

Cestas photovoltaic power plant

by [Christophe Buhot](#) / 2017-06-06 13:59:55 / France / 17325 / FR



Year of commitment : 2015

CO2 Impact : Reduction of the equivalent of approximately 19200 tonnes of CO2 per year

Green energies : Energy production, Photovoltaic solar

Biodiversity & Ecosystems : / Ecosystems preservation /



285 000 000 €

Builder

Clemessy via its subsidiary RTM

Manager / Dealer

RTM group of companies, operation and maintenance for 20 years

GENERAL INFORMATION

Ideally located in a sunny region, the Cestas photovoltaic power plant in Gironde has been designed to produce more than 350 gigawatt hours of electricity each year, which corresponds to the domestic consumption of the population of Bordeaux. From design studies to piloting the group, through the phases of selection, validation and follow-up of the manufacture of the panels until the organization of the site, Clemessy (a 100% subsidiary of EIFFAGE) has set up an industrial organization to carry out the project with the collaboration of the local teams and the Spanish subsidiary of Eiffage Énergie. 983,500 photovoltaic panels, placed on 16,500 steel and aluminum support tables, and nearly 5,000 km of overhead and underground electrical cables to deliver electricity to the grid were installed in just five months. The solar park, directly connected to the very high voltage network, was delivered at the end of 2015.

Progress Status

Delivered

Data Reliability

Self-declared

Funding Type

Private

Website Enterprise / Infrastructure

<http://fr.clemessy.com/realisations/les-projets/centrale-de-cestas>

<https://www.neoen.com/centrale-solaire-sol-de-cestas-300-mw>

Sustainable Development

Attractiveness :

From the outset of the project, Neoen and all of the group's stakeholders have positioned sustainable development as an indispensable component in the construction of the Cestas power station. Each stakeholder in the project has focused on values of respect for people, the environment and the ecosystem.

Well Being :

In the construction phase, a life base, including an infirmary, was properly sized to allow the reception in very good conditions of all the personnel.

Social Cohesion :

- Showroom for schoolchildren and local residents: each child could discover the different sources of energy and understand in a fun way the history and principles of photovoltaic energy. The inhabitants of the neighboring communes were able to discover the operation of the plant and the details of the project.
- Training School: Several apprentices and trainees were involved in the project. Important responsibilities have been assigned to young graduates working alongside experienced professionals.
- The panel cleaning system, specially designed for the project, was developed by a French company.
- A regular vegetation control and maintenance plan is in place using grazing. A contract was signed with a local breeder.

Preservation / Environmental Improvement :

- Protection of sedge fadet by preserving its preferential breeding site: moist moorland (1.35 ha of wet moors preserved)
- Protection of the small common fauna of the moors by the creation of grassy spaces under the panels and access in the fence
- Landscape integration of the plant through the planting of trees and bushes along roadside fences
- Eradication of an invasive plant present on the site and classified as plant plague (in partnership with the ONF - National Forest Office and INRA - National Institute of Agricultural Research)
- Waste management: the installation of a waste collection center allowed the collection of recyclable materials, totaling 38,000 tons of wooden pallets and 800 tons of recycled cardboard. The separation of all the packaging waste from the panels was implemented at the start of the project.
- Use of ecological and ephemeral paints in structures to make it easier for homes to locate pre-holes

Resilience :

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- The areas between the modules are vegetated, which reduces the risk of erosion and facilitates the infiltration of water at the site in case of heavy rains.
- Reduction of the volume of materials used for construction by the creation of an underground drainage of rainwater.

Responsible use of resources :

Regular maintenance of the vegetation on the ground is done to avoid shading and to favor ventilation and air circulation under the modules (reduction of the heating to the ground level).

Governance

Neoen (investor and owner)

Holder Type : Private Company

Clemessy via its subsidiary RTM

Builder Type : Other

RTM group of companies, operation and maintenance for 20 years

Manager / Dealer Type : Private

Composition RTM :

Clemessy (mandataire, pilotage, études, terrassement, travaux électriques)

Schneider Electric (conversion électrique)

Krinner (fondations vissées et structures)

Business Model :

Neoen owns 40% of the shares of the project and has associated infrastructure funds. Private investment based on the purchase obligation (KWH) by RTE over a period of 20 years.

Sustainable Solutions

Cleaning of panels with osmosis water

Description :

Cleaning is done with osmosed water and not with water directly from the network. In osmosis water all minerals are extracted using filters which make it softer. So this water facilitates cleaning, is greener, without chemicals, limits water consumption and drying times.

The cleaning machine (prototype) was specially designed for the Cestas project, taking into account the special features of the site: passing 1.2 m between the panels, 650 km to go for cleaning. It has a 3m brush. Water jets (front and back of the brush) propel the water at 5-6 bars on the panels to remove the dirt before brushing and rinse after it passes. Flow and pressure settings were made to minimize water consumption.



- Water management

<http://www.europe-service.com/fr/nos-produits/propret%C3%A9-nettoyage/laveuses/autres/laveuse-panneaux-solaires#>

Company (es) Website :

Company (es) Website :

Anticipation of dismantling at the end of life

Description :

Selection of inert photovoltaic panels

Support of panels without any concrete

Participation in the association PV Cycle for the recycling of panels

- Waste management

Company (es) Website :



Contest

Reasons for participating in the competition(s)

La centrale photovoltaïque de Cestas, en adéquation avec toutes les instructions réglementaires et sur la base de 300 MWc, apporte les bénéfices suivants :

- Produire de l'électricité pour répondre à la consommation d'environ 280 000 habitants.
- Réduire l'équivalent d'environ 19 200 tonnes de CO2 par an.
- Optimiser au maximum l'emprise au sol grâce à une configuration innovante : le parc produit trois fois plus d'électricité par hectare que la plupart des autres parcs construits en France et en Europe, montrant ainsi la capacité du photovoltaïque à s'intégrer avec la meilleure efficacité possible dans les territoires. L'orientation des panneaux Est/Ouest a largement contribué à cette optimisation.
- Rendre les énergies renouvelables plus compétitives face à des autres sources de production, grâce à la mise en place une véritable organisation industrielle par le groupe d'entreprises.

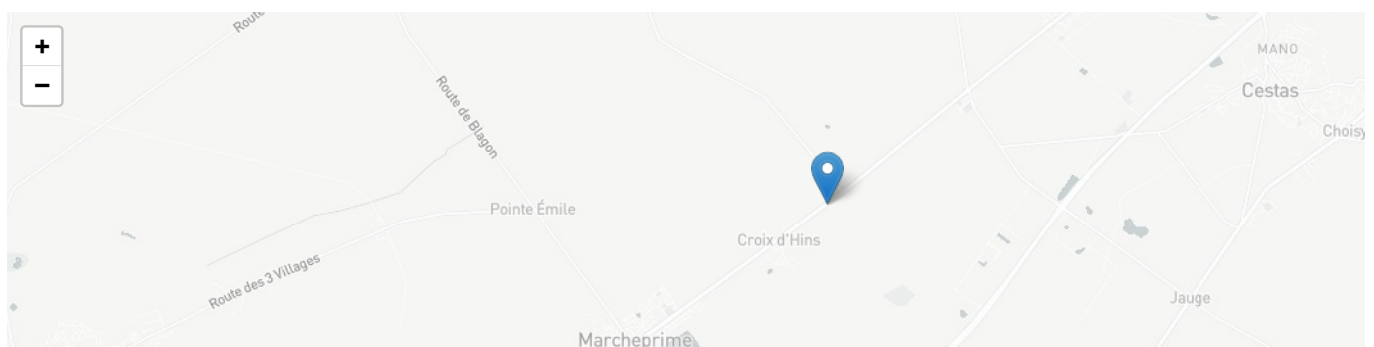
Building candidate in the category



Coup de Cœur des Internautes



Grand Prix Infrastructure Durable



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