

Photovoltaic system

Dojo Costellois

LE COTEAU



A sustainable rehabilitation

- After the acquisition of an old covered station platform, the city of Le Coteau wished to rehabilitate this building and use it for a sporty purpose.
- So the municipality decided on a project for revaluing the building within the sustainable development.
- Dojo Costellois is with more than 30 cm of insulating material and a gas condensing boiler an aesthetic and economical energy complex.
- The city of Le Coteau entrusted the construction of this photovoltaic system to the SIEL that should cover the entire south-oriented roof.
- A system consisted of steel containers was chosen to replace all of the tiles with new photovoltaic collectors.
- The solar energy is renewable and produces no greenhouse gases. The photovoltaic collectors have compensated the energy which is necessary for their production in a few months.
- Besides, the efficient recycling process takes place on location.

The SIEL as general contractor

The SIEL secures investments and carries out orders for the municipalities. So it is possible to install high-performance plants for all municipalities in the Loire region - regardless of resources.

For this reason, the municipality hands over its area of responsibility «Energy production from renewable energies» to the SIEL.

One part of the profit generated by the sale of the electricity to the EDF* is directly paid by the SIEL to the municipalities in form of financing works to save energy (changing of the boilers, insulation, ...).

* EDF: Electricité de France = market leader concerning energy supply

In association with :



la vie du bon côté
Le Coteau

Economic and environmental benefits

- The photovoltaic generator of Dojo Costellois produces more than 75,000 kWh per year - equivalent of an electricity consumption of 32 households (without heating).
- This kind of electricity production from renewable energies prevents the emission of approximately 33.75 tons* CO2 per year - that is an equivalent of 15 cars driving 20,000 km a year (115 g CO2 / km).

General contractor of the solar power station : SIEL

Power of the photovoltaic generator :
71,760 watts with optimal solar irradiation
(71,76 kWp)

Surface of the solar panels : 435 m²

Inverter : 6 elements with 11 kW

Annual electricity production : 75,000 kWh

Type of the solar panels :
monocrystalline silicon, fixed at steel frames

Total investment : € 377,505

Plumber : Citeos

Architect : Brosselard

Commissioning : September 2010



Information board

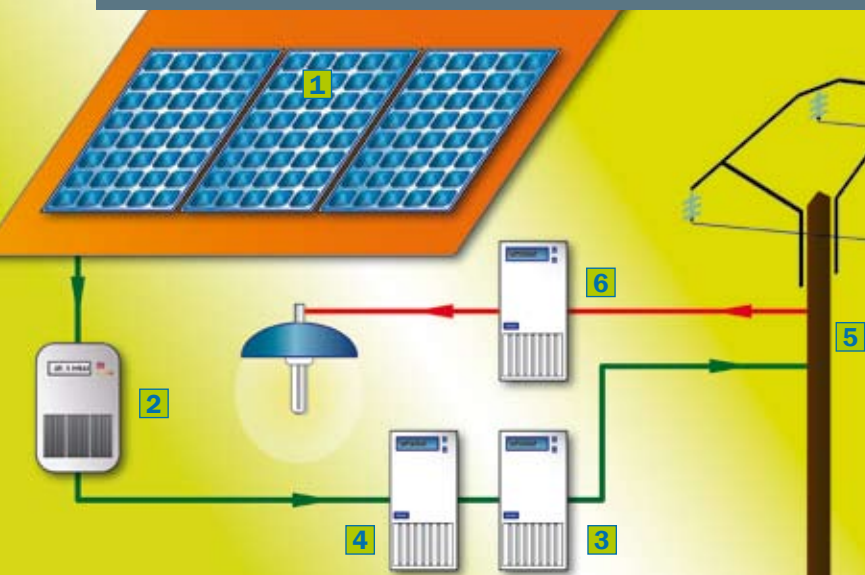


Replacement of the old tiles for solar panels

*with 450 g CO2/kWh - Source : ADEME/RTE

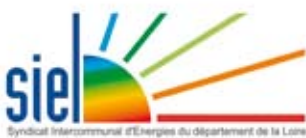
kWp = kilowatt-peak

Functioning of this construction



- The silicon sensors (1) convert light into electric current and produce direct current with that.
- An inverter (2) converts this DC into 220 volts alternating current.
- After that, this electricity is fed into the electricity supply system (5) with a production counter (4) and a «not-consumption meter (3). The latter guarantees that only solar energy is sold.
- The power supply of the building is guaranteed through a conventional network with a consumption meter (6).
- It is possible to sell the total electricity produced or only the surplus according to one's personal use.
- 8 m² of the photovoltaic collectors (silicon crystalline) are producing approximately 1000 kWh per year with a maximum current power of 1 kWp.

The photovoltaic system of Dojo Costellois is equipped with a telecontrol system which allows the SIEL to control the manufacturing efficiency in real time. Furthermore, it is possible to receive all important data which is necessary for the faultless functioning of the equipment.



Syndicat Intercommunal d'Énergies du département de la Loire*

5 rue Charles de Gaulle
42021 Saint-Etienne Cedex 1

Tel. 04 77 43 89 00

www.siel42.fr

* trade union for energies that operates throughout the Loire department

QR Code



The SIEL is a public institution that works for all communities in the Loire region and unites therefore all 43 municipalities and the General councils of the Loire.

These communities entrust the management of the public electricity and gas distribution network to the SIEL. At the same time, the SIEL carries out the following projects for its members: laying of the electricity supply system under the earth, electrification, street lighting and energy management in public buildings. Furthermore, the SIEL is working on the development of renewable energies.