are made up of solid parts and perforated parts allowing to benefit from the natural illumination to the maximum.

If you had to do it again?

* Enroll in the HQE approach from the program / design phase and communicate to the MOE team the requirements prior to the design stage * Integrate the performance requirements of the sustainable development approach into the contracts of the service providers *

Building users opinion

https://www.tripadvisor.fr/Hotel_Review-g1554848-d9783949-Reviews-Sol_House_Taghazout_Bay_Surf-Taghazout_Souss_Massa_Draa_Region.html

Energy

Energy consumption

Primary energy need : 62,00 kWhep/m^2.an

Primary energy need for standard building : 82,00 kWhep/m^2.an

Calculation method : Other

Final Energy : 196,00 kWhef/m^2.an

Breakdown for energy consumption :
Detailed consumption by item was calculated by the STD (Dynamic Thermal Simulation) (see enclosure)

More information :
On this operation, a dynamic thermal simulation was carried out in order to simulate the energy responses of the different buildings of the surf village. The

objective of this study is to optimize the energy efficiency of the buildings, while preserving the level and the quality of the comfort of use. Thus, primary energy consumption is at least 25% lower than that of a standard building, according to Moroccan thermal regulations. Several steps have been taken to achieve these results. In the first place, the building envelope has been well-cared for: thermal insulation of roofs, walls and low floors, use of double glazing at the level of the accommodation, optimization of openings to take advantage of natural lighting, ... These so-called passive solutions make it possible to limit the energy requirements of buildings for heating, cooling and lighting. On the other hand, high-performance equipment has been selected. In terms of lighting, the choice of luminaires has been made in such a way as to reduce energy consumption and ensure optimum comfort for the user, including LED lamps for outdoor lighting and car parks, Photosensitive cells to activate artificial lighting according to natural lighting, etc. In addition, solar energy is used to heat the sanitary water in the dormitories, the restaurant and the surf academy. A real energy saving. Finally, energy consumption is monitored at the level of each building, by means of the installation of separate meters, by zone, also allowing the detection of overconsumption directly in the areas concerned. Several meters have been set up and distributed as follows: • Restaurant • Surf Academy • Kitchen • Accommodation (dormitories 1 and 2) • Accommodation (75 wooden bungalows) • Surf Shop

Envelope performance

Air Tightness Value : 1,70

Real final energy consumption

Real final energy consumption/m2 : 115,00 kWhef/m^2.an

Year of the real energy consumption : 2 016

Renewables & systems

Systems

Heating system :

- Heat pump
- Fan coil

Hot water system :

- Individual electric boiler
- Solar Thermal

Cooling system :

- Reversible heat pump

Ventilation system :

- Natural ventilation
- Single flow
- Double flow

Renewable systems :

- Solar Thermal

Renewable energy production : 8,00 %

Other information on HVAC :

Heating, cooling: On all buildings, heating and cooling are ensured by means of reversible splits, with the exception of the restaurant where a duct system is installed. The set temperatures are 19 ° C in winter and 26 ° C in summer, which can be adjusted, depending on the user's needs, from +3 to -3 ° C. The water of the dormitories, the surf academy and the restaurant is heated thanks to 66 m² of solar panels located on the roof. Ventilation: All buildings except the bungalows, are mechanically ventilated by single flow air treatment plants: The fresh air enters through the mouths located in the joineries, and the extraction is carried out in the humid rooms (sanitary, ...). The restaurant is ventilated by means of a two-flow power station located on the ground floor, which, in addition to its role of air exchange, makes it possible to filter incoming air. These systems ensure a satisfactory air change rate even when doors and windows are closed.

Environment

GHG emissions

GHG in use : 194,00 $KgCO_2/m^2$/an

Methodology used :

The ADEME Carbon Assessment method adapted to the Moroccan context, the 3 scopes were considered (Scope 1: direct emissions, Scope 2: indirect emissions linked to electricity, Scope 3: other indirect emissions)

GHG before use : 320,00 $KgCO_2$ /m^2

Building lifetime : 50,00 an(s)

, ie xx in use years : 1.65

Life Cycle Analysis

Eco-design material : Use of FSC-certified wood as the main material at the level of dwellings

Water management

Consumption from water network : 40 663,00 m^3

Consumption of grey water : 5 110,00 m^3

Water Self Sufficiency Index : 0.11
Water Consumption/m2 : 6.57
Water Consumption/none : 542.17

Water consumption is controlled through the installation of water-saving systems for sanitary appliances, mainly: -WC double flushing 3 / 6L - low-flow flushing 6,6lpm - low flow rate 9,6l - Aerators at the level of the mixing valves. Water metering is also monitored by counting as follows: • 1 meter for the bungalows • 1 meter for the restaurant • 1 meter for the reception • 1 counter for the surf academy • 2 meters for the bungalows Level of the dormitories On the other hand, the waterproofing of the floors has been reduced to the maximum. Vegetated areas and permeable soils (car parks, approaches) allow the infiltration of rainwater in order to respect the natural cycle of water. The selected species are endemic, local and non-allergenic, their adaptation to the climate of the site reduces their need for watering, which is also ensured by the use of treated water at the treatment plant (STEP) .

Indoor Air quality

All the buildings except the bungalows are mechanically ventilated by single flow air treatment plants: The fresh air enters through the vents located in the joineries and the extraction is carried out in the humid rooms. The restaurant is ventilated by means of a two-flow power station located on the ground floor, which, in addition to its role of air exchange, makes it possible to filter incoming air. These systems ensure a satisfactory air change rate even when doors and windows are closed. On the other hand, in some rooms (yoga room, classroom, gym) facing the sea, they are double-oriented and naturally ventilated by the opening of large windows, but without CMV, CO2 detectors have been installed to measure the ambient air quality and alert the occupants if the tolerated threshold is exceeded.

Comfort

Health & comfort : The local climate is characterized by a semi-aridity which means that summer temperatures are relatively high. This has been taken into account in the design of buildings in order to limit the energy and environmental impact associated with excessive air conditioning. In winter, however, heating requirements remain limited. Indoor temperatures do not fall below 11-12 ° c. Accommodation has been designed to benefit from solar inputs in winter while limiting their impact during the summer period; During the summer period the eaves serve as solar shading: they limit the solar contributions and thus the need for cooling (air conditioning). During the winter period the rays of the sun have a lower inclination: they are not stopped by the eaves, they are instead source of heat and light. The accommodation as well as all the spaces of the establishment have numerous openings which allows to benefit from a natural light that is very powerful and allow the occupants to make use as little as possible of the artificial lighting.

Measured indoor CO2 concentration :
Des détecteurs de CO2 ont été installés dans les locaux de l'académie de surf qui permettent de mesurer en permanence la concentration de CO2 présente dans ces locaux et qui ne dépasse jamais 1000 ppm.

Calculated thermal comfort : Le confort thermique a été calculé grâce à la Simulation thermique Dynamique avec les hypothèses suivantes : En ce qui concerne les Hébergements, les Dortoirs et le Restaurant, les scenarii de chauffage et de refroidissement sont : - Chauffage : Consigne

Acoustic comfort : An acoustic instruction was written during which the acoustician issued prescriptions to improve the acoustics at the level of the different spaces. The main elements taken into account are: - Standardized acoustic insulation weighted with respect to the external space - Noise level of the equipment - Shock noise level - Internal acoustics (based on specific indicators of internal acoustics) - Isolation to airborne noise (in reception) with respect to adjacent spaces - Tone at walking

Products

Product

Facade cladding: NEOLIFE

NEOLIFE

+33 4 78 25 63 08 / contact@neolife-solutions

https://www.neolife-solutions.com

Product category : Finishing work / paints, mural, wallcoverings

VESTA® (Vegetal, Ecological Stable Timber Advantage) is a new environmental material with exceptional properties. It was developed by NEOLIFE® in partnership with French experts in eco-materials. VESTA® revolutionizes eco-materials and the design of environmental solutions for the building and interior design of outdoor spaces. Finally, it responds to the request of architects, landscape designers and design offices, which are oriented towards eco-construction and sustainable development projects. VESTA® wood fibers come from sustainably managed French forests. Its manufacture did not require any tree felling. No additives harmful to the environment were necessary for its elaboration. Because of its hydrophobicity and low mineral resin content, VESTA® has exceptional dimensional stability with only 4 mm of expansion. This property also confers the assurance of perfectly adjusted solutions with reduced expansion joints. SAIN, it is solvent-free, without glue, without phthalates, without emanations of harmful products. THERMO-FUSIBLE

VESTA® can be used by the main plastics technologies, and allows NEOLIFE® to create complex profiles of high precision, unimaginable in a traditional wood

Very easy to install and very easy to maintain, this product has been appreciated by all stakeholders whether in the construction phase or in operation phase

Costs

Construction and exploitation costs

Renewable energy systems cost : 43 432,00 €

Cost of studies : 1 237 618 €

Total cost of the building : 9 256 850 €

Energy bill

Forecasted energy bill/year : 7 362,00 €

Real energy cost/m2 : 1.19

Real energy cost/none : 98.16

Urban environment

* Location: The surf village is composed of several buildings that are scattered on the plot. The low COS (15%), the low height of the buildings (R + 1) associated with this sparse installation of buildings makes it impossible to create a dense urban area. This implantation thus promotes the circulation of the air and thus reduces the heating of the urban substratum. * Vegetation: The site is characterized by a natural forest ecosystem dominated by the argan tree. This endemic essence of Morocco plays a decisive role in the preservation of biodiversity and the great ecological balances. However, it is characterized by advanced stages of degradation. The surfing village is located on a protected area of the argan tree. This is an area classified as UVB1 (ie the protection level is the strictest). In this area, the argan plant is very dense and rich in floristic species. The Landscape concept of the Surf Village builds on and extends the work carried out in the Public Spaces: a kind of vegetal mimicry and ambiances, identity for the natural site of the resort. The materials used, as well as the associated plant palette, have been chosen specifically for their local presence (dry stone walls / thick pebbles / eucalyptus candles ...) * Transport: Restricted access to the motor vehicle site, limited to Service vehicles and firefighters, also reduces the production of heat and especially air pollution. This restricted access has also made it possible to limit the bitumen zones and thus limit the minerality of the site. * Access: The site is accessible via 2 public transport lines, namely: • LINE 32: AGADIR - TAGHAZOUT • LINE 33: AGADIR - TAMRI With a frequency of 4 buses per hour On the other hand, Access to the level of Taghazout station bay and reduce the flow of cars, two free electric shuttles will be set up, eventually, and will also serve the surf village.

Land plot area

Land plot area : 50 688,00 m^2

Built-up area

Built-up area : 15,00 %

Green space

Green space : 5 078,00

Parking spaces

There are 43 parking spaces inside and 50 outside parking spaces. On the other hand, in order to favor sustainable modes of transport, a parking area of 15 bicycles has been installed in the internal parking area.

Building Environnemental Quality

Building Environmental Quality

- indoor air quality and health
- biodiversity
- works (including waste management)
- consultation - cooperation
- acoustics
- waste management (related to activity)
- water management

- energy efficiency
- renewable energies
- building end of life management
- integration in the land
- mobility
- building process
- products and materials

Contest

Reasons for participating in the competition(s)

Santé et confort : Le développement de l'hôtel Sol House Taghazout bay a été réalisé à travers une démarche de certification HQE™. Cette certification permet de distinguer des bâtiments dont les performances environnementales et énergétiques correspondent aux meilleures pratiques en la matière.
Ainsi, à travers cette démarche, le village de surf offre à ses usagers :

- Des constructions respectueuses de l'environnement
- Une conception architecturale et technique améliorant le confort thermique, acoustique, visuel,…
- Des bâtiments peu consommateurs en eau et en énergie
- Des ressources naturelles préservées à travers la protection des arganiers et le recyclage des eaux usées pour les besoins d'arrosage
- Un éclairage basse consommation avec l'utilisation de LED
- De l'énergie solaire pour la production de l'eau chaude sanitaire
- Des déchets gérés tout au long de leur cycle de vie et valorisés
- Une sensibilisation permanente du personnel et des clients aux gestes verts et à une utilisation eco-responsable

Bas Carbone
L'utilisation d'un bois certifié PEFC comme matériau principal dans la construction du village de surf ainsi que tous les efforts déployés pour réduire les consommations énergétiques (orientation des bâtiments, double vitrage, conception bioclimatique, énergie solaire pour la production de l'eau chaude sanitaire...), ainsi qu'une gestion raisonnée des déchets avec tri sélectif et compostage réduisent considérablement les émissions de CO_2.
Un calcul des émissions de CO_2 a été effectué selon la méthodologie de l'ADEME et a permis d'évaluer les GES émis ainsi que ceux séquestrés par les différentes plantations.

Building candidate in the category

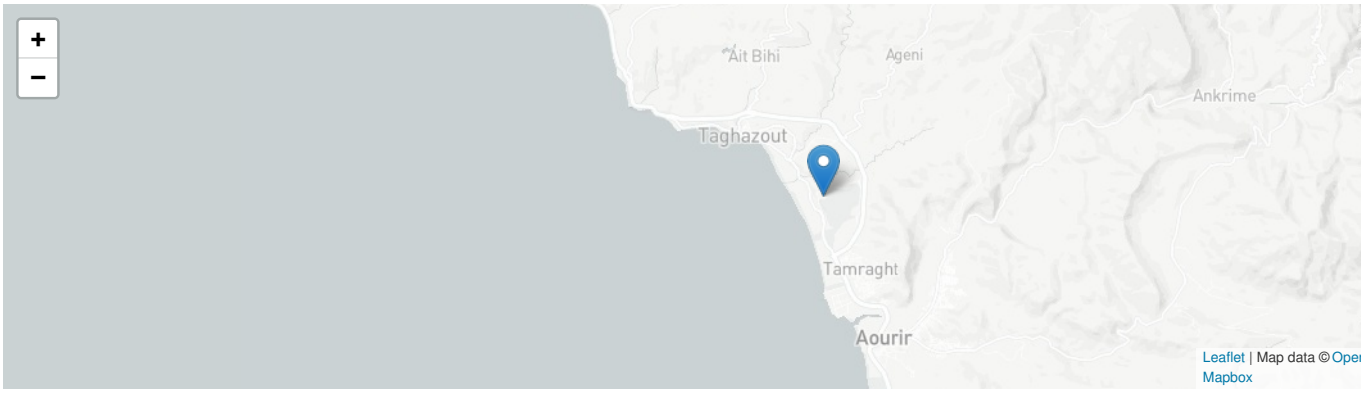
Green Solutions AWARDS
powered by Construction21.org

Bas Carbone

Santé & Confort

Coup de Cœur des Internautes

Grand Prix Construction Durable



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