KERGRID

by Thierry DJAHEL / 2014-02-27 17:03:09 / France / 11743 / FR

Primary energy need :

120 kWhep/m².an

(Calculation method : RT 2012)

ENERGY CONSUMPTION

Economical building

Building

< 50	A	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 : Office building < 28m
Construction Year : 2013
Delivery year : 2013
Address 1 - street : 27 Rue de Luscanen 56000 VANNES, France
Climate zone : [Csb] Coastal Mediterranean - Mild with cool, dry summer.

Net Floor Area : 3 300 m² Useful area (es)
Construction/refurbishment cost : 6 000 000 €
Cost/m2 : 1818.18 €/m²

Certifications :

General information

SDEM56 Headquarters:

Syndicat des Energies Departmental Morbihan is a building of 3300 m² with a storage system powered by green energy with 850 m² of solar panels and two wind turbines. Energetically efficient, labeled "Passiv Hauss' with a theoretical consumption of less than 15 kWh/m² per year, this building is built on a plot of about 1.5 ha corresponding to a part of the land held by the ASPTT, west of the city of Vannes slightly south of the RN 165 in sector Fétan Blay.

Sustainable development approach of the project owner

The departmental union of energy in Morbihan (SDEM) and Schneider Electric innovates in Vannes. They signed a deal to set up a first energy storage and management systemin France: Kergrid. Kergrid is a network of intelligent electricity distribution implemented in the future premises of SDEM. Objective: "To adapt

to the constraints of the electric britton network." This is meant to anticipate and control energy expenditure, particularly during peak consumption: by automating the management and storage. "The building will include the ability to operate autonomously (2 hours). "This experiment is bound to be" duplicated and repeated in other buildings. "

Architectural description

This building was designed by the architecture agency Arcau in Vannes. It is equipped with:
- 850 square meters of photovoltaic panels integrated roof
- Energy Storage System (lithium batteries) for partial autonomy of the building during peak periods of electrical network
- Heat generation by geothermal heat pump- Passive Cooling via circulators geothermal / Ventilation night by CTA turbofan
- Breezes fixed sun exterior vertical or overhanging roofs with exposure facades

Lighting by low consumption lamps and LED / presence detectors
Triple little emissive glazing and joinery timber
Daylighting circulations

Stakeholders

Stakeholders

Function : Contractor

SDEM56

Edouard CEREUIL Energy Manager

https://www.sdem.fr/

Function : Company

SCHNEIDER ELECTRIC

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http://www.schneider-electric.com/site/home/index.cfm/fr/

Contracting method

Lump-sum turnkey

Energy

Energy consumption

Primary energy need : 120,00 kWhep/m^2.an

Primary energy need for standard building : 132,00 kWhep/m^2.an

Calculation method : RT 2012

Real final energy consumption

Final Energy : 120,00 kWhef/m^2.an

More information

Installation of Power Management System is designed to be able to operate the building in consumption mode and total autonomy during blackouts in the region. In addition, it is planned to simulate new rate bands that relate to the electricity contract.

Renewables & systems

Systems

Heating system :

- Geothermal heat pump

Hot water system :

- Solar Thermal

Cooling system :

- Geothermal heat pump

Ventilation system :

- Natural ventilation
- Nocturnal ventilation
- Double flow heat exchanger

Renewable systems :

- Solar photovoltaic
- Heat pump (geothermal)
- Micro wind

Smart Building

BMS :

System GTB + Schneider Electric Power Management System

Smartgrid :

Building SmartGrid Ready

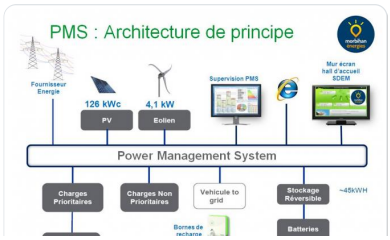
Products

Product

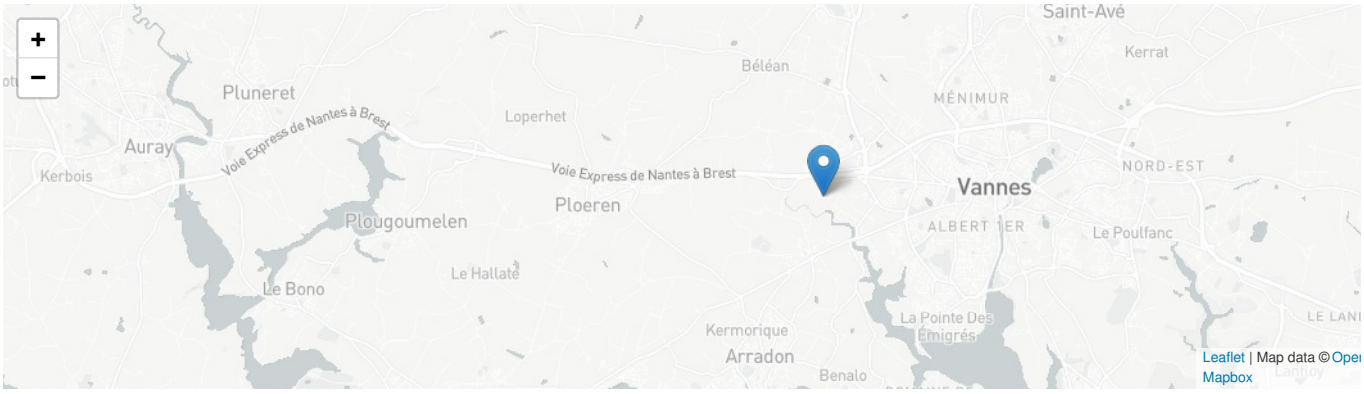
Power Management System

Product category : Management / Contracting

Application of active management of energy demandObjectives of the demonstrator:- Clear tips (self-supply)- Operation ilote the building in case of blackout- Smoothing the load curve network- Crop all constraints (technical, economic, legal ')- Use batteries to provide power to the distribution networkEconomic aspects- Producer as often as possible- Resale of surplus energy- Identify new economic models- Industrialization of innovation



Contest



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