


Energy'lab, autonomous building

by Sandrine PINCEMIN / 2021-03-25 14:27:01 / France / 3109 / FR

New Construction



Primary energy need :

34 kWhep/m².an

(Calculation method : RT 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 : Other building
Construction Year :
Delivery year :
Address 1 - street : 21 boulevard Berthelot 34000 MONTPELLIER , France
Climate zone : [Csa] Interior Mediterranean - Mild with dry, hot summer.

Net Floor Area : 120 m² SHON RT
Construction/refurbishment cost : 350 000 €
Cost/m2 : 2916.67 €/m²

Certifications :



General information

The Energy'Lab is a 100 m² building, located in the heart of the EPF Montpellier campus. This autonomous and disconnected building will have to meet its energy needs (electricity, heat, cooling or air conditioning, lighting, control, metrology, etc.). This building is also intended to be upgradeable. The technical solutions to meet its needs will be modified over time, the objective being to integrate cutting-edge technical solutions and to allow Energy'Lab to integrate the innovations present on the market.

Sustainable development approach of the project owner

The building developed is a positive energy building that will be used as a research and development platform around energy management and control. This building is also made from sustainable materials. The companies selected for the realization as well as the one supplying energy systems are local (at least in the Occitanie region).

Architectural description

The building consists of a wooden frame the attached file contains descriptive elements relating to the composition of the walls and in particular the insulation. Work has been carried out to limit thermal bridges.

Building users opinion

Building not yet occupied.

If you had to do it again?

Change of some providers. This decision would result in an increase in costs and a faster completion of the site. Many hazards were present during this work given the pandemic context that was not anticipated at the start of work in February 2020. Improvements in communication were necessary to achieve this.

See more details about this project

<https://nabylakachour.wixsite.com/energylab>

[Labellisation par le pole de competitivite Derbi en mars 2021](#)

Photo credit

EPF

Stakeholders

Contractor

Name : EPF Ecole d'ingénieur-e-s

Contact : sandrine.pincemin[a]epf.fr

<https://www.epf.fr/>

Construction Manager

Name : JBL Architecture

Contact : Jean-Baptiste LAGET, jblarchi[a]gmail.com

<http://jblarchitects.com/>

Stakeholders

Function : Structures calculist

OCD 34

sromano[a]ocd34.fr, Sylvain ROMANO

BE Structure

Function : Designer

JBL Architecture

Jean-Baptiste LAGET, jblarchi[a]gmail.com

<http://jblarchitects.com/>

Architect, Project management, assistant to project management

Function : Construction company

ENVIRONNEMENT BOIS

olivier.boursiquot[a]environnementbois.fr

Building envelope

Function : Others

SASU Etanbat

bensabre_etancheite[a]live.fr

Sealing

Function : Company

ETNI

philippe.mathieu[a]etni.fr

Strong current, weak current

Function : Thermal consultancy agency

ALD ingénierie

Bernard DIETSCH

Dynamic thermal simulation

Type of market

Global performance contract

Energy

Energy consumption

Primary energy need : 34,00 kWh_{ep}/m².an

Primary energy need for standard building : 37,00 kWh_{ep}/m².an

Calculation method : RT 2012

Breakdown for energy consumption : The energy consumption is as follows: - heating: 14 kWh / m² / year - air conditioning: 10 kWh / m² / year There is no DHW in the building

Real final energy consumption

Final Energy : 34,00 kWh_{ef}/m².an

Envelope performance

Envelope U-Value : 0,24 W.m⁻².K⁻¹

More information :

wood frame

Users' control system opinion :

Home automation systems are at the heart of the Energy/lab in order to improve the operation of the installation, particularly from the point of view of energy performance.

Renewables & systems

Systems

Heating system :

- VAV System
- Solar thermal

Hot water system :

- No domestic hot water system

Cooling system :

- Reversible heat pump

Ventilation system :

- Double flow heat exchanger

Renewable systems :

- Solar photovoltaic
- Solar Thermal
- Fuel cell

Renewable energy production : 100,00 %

Solutions enhancing nature free gains :

stockage thermique qui sera à terme utilisé dans l'énergy'lab

Smart Building

BMS :

Energy management system

Environment

Urban environment

The Energy'lab is part of an engineering school, near the city center of Montpellier.

Costs

Contest

Reasons for participating in the competition(s)

- Positive energy
- Research platform
- Evolution
- Flexibility
- Energy management
- BBC

Building candidate in the category



Energie & Climats Tempérés

