



# “CITÉ DE L'ENVIRONNEMENT” – METROPOLITAN AREA OF LYON

## 1<sup>ST</sup> MULTI-PURPOSE ‘ENERGY-PLUS’ BUILDING



*The “Cité de l'Environnement” (in the Lyon metropolitan area) came about from a project launched in 2005 by PÔLE SOLERE, a group of French professionals specialising in high environmental quality in the building sector. At the turn of the century, they were eager to rethink man's lasting relationship with the environment through the art of building and the art of inhabiting the resulting construction.*

*The concept of “building together”, an innovative building development showcasing the expertise of responsible builders, resulted in the construction of the Cité de l'Environnement, where “living together” will make long-term sense (both inside the outside Cité) of the environmental-friendly construction choices.*

- **Location:** Parc Technologique - Saint-Priest (69)
- **Operation:** Office building
- **NFA:** 4,499 m<sup>2</sup>, atrium and relaxation area: 600 m<sup>2</sup>

### INNOVATIONS

- **An energy strategy based on four key areas:**
  - A building that meets the criteria of the Passivhaus label thanks to its heating requirements, which are lower than: 15kwh/m<sup>2</sup>/year (CG67:144kwh/m<sup>2</sup>/year)
  - Highly efficient energy systems
  - Controlling specific types of energy consumption
  - Producing more energy than is consumed.
- **A healthcare approach based on three key areas:**
  - Good air quality thanks to the ventilation system
  - Low VOC emissions from materials
  - High quality light, sound and colour design
- **Une gestion raisonnée et créative :**  
Lower service charges:

- Water management: collecting rain water for use in the garden and toilets (waterless urinals)
- Shared spaces and materials
- Setting up a governance and decision-support system SOCIOCRACY

### STAKEHOLDERS

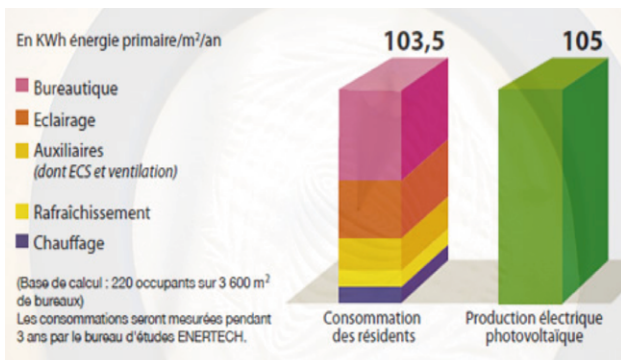
#### ► A centre of excellence committed to technology and the environment

The design and construction of the Cité de l'Environnement, a multi-purpose energy-plus bioclimatic office building, involved urban planners, architects, design firms and developers recognised for their expertise in environmental quality in terms of regional planning.

**28 companies, 225 employees.**

- **Contractor:** For Home (private)
- **Project management:**
  - Architect: Atelier Thierry Roche & Associés
  - Fluids design firm: Cabinet Sidler
  - HEQ design firm: Tribu
  - Economist: Betrec
  - Healthcare: Medieco (Suzanne Déoux)
- **Governance method:** a sociocritical management method for making design and management choices for the jointly-owned property.





## RESULTS

- /// Outstanding results: primary energy consumption in the region of 100 kWh/m<sup>2</sup>/year for all purposes (including offices) for the 3,400m<sup>2</sup> of office space, 600 m<sup>2</sup> of atrium and 1,600 m<sup>2</sup> of car parking! Production of 105 kWh/m<sup>2</sup>/year from photovoltaic sources.
- /// Photovoltaic solar panels: 1,400 m<sup>2</sup> of photovoltaic solar panels (140,000 KWh/year) installed on the roof supply 100% of the building's requirements.
- /// Low-energy consumption buildings: energy-efficient lighting with dimming technology (6 watts/m<sup>2</sup>) – switches with no batteries – Energy-efficient computers equipped with standby control technology.
- /// Geothermal heating: a reversible heat pump – 87 kW sur 1,700m<sup>2</sup> – fitted with geothermal collectors providing low-temperature underfloor heating throughout the entire building. In the training room, the air conditioning is powered by a 20-KW Air/Water heat pump (100-person capacity),

## FINANCIAL ASPECT OF THE OPERATION

- /// Cost of the build: €9,015,000 (excl. tax)
- /// This building was entirely financed by the building's private stakeholders. ADEME contributed in the region of €200,000 for the PREBAT certification.

## IMPLEMENTATION

- The "Cité de l'Environnement" is a joint project: While great design is crucial, it is not enough on its own. Perfect execution and sustainable performance, thanks to the operations and actions of users, are the strategic links that will ensure that the ambitious energy-performance target is achieved.
- The design team will also be occupying the building.
- The contractual aspects were fairly typical of a private development and included the consultation of companies referenced by the engineering team.
- MCP Promotion's (the main investor at the end of the development) bankruptcy negatively affected the management of this facility as well as team spirit.
- It took two years to reach the energy objectives, which were achieved through in-house training and the use of indicators.

**Design phase: 2007-2008**

**Start of work: 2008**

**Completion: September 2009**

### KEY DATA

- 7,000 m<sup>2</sup> of land
- 3,400 m<sup>2</sup> of office space
- 600 m<sup>2</sup> for the atrium and public areas
- 400 m<sup>2</sup> of terraces
- 28 companies
- 225 employees
- The Cité has been awarded the "Lyon Ville Equitable et Durable" label (NB: in English, Lyon – a fair and sustainable city).



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