IJGlobal ESG – Hybrid Renewables, Europe – Aquila

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Aquila Clean Energy singled out the Cercal solar PV plant in Portugal from its Iberian portfolio for its submission to win the IJGlobal ESG Award 2023 for hybrid renewables in Europe.

Aquila Group is focused on the investment and development of essential assets, including clean energy (wind energy, solar PV, hydropower and battery storage), sustainable infrastructure and specialty asset classes like carbon forestry and energy efficiency.

Currently Aquila supplies 2 million homes with renewable energy which cumulatively avoids more than 10 million tonnes of CO2 annually.

The group's goal is to become one of the world's leading sustainable investment and development companies for essential assets by 2030.

To this end, it aims to generate assets in a sustainable way by managing ESG impact through the entire value chain and lifecycle, to ensure that its projects not only contribute to climate change mitigation but also don´t come at the expense of the environment or society.

IJGlobal has written extensively on the Aquila Clean Energy solar PV and wind portfolio in Spain and Portugal, but this award focuses on its solar PV plant in Cercal, Portugal.

With an installed capacity of 276MW it will be capable of powering 141,000 homes per year with clean energy and avoiding 476,000 tonnes of annual CO2 emissions once operational.

More importantly, it will implement many environmental and social measures that benefit society such as temperature and biodiversity studies, R&D to identify the best agricultural practices and species to cultivate between solar PV panels, soil studies to create soil erosion mitigation strategies, a Renewable Energy Community to provide 400 homes and small businesses with a reduction in their electricity bill, as well as the planting of 6,000 trees.

Solar PV plant Cercal benefits from a sustainable development approach Aquila calls EcoSolar – which encompasses a robust set of measures to deal with the direct impacts of solar PV assets and aims to cover the full spectrum of community concerns.

This includes the ability to provide locals with access to renewable energy, consider biodiversity factors and sustainable agricultural practices during operations as well as plan for the end of life – via circular equipment studies and decommissioning plans.

EcoSolar starts with the execution of a stakeholder engagement plan to capture key community concerns.

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The submission states: “By implementing this plan in Cercal we were able to obtain valuable feedback including the need for us to create a Renewable Energy Community to provide locals with savings in the form of reduced electricity bills. This will enable local families and businesses to make savings to their energy bills of up to 50%.

“Regarding concerns about biodiversity, we created a partnership with the Faculty of Sciences at the University of Lisbon to carry out a study on the environmental impacts of solar PV, create tailored mitigation measures, and subsequently decide what local initiatives might be needed to preserve local biodiversity and soil quality.

“This was the starting point for our agrivoltaic PV (AgriPV) strategy – combining agricultural practices with the production of electricity via solar PV – something that is viewed fondly by locals because of land use challenges. The solar PV plant in Cercal will be the first one in Portugal to have a pilot project on AgriPV."

Wider impact

The solar PV plant at Cercal will meet the highest technical standards, but the innovation that it brings to the sector is the concept of EcoSolar.

To date, no studies have been carried out in Portugal for large-scale PV projects with these goals.

This is the first solar PV plant that will have local temperature measurements and soil studies to optimise the preservation of local biodiversity and promote the most effective agricultural practices for the creation of AgriPV, something Aquila believes to be critical in Europe to solve land use challenges.

This pilot project will produce more knowledge about large PV plants while at the same time guaranteeing the protection of biodiversity at the Cercal facility.

In addition, through the different partnerships with universities, Aquila Clean Energy is generating scientific knowledge that will be publicly available, contributing to the increased availability of scarce information about soil quality, biodiversity protection and temperature measurement in large-scale solar PV projects.

As the submission states: “EcoSolar is a reference project in Portugal and could be used in the future as a best practice for the sustainable development of solar photovoltaic plants.”

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