

## BOUYGUES CONSTRUCTION: WORKS START ON NEW LOW-CONSUMPTION BUILDING

Bouygues Construction has just started construction of a new low-consumption building in Montigny-le-Bretonneux, south-west of Paris. The 50 million euro project will be the new head office of ETDE, the Group's electrical contracting and maintenance subsidiary.

Designed by architect Hubert Godet, the new building ideally located just 50 m from the station will have a floor area of 11,800 sq metres on eight levels. It is designed to accommodate more than 600 employees.

It is being built by a consortium made up of Bouygues Bâtiment Ile-de-France and ETDE. Bouygues Construction subsidiaries Sodéarif (property development) and Elan (HQE consultant) will provide project management services for Erestone<sup>(1)</sup>. Handover is scheduled for the end of 2010.

The building will be to the standards of both "BBC Effinergie" low-consumption-building certification and HQE<sup>®</sup> high-environmental-quality certification, in the "NF Bâtiments tertiaires" office sector. The former certification, which recognises energy performance far superior to that required under current regulations, will be achieved through a great many innovative features:

- Optimisation of the building envelope, with external insulation and high-performance double glazing.
- External solar protection by means of perforated metal screens.
- Use of energy-saving lamps that can be adjusted in accordance with occupancy and natural light levels.
- Production of electricity by 300 sq metres of photovoltaic panels on the roof.
- In winter, production of heat by recovery of energy from the ventilation system and a boiler fuelled by wood pellets.
- In summer, production of cold by night-time ventilation and an absorption chiller converting into chilled water the hot water produced by 300 sq metres of solar heating panels on the roof.
- Management of building systems and consumption by a building management system (BMS) custom designed for the project.

As a result of all these innovations the building consumes only 35 kWh/sq metres/year. This compares very favourably with the 180 kWh/sq metres/year for a building compliant with France's current thermal design regulations (RT 2005) and 70 kWh/sq metres/year for a low-consumption building (BBC).<sup>(2)</sup>

This contract puts Bouygues Construction in an even more prominent position on the sustainable-construction market. The Group is currently building several other projects of a similar nature, including "Ere Park", the future head office of its Lille-based subsidiary Norpac, and the regional archives building in Lille. The head-office building of environmental and energy agency ADEME in Angers was handed over on 26 February.

Bouygues Construction devotes nearly 30% of its R&D budget to sustainable development. Research concerns things such as the energy efficiency of buildings (private residential, social housing, offices, schools, etc.), product and system eco-solutions (eco-design by means of life-cycle analysis), Bilans Carbone<sup>®</sup> emissions ranking (design of software tailored for the construction industry), and management of site disturbance (noise, eyesores, etc.).

Lastly, the Sustainable Construction task force which was set up in 2008 applies its expertise in the interest of all engineering and business-development departments and keeps a watchful eye on market developments.

<sup>(1)</sup> *The Erestone investment fund was created at the end of 2007 by a subsidiary of the Santander Group and Bouygues Construction. It targets acquisition of buildings in which 50% of the floor area will meet the rental requirements of Bouygues Construction subsidiaries.*

<sup>(2)</sup> *These consumptions were determined in accordance with the calculation methods of current regulations. They do not take account of the consumption of computer equipment.*

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