

Building information



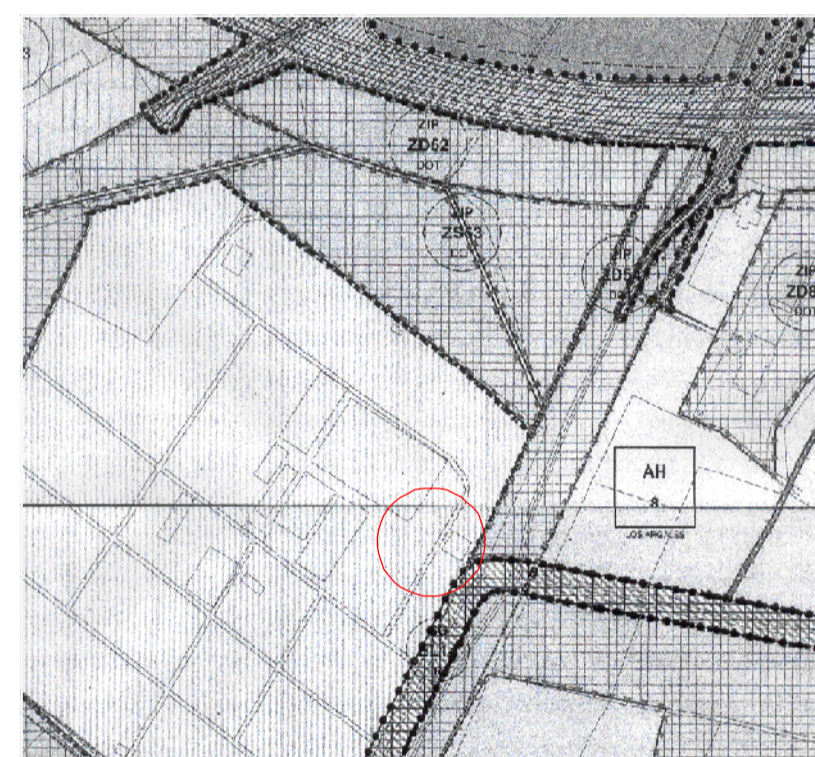
- **Building Type/use**
New Office Building
- **Country**
Spain
- **Client**
Junta de Castilla y León
- **Architect**
O.D.I. Más P.
- **Occupation**
Under Construction



Building performance information

Energy efficiency

- Orientation to reduce energy demand
- Semi-buried, to increase insulation
- Solar protection
- Efficient energy control systems
- Efficient lighting
- Photovoltaic field, for self-supply and network
- Solar thermal for domestic hot water consumption
- Biomass boiler
- Free cooling



Other relevant Building Features

Urban

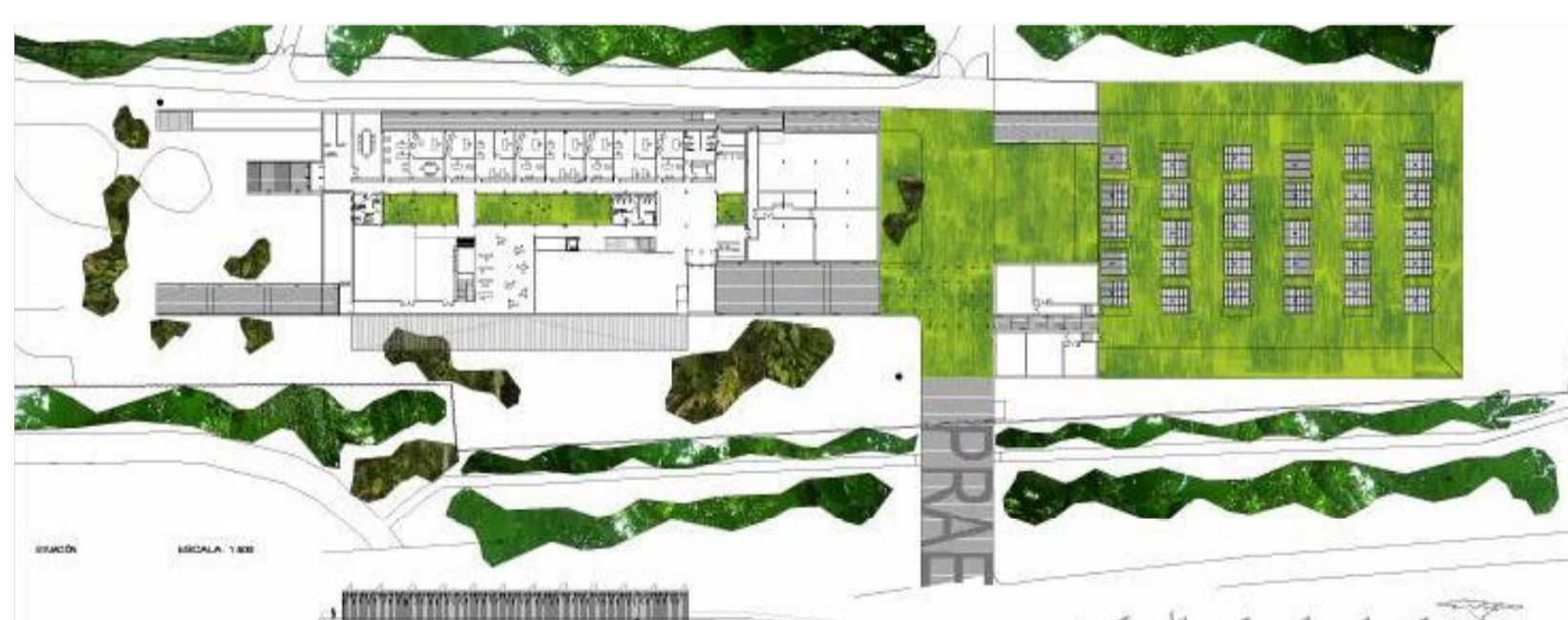
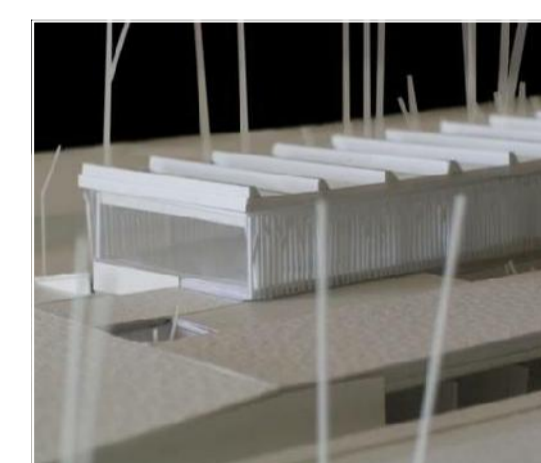
- Mixed uses
- Ecologic flat roof
- Native plantings

Materials

- Use of materials without VOC
- Use recycled wood, cellulose insulation
- Use re-usable materials
- Adaptable and flexible design

Water

- Demand reduction
- Recycled and rain capture for irrigation



Design Process

The purpose of this project consists in

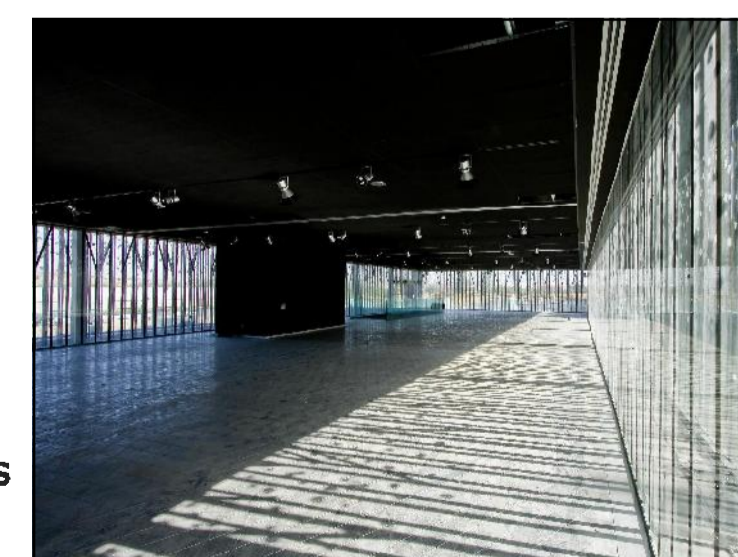
designing a efficient building without renouncing to contemporary architecture.

Participation and revaluation of the landscape, energy generation, and its

projected use, makes this building a reference for Valladolid city.

Objectives of Competition

- Environmental sensibility
- Representative of Spanish architecture
- Replicable technical solution proposed
- Ability to carry out the assessment process
- High energy efficiency

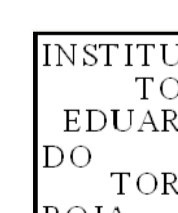


Assessment of Competition Jury

The building integrates passive energy saving systems, but also participates in generating renewable energy not just for the building demands, but also for other uses.

The use of industrialized elements and iron structure, makes it flexible and efficient in the construction process.

It is a good example of contemporary Spanish architecture, and high indoor design quality.



Building evaluation

SBTool-VERDE

The Evaluation process was carried out using SBTool-Verde, a system developed by iiSBE TC

Work - group. The system evaluate the performance of building as impact reduction in

comparison to reference building.

Evaluation are related to a scale that ranges from 0 to 5 leaves, with interpretation

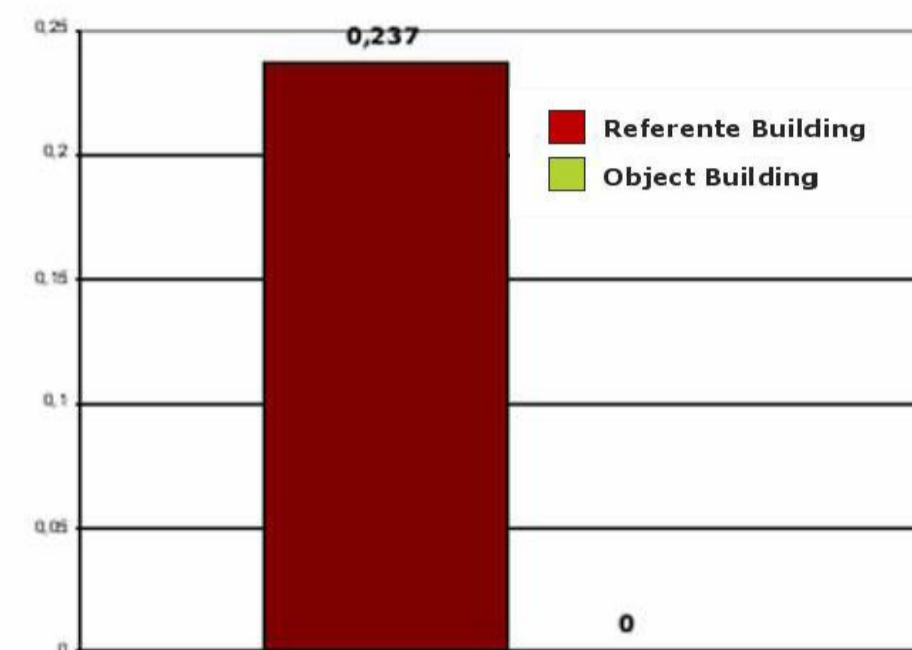
as follows:

- from 0 to 0,5
- from 0,5 to 1,5
- from 1,5 to 2,5
- from 2,5 to 3,5
- from 3,5 to 4,5
- from 4,5 to 5

Resultados de la evaluación Absoluta			
Los datos están basados solo las puntuaciones obtenidas en la Auto-evaluación			
	Edificio de Referencia	Edificio Objeto	% de ahorro Resultado
1	85,15	32,33	62%
2	0,237	0,000	100%
3	1,05	0,62	40%
4	100,55	79,79	20%
5	3982,80	3114,07	17%
6	20,54	8,46	59%
7			0%
8			0%
9	501,23	28,07	94%



2. Increase of UV radiation at ground level

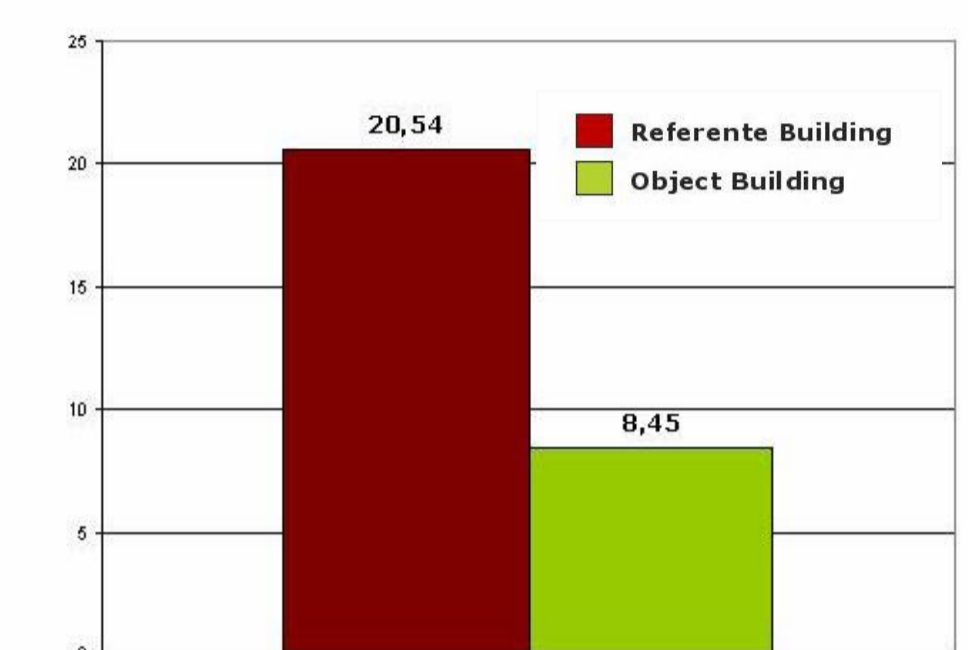


Reduction of 100%



- Natural insulation material, rock wool

6. Land and water degradation



Reduction of 59%

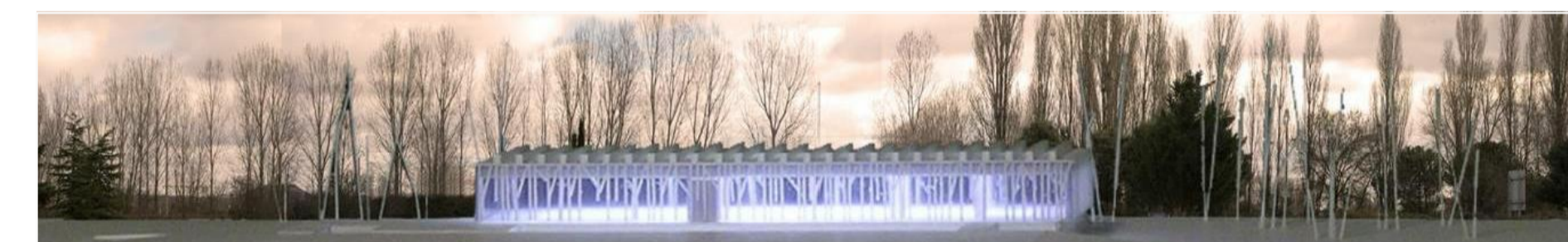
- Use of bio-based products obtained from sustainable sources
- Re-use of salvaged materials
- Design for disassembly, re-use and recycling
- Use of pre-fabricated products
- Possibility to modify facility technical building system
- Adaptability to future changes in type of energy supply

The building shows a good performance in climate change (62% of reduction), loss of aquatic life, land and water degradation and health and hygiene. On the other hand it doesn't have good results in depletion of non-renewable resources and confort.

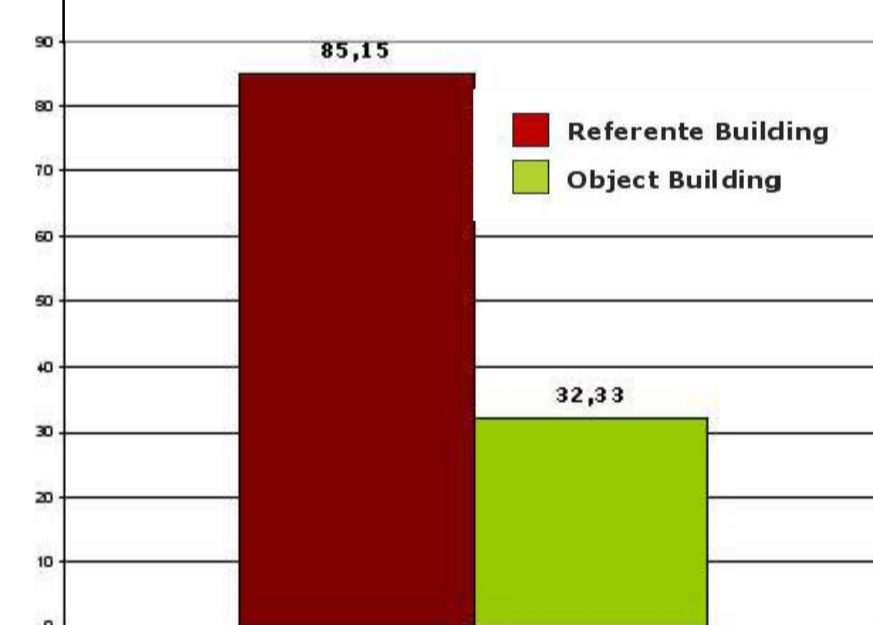
IMPACT AVOIDED



2,65

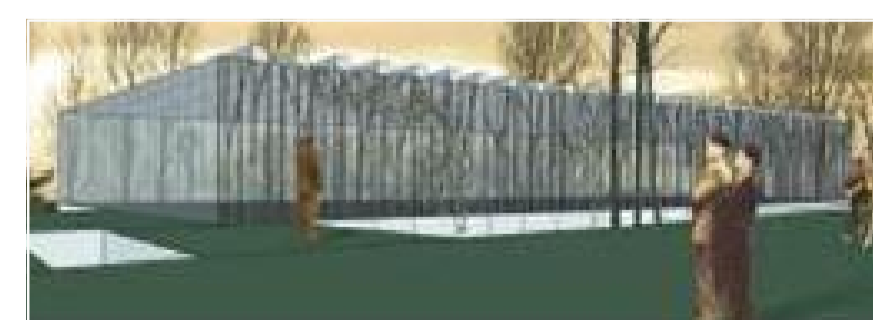
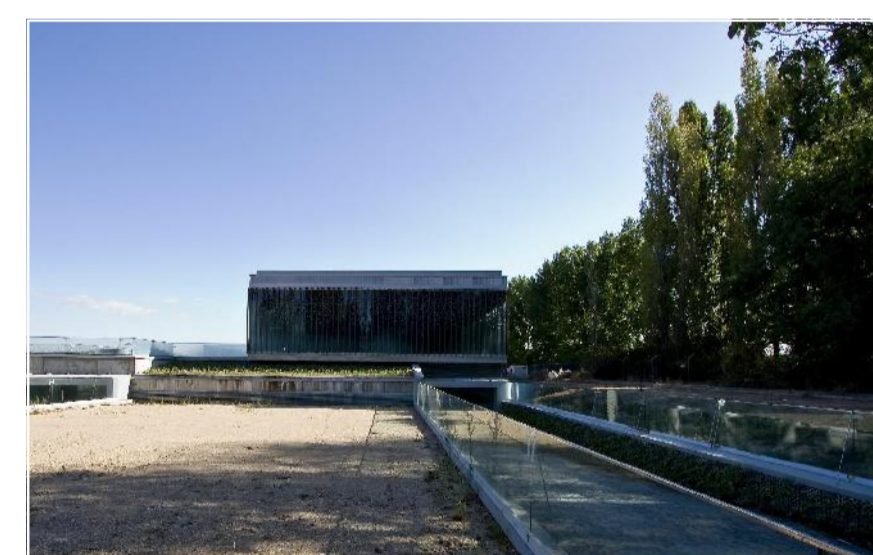


1. Climate change

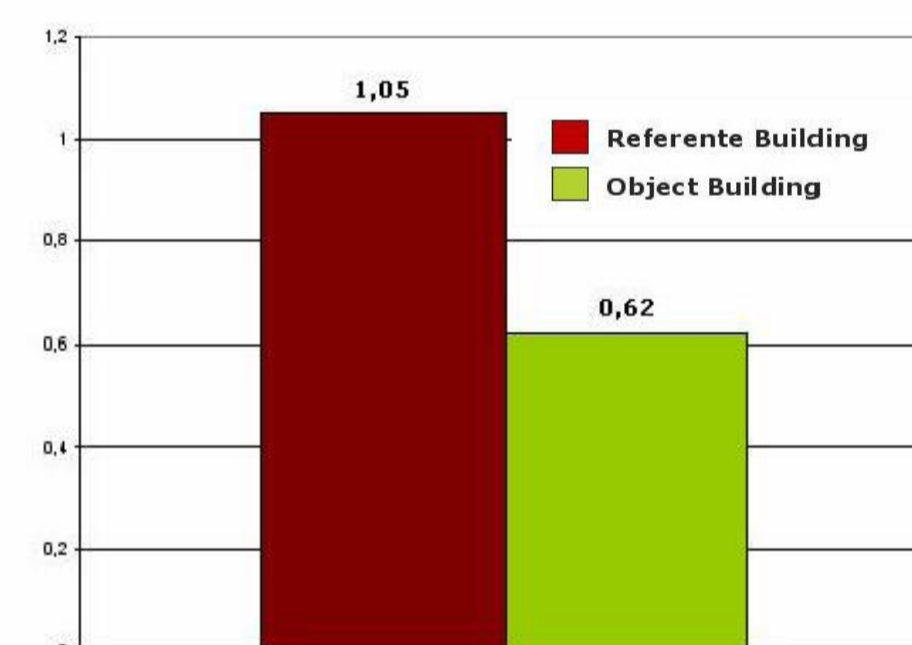


Reduction of 62%

- Reduction of non-renewable primary energy embodied in construction materials
- Use of local material
- Design of passive system for heating and cooling demand reduction
- Biomass boiler for heating and hot water



3. Loss of aquatic life

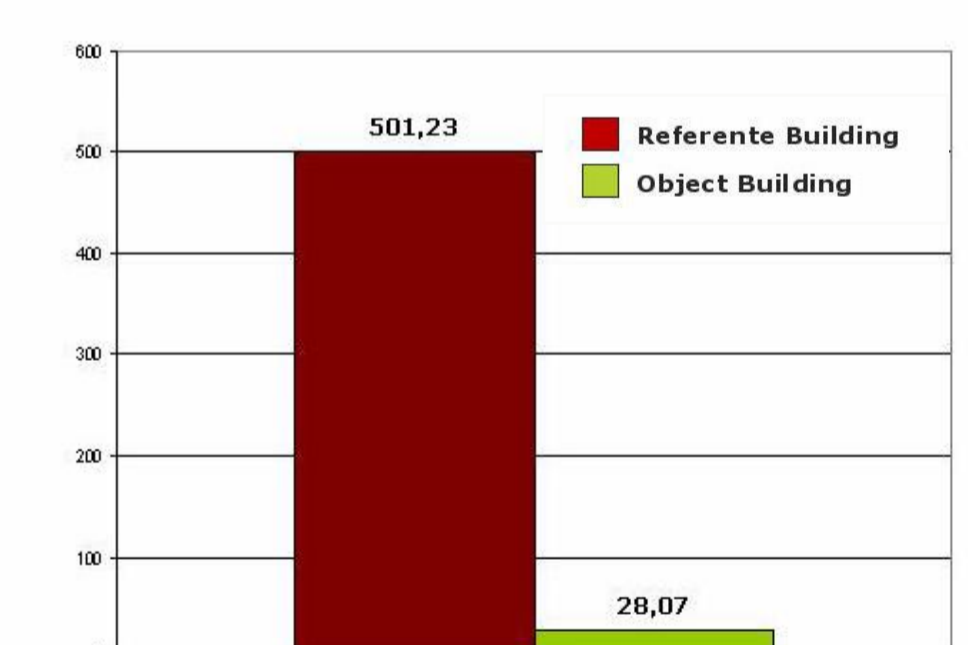


Reduction of 40%

- Use of native plantings
- Use of low-flow and aerating tap models
- Graywater recycling for irrigation and toilet
- Design features for a split gery / potable water system for later reuse
- Provision of a water consumer meter



8. Health and hygiene



Reduction of 95%

- Use of a low Nox emissions boiler
- Use of low VOC materials
- Use of tried construction systems