



GREAT PLACE TO WORK

A POSITIVE ENERGY OFFICE BUILDING IN DE BONNE

SYNOPSIS

A new positive energy office building is constructed in the de Bonne district in Grenoble. The building produces more energy than it needs and uses 70% less than the value foreseen by the French building regulations.

BACKGROUND

In 2005 the City of Grenoble drafted its Climate Plan with the objective to stabilise CO₂ emissions till 2010 at the 1999 level and to increase renewables up to 21% of the total electricity consumption. Therefore, this innovative project is meant to contribute to the achievement of the local climate goals in Grenoble.



OBJECTIVES

- Build a new innovative positive energy office building with an energy consumption 70% below applicable building standards in France and producing 16,000 kWh of extra primary energy/year.
- Educate all stakeholders involved in the construction of this new energy efficient building, thanks to all energy efficiency efforts and the possibility for visitors to visit the photovoltaic power plant installed on the terrace.
- Create a specific information booklet aimed to spread awareness about energy issues in the building.

PROJECT DESCRIPTION

The office is a 4 floors building of 1784 m² gross area with a concrete structure and external insulation (thermal bridges). A focus is made on light control, favouring natural light and otherwise providing artificial light thanks to a solar photovoltaic roof. Innovative windows are installed as well as double flow ventilation for the whole building and

a simple flow for each room. The building uses a 425 m² photovoltaic power plant to produce more energy than it is required taking into account all energy efficiency efforts.

RESULTS

At this stage, the main success is the development of innovative methods at the local level concerning technical issues such as low energy design, thermal bridges and airtightness.

Expected results per year:

- Electricity consumption: 41,300 kWh (i.e. less than 27 kWh/m² representing 6 times less than the consumption of a building complying with the current French thermal regulations).
- Electricity production (photovoltaic power output): 47,500 kWh.

RECOMMENDATIONS

- Energy specifications need to be fixed and accepted by all early in the planning stage.
- The architects should collaborate with thermal consultants at the beginning of the design stage.
- The follow up of the energy targets has to be ensured during the whole building process and with all stakeholders (architects, builders, managers, maintenance staff and inhabitants).



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FURTHER INFORMATION

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