Lessons learnt in Andalusia and contributions to the Mediterranean Context

Project cofinanced by
European Regional Development Fund

Lead Partner
Provincia di savona

Sustainable Construction in Rural and Fragile Areas for Energy efficiency

Lessons learnt from the construction crisis in Spain

Andalusia suffered 2 crises in the construction sector:

- the bursting of the real state bubble,
- an environmental crisis provoked by massive construction.

Real state problem is not yet solved, but environmental problems are arriving to an end due to public regulations and controls.

Private sector also reacted positively , due to industry reconversion and the specialization on new sustainable and energy efficiency ways of construction.

What we have learnt from SCORE and our Mediterranean partners?

- Useful information
- Exchange of practices with other countries
- Identify our own good cases
- Raise awareness
- Help our companies to achieve visibility abroad.

Lessons learnt in Andalusia and contributions to the Mediterranean Context

Many Andalusian companies have successfully learnt from our mistakes and they are now even exporting their models and provide innovative services abroad.

Good cases in Andalusia (Spain)

C1) Abengoa Headquarters “Campus Palmas Altas”

C2) Heineken Brewery

C3) Hotel Monte Malaga

C4) 26 Social Housing in Sevilla

Category: Sustainable Office Buildings

Case Study: Abengoa Headquarters “Campus Palmas Altas”

Project cofinanced by
European Regional Development Fund

Lead Partner
Provincia di savona

Sustainable Construction in Rural and Fragile Areas for Energy efficiency

Category: Sustainable Office Buildings
Case Study: Abengoa Headquarters “Campus Palmas Altas”

Client: Abengoa S.A.
Project : Rogers Stirk Harbour & Partners/Vidal y Asociados (Architecture), ARUP (Engineers) and D-Fine (Quantity Surveyor)
Project Management: Bovis Lend Lease and Facilitec
Technical assistance: Rogers Stirk Harbour and Partners / Vidal y Asociados (Architecture), ARUP (Engineers) and Novotec (Health and safety)
Consultants: ARUP Facades, ARUP Fire, Gleeds, Vorsevi, María Medina Muro, Estudio 28, Arquitectura Fernández Carbonell, Jones Lang Lasalle, Adioscan
Contractors and suppliers: Heliopol, Ingeconser, Prasur, Danosa, Enviai, Imesa, Alumafel, Vermalu, Interpa
Oppening Year: 2009

Context

Abengoa is a technological company from Seville that applies innovative solutions for sustainable development in infrastructures, environment and energy.

“Palmas Altas Campus” in Seville, is the first business park dedicated to innovation in Andalusia and the biggest technological complex of private enterprise in southern Spain. The center, which rises promoted jointly with the City, brings together all the activity that Abengoa develops in Seville around the most advanced technologies, environmental excellence and sustainable development, which were earlier produced in various parts of the city.

In its location, the Campus will enhance an area of strong technological and urban development in the south of the city and attract other companies partner or synergistic with Abengoa, institutions, agencies attached to universities or training centers, and public entities. Thus, the Campus Palmas Altas seeks to establish itself as an international reference in R + D + I.

Category: Sustainable Office Buildings
Case Study: Abengoa Headquarters “Palmas Altas”

Above: detail of buildings

Left: Aerial view of the Campus

Description

The new Campus Palmas Altas is the best example of Abengoa's commitment in the fight against climate change and therefore to sustainable architecture, a space identified with the symbols of the highest technology and an example of excellence in environmental management which incorporates the latest advances in energy conservation and efficiency, thereby reducing energy consumption and CO_2 emissions gradually.

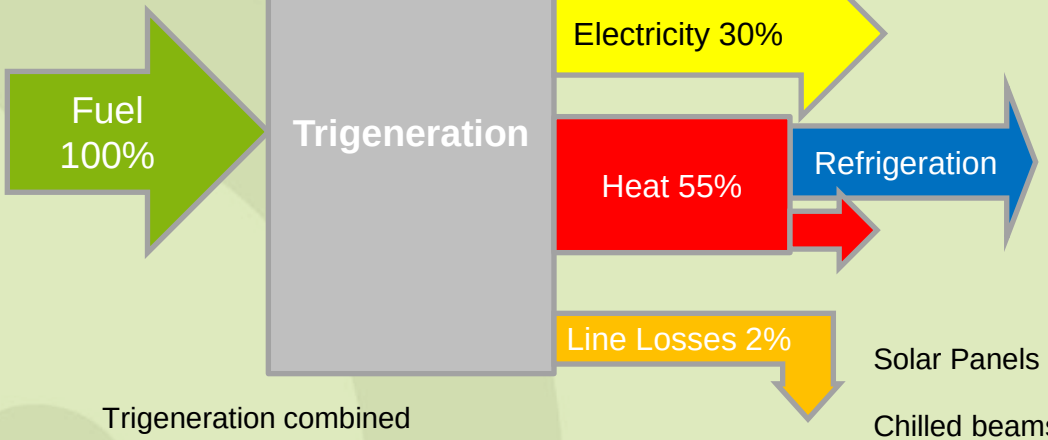
With a building area of 50.000 m2 and 1.300 parking spaces underground, the new center consists of seven buildings arranged around the central plaza and optimized to maximize the effect of shadow and control the temperature by creating a system of outdoor spaces, gardens and recreational areas that mimic the vernacular Andalusian architecture and respond to local weather variables.

The project consists of last generation environmental technologies as photovoltaic panels, a trigeneration plant, hydrogen cells or efficient air conditioning systems and lighting. Criteria apply in addition to saving energy in all aspects of design, from the geometry of the building based on compact forms of wide bays, the building envelope composition or layout and design of solar control devices to the choice of materials that contribute to a more sustainable use of the energy and supply system.

The facades of the buildings are fully glazed to facilitate the entry of a large amount of natural light inside the offices. The columns of sunlight access to the deepest parts of the building in a controlled and stable way using small courts located in the farthest part of the facade of the complex. This pursues one goal: to encourage the use of natural light while reducing the use of artificial light.

Category: Sustainable Office Buildings
Case Study: Abengoa Headquarters “Palmas Altas”

Sustainable Construction in Rural and Fragile Areas for Energy efficiency



Stirling disk (right)

Solar collectors (right)

Trigeneration combined with distric cooling,

Solar Panels

Chilled beams

Air-Conditioning

Pedestrian walkway

Category: Sustainable Industrial Buildings

Case Study: Heineken Brewery

Project cofinanced by
European Regional Development Fund

Lead Partner
Provincia di savona

Sustainable Construction in Rural and Fragile Areas for Energy efficiency

Category: Sustainable Industrial Buildings
Case Study: Heineken Brewery

Client: Heineken España S.A.
Project : Heineken Supply Chain Services and Heineken España S.A.
Contractors : Ayesa
Oppening Year: 2008

Context

Heineken Spain considered the construction of a new brewery in Seville because of different factors. The old brewery was located in the middle of the city since 1905. With an initial production of 3,5 million liters, it was 350 millions liters in 2006 (grew 100 times in 100 years). Layout, as a consequence, was suboptimal and with severe space limitations for capacity extension, the factory has low potential productivity (production costs) and there were required high investments for a replacement. Furthermore, the new EU legislation on Environment and Safety would make its continuity not feasible.

Factors such as the close relationship of the brewery with Seville and to continue using water from Seville to not change the characteristics of the beer was forced to find a location suitable for this large installation inside the city.

The new brewery was built within Sevilla municipality in a new industrial area at the outskirts of the city for an initial sales capacity of 400 millions liters designed to be extended easily to 500 millions liters, based on future domestic market

Description

The main principles for the construction of the new brewery were:

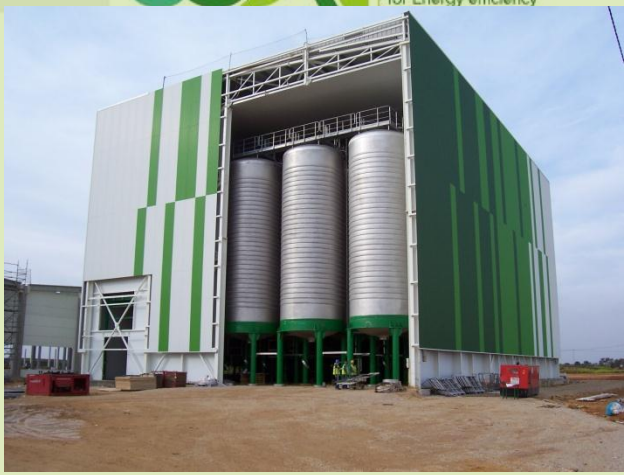
- Automation & IT: Latest but proven technology, guarantying same product quality/profile.
- Environmentally friendly brewery, efficient in energy/water usage and with a responsible waste management.
- Industrial safest operation. Lowest ammonia.
- Product Integrity: Full compliance with European legislation and Heineken standards.
- Practical design, easy to clean, accessible. High standard on Hygiene. Modular layout, easy to extend.

Category: Sustainable Industrial Buildings
Case Study: Heineken Brewery

Left:

Old brewery

Below: Aerial view of the new brewery



Closed warehouses, refrigerated and insulated with air drying (also contribute to energy saving)

CO_2 recovery line

Category: Sustainable Hotel

Case Study: Hotel Monte Malaga

Project cofinanced by
European Regional Development Fund

Lead Partner
Provincia di savona

Sustainable Construction in Rural and Fragile Areas for Energy efficiency

Category: Sustainable Hotel
Case Study: Hotel Monte Malaga

Client: Hoteles Monte
Project : Architects “Hombre de Piedra” and “Montoya Molina”
Calculations of structures and facilities: H.P. Ingenieros, Ineco-98, S.L., Salvador Muñoz and Samuel Domínguez
Developer: Gabriel Rojas, S.L.
Contractor: Dragados, S.A.
Oppening Year: 2005

Context

The hotel chain Hoteles Monte opened its flagship, Hotel Monte Malaga, in 2005. Located in the center of Malaga, capital of the Costa del Sol, Monte Malaga is a modern and emblematic building due not only to its innovative design but also because it is an example of sustainable construction.

Designed by the architects Juan Manuel Rojas and Juan Ramon Montoya, the building occupies the site of a former industrial plant in front of the Malaga port and the hotel, though urban, responds to this location with industrial logic. Adaptation to the surroundings is a sustainable principle.

Description

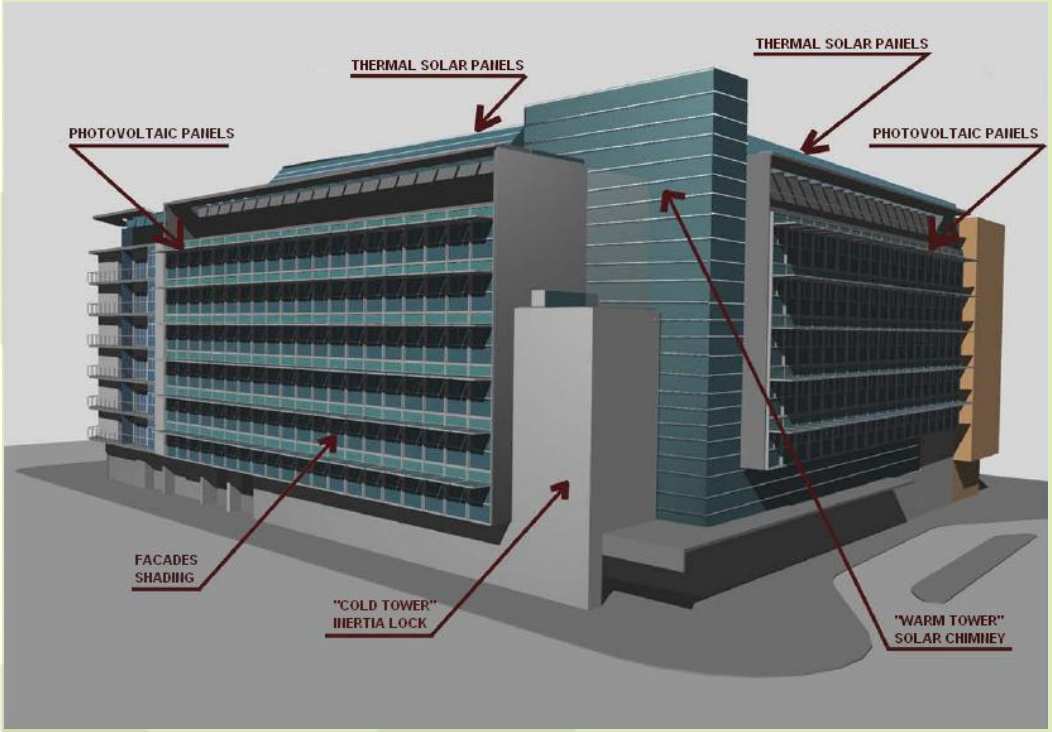
In this building takes place the integration of clean energy generation within the normal installations of a building, valuing its advantages but also taking into account its drawbacks.

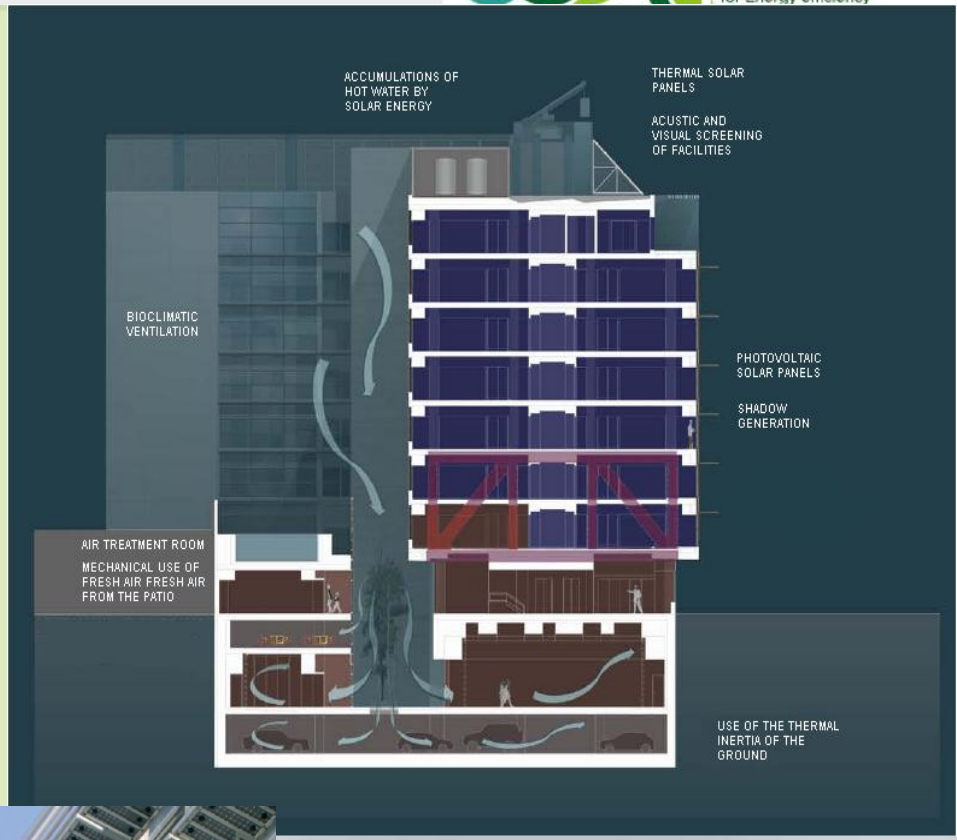
This project is proposing a new, non-predatory relationship of the building with its environment, the Costa del Sol. The project doesn´t distinguish between architecture and installations. The architects project spaces taking into account their behavior as installations (patios as wells of air and light, towers as chimneys, etc.) and they project installations as elements of architecture (photovoltaic sunshades, solar thermal collectors, etc.).

The integrating concept is found in various building elements.

Category: Sustainable Hotel
Case Study: Hotel Monte Málaga

SCORE Sustainable Construction in Rural and Fragile Areas for Energy efficiency





"Patio"

Ventilation

Above: Rooms Ventilation
Left: Solar Photovoltaic Panels

Category Sustainable Housing Building
Case Study 26 Social Housing in Sevilla

Project cofinanced by
European Regional Development Fund

Lead Partner
Provincia di savona

Sustainable Construction in Rural and Fragile Areas for Energy efficiency

Category Sustainable Housing Building
Case Study 26 Social Housing in Sevilla

Context

Umbrete, a village in the province of Seville, has a Mediterranean climate that characterizes Andalusia, with the uniqueness of being located on the platform of Aljarafe, where temperature variations are less pronounced and slightly lower than in the rest of the Guadalquivir area, due to the cool breeze that comes from the elevation of this area.

The project is located in the Northern area of the town of Umbrete, in a place where empty spaces and built urban frameworks meet.

Description

The idea for the project is based on the prototype of social housing, proposing a sequence of empty and full spaces following the examples of the traditional Andalusia domestic architecture.

THANK YOU!!!

Please visit the Andalusian good cases at

www.scoremed.eu

Pablo Morales

pablo.morales@camaradesevilla.com

Project cofinanced by

European Regional Development Fund

Lead Partner

- Province of Savona (ITALY)

Project Partner

- READ S.A. - South Aegean Region (GREECE)
- Local Energy Agency Pomurje (SLOVENIA)
- Agência Regional de Energia do Centro e Baixo - Alentejo (PORTUGAL)
- Official Chamber of Commerce, Industry and Navigation of Seville (SPAIN)
- Chamber of Commerce and Industry - Drôme (FRANCE)
- Development Company of Kefalonia & Ithaki S.A. - Ionia Nisia (GREECE)
- Rhône Chamber of Crafts (FRANCE)
- Cyprus Chamber Of Commerce and Industry - Kibris (CYPRUS)
- Marseille Chamber of Commerce (FRANCE)

Sustainable Construction in Rural and Fragile Areas for Energy efficiency