Context and objectives of the project

- **Large social housing stock from the 60's and 70's in France, with a poor performance**
- **High potential for improving environmental quality**
- **Objectives of the project :**
  - reduce by 25% CO_2 emissions
  - Contribute in a municipal sustainability project
  - Exchange knowledge about technical, social, environmental and financial aspects in the frame of a European project, REGEN LINK (8 countries) coordinated by PATRIMONIUM (The Netherlands)
  - Demonstrate innovation and promote replication

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Improvement compared to standard renovation

- **Improved insulation : 10 cm instead of 6 cm**
- **advanced glazing : U = 1.3 instead of 3 W/m2/K**
- **humidity-controlled ventilation**
- **air preheating in glazed balconies**
- **Solar water heaters were studied but not installed due to lack of local support at that time (implemented in a more recent project)**
- **low flow rate sanitary equipment**

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Building before and after renovation

Construction : 1969, not insulated, single glazing heating load : 150 kWh/m²/a (2,700 degree days base 18)

Photos : B. PEUPORTIER

Heating load reduced by 32%, possible 50% reduction if indoor temperature = 20°C
Cost : 5,000 € (standard Renovation) + 3,500 € per unit
- 76 tons CO_2 yearly (-26%)

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