



## Azurmendi restaurant



## Introduzione

Designed following an overall approach based on sustainability, the building is a bio-climatic structure, LEED Silver certified, where three bodies are combined: greenhouse, dining room and kitchen. There are many areas that influence energy in the building, such as offering employees options to arrive by bicycle and to take a shower later, creating an area for recharging electric cars, controlling the levels of natural and artificial lighting. The BIPV system is integrated in part of the semi-transparent roof and façade of the building, shading the interior spaces. Designed following an overall approach based on sustainability, the building is a bio-climatic structure, LEED Silver certified, where three bodies are combined: greenhouse, dining room and kitchen. There are many areas that influence energy in the building, such as offering employees options to arrive by bicycle and to take a shower later, creating an area for recharging electric cars, controlling the levels of natural and artificial lighting. The BIPV system is integrated in part of the semi-transparent roof and façade of the building, shading the interior spaces.

Source: [Successful Building Integration of Photovoltaics – A Collection of International Projects](#)

## Integrazione estetica

The BIPV modules are completely integrated in the building image, being semi-transparent elements characterized by a uniform appearance, that are not so different from traditional glass panels that could be integrated in the roof and the façade.

## Integrazione energetica

The building has been LEED Silver certified. The BIPV system is part of an overall concept based on the sustainability from different points of view. Besides the photovoltaic source, the building uses geothermal energy that acclimatizes almost 100% of the building. Other aspects are: the materials used are recycled or recyclable; there is a green cistern-roof where rainwater is recycled for irrigation and WC cisterns, which, in addition, serves as a very good insulator.

## Integrazione tecnologica

The BIPV system is made of insulated glass-glass modules (L vision), which incorporate a thin-film amorphous silicon layer that filters the natural illumination, with a 20% of visible light transmittance level.

## Processo decisionale

Azurmendi restaurant is a bio-climatic structure with a greenhouse where the cooking ingredients are what is planted there. It was designed as a sustainable building in terms of water, materials and energy. The photovoltaic system was exposed in the atrium roof providing an educational message to the customers. It also represent an important shading structure to prevent the overheating of the interior space.

## Lessons learnt

The PV system helped to address different aspects: the aesthetic, as the architectonic integration is absolute; the energy-related, because the PV system generates electricity for the lighting of the building and it helps to shade the space (Arch. Naia Eguino).

## DATI EDIFICIO

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<b>Tipologia progetto</b>	nuova costruzione
<b>Destinazione d'uso</b>	ricettivo
<b>Indirizzo edificio</b>	Barrio Leguina, Larrabetzu, Biscay, Spain

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## Sistemi BIPV

### DATI SISTEMA BIPV

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<b>Sistema architettonico</b>	skylight, warm façade
<b>Anno integrazione BIPV</b>	2012
<b>Active material</b>	amorphous silicon
<b>Trasparenza modulo</b>	semi-trasparente
<b>Tecnologia modulo</b>	vetro-vetro, FV non riconoscibile, modulo customizzato
<b>Potenza sistema [kWp]</b>	21
<b>Area sistema [m<sup>2</sup>]</b>	283.6
<b>Dimensioni modulo [mm]</b>	1,628 x 1,309, 2,653 x 1,309
<b>Orientamento moduli</b>	South-West
<b>Inclinazione moduli [°]</b>	6 (skylight), 90 (façade)

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### COSTI SISTEMA BIPV

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## Stakeholders

### Progettista principale

Arch. Naia Eguino

### Produttore componenti BIPV

Onyx Solar

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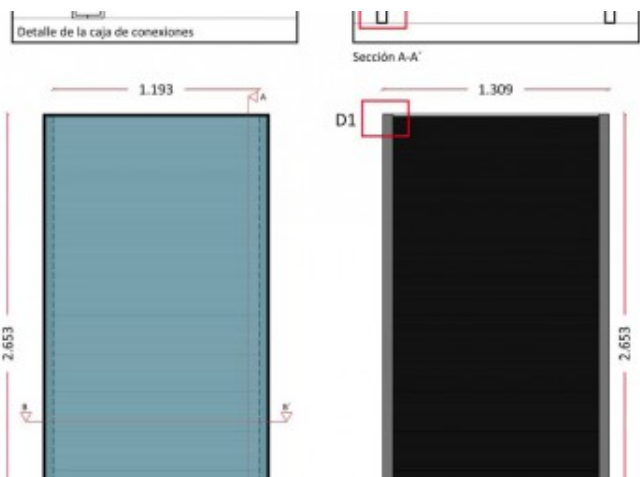
<https://www.onyxsolar.com/>



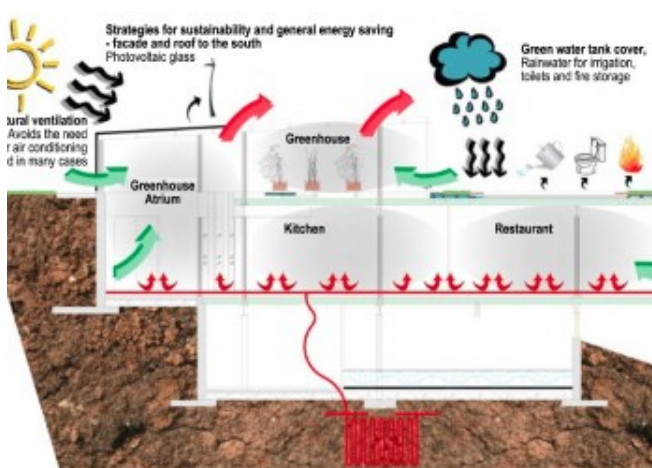
BIPV roof and façade of Azurmendi restaurant © Naia Eguino



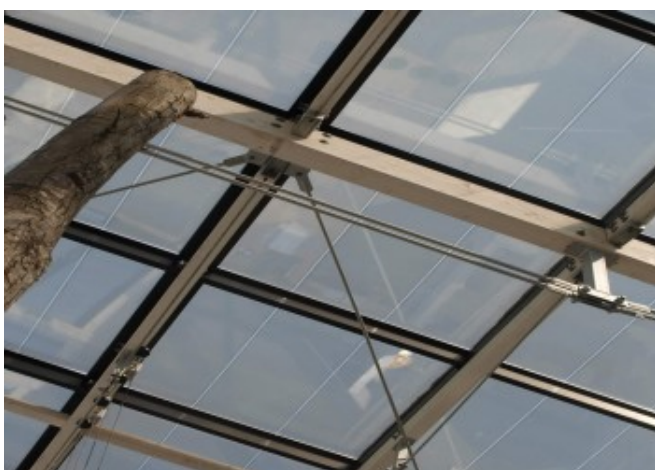
BIPV roof and façade on the entrance atrium © Onyx Solar



BIPV modules from Onyx Solar © Onyx Solar



Cross-section through the bio-climatic building © Naia Eguino



BIPV roof structure © Onyx Solar



Entrance atrium shaded by the BIPV modules © Naia Eguino

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