

# Main issues and definitions

- ▶ **Eco-design** : Integrating environmental aspects during the design, e.g. of a new construction or a renovation project
- ▶ **Environmental aspects** :
  - **Preservation of resources** (energy, water, materials, land),
  - **Protection of ecosystems at different scales** : planetary (climate, ozone layer), regional (forests, rivers...), local (waste, air quality...)
  - **Links between environment and health**
- ▶ **LCA (life cycle assessment)** : accounting substances taken from and emitted to the environment, deriving environmental indicators, e.g. global warming potential, interpreting the results

# Possible applications of life cycle assessment

- ▶ manufacturers can study the eco-design of building materials and equipment,
- ▶ Architects and building consultants can compare various alternatives during the design phase in order to reduce the environmental impacts of a renovation project,
- ▶ facility managers can study the influence of the users behaviour and advise appropriate measures during the operation phase of a building,
- ▶ building owners and local communities can require and check the environmental performance level of projects.

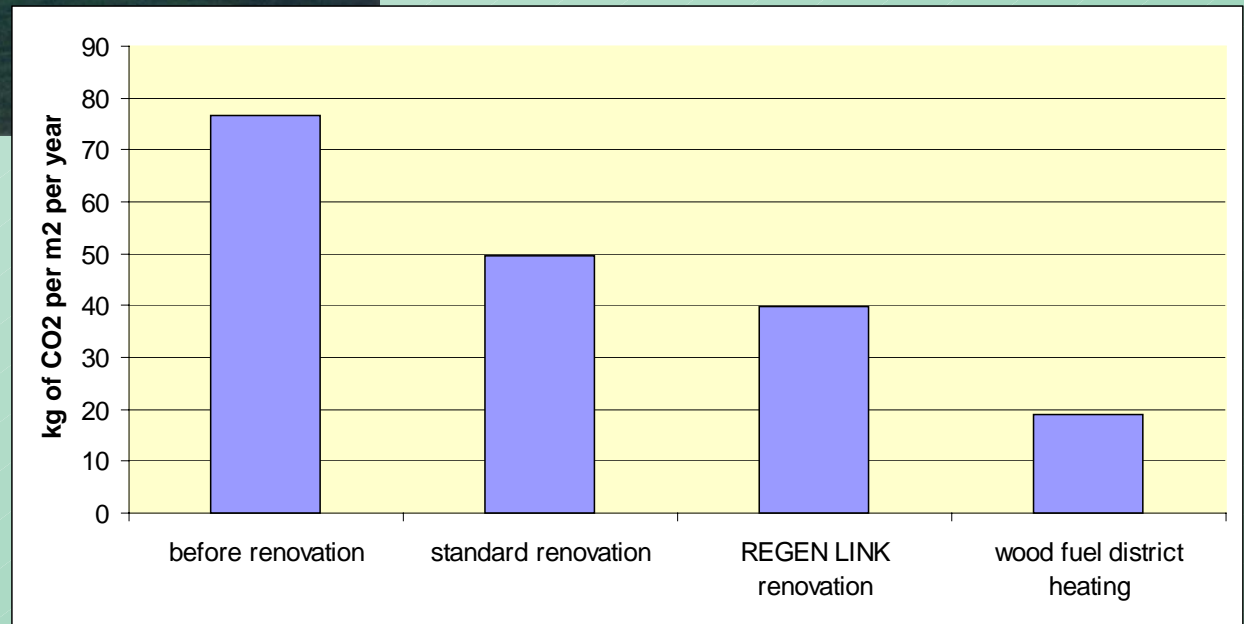


# Example LCA application : renovation of a social housing block near Paris



**Construction : 1969**  
**not insulated, single glazing**  
**heating load : 150 kWh/m<sup>2</sup>/an**

**Comparison of renovation alternatives using EQUER ([www.izuba.fr](http://www.izuba.fr))**



**CO<sub>2</sub> emissions per m<sup>2</sup> and per year**

