

Iberdrola is awarded four agrovoltaic innovation projects in France

- The parks will improve the productivity of agricultural and livestock activity on the land where they are installed.
- Each demonstration project has obtained the maximum capacity allowed in the auction of 3 MW, giving a total capacity of 12 MW.

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Iberdrola has been awarded four agrovoltaic projects with a total capacity of 12 megawatts (MW) in the renewable energy innovation tenders launched by the French Ministry of Energy Transition. As a prerequisite and priority, the projects focus on innovation criteria, care for the environment and improvement of agriculture and livestock farming on the land on which they are implemented, while maximising electricity production takes second place. Innovation that contributes to normalising the coexistence of the energy and agricultural sectors.

The tender has been designed through contracts for difference (CfD), in which the price per MWh has been marked for a duration of 20 years above the market value to compensate for the prioritisation of the care of agriculture and livestock, rather than the maximisation of the plant's production.

The French tender was launched for a total of 140 MW under two different categories: innovative ground-mounted installations with capacities ranging from 500 kW to 3 MW, and innovative installations installed on the roofs of barns, greenhouses or car parks, with capacities ranging from 10 kW to 3 MW. In total, 172 MW have been awarded in 66 projects: 30 ground-mounted and 36 roof-mounted, with an average capacity of 2.6 MW.

The four projects presented by Iberdrola have won the bidding and obtained the maximum capacity of 3 MW. Framed in the land category, they contemplate two different solutions. The first of these, called Kirch, is aimed at improving animal welfare and the pastures used to feed the cattle where the panels will be located, in order to increase the quality of the organic farm's dairy products. The other three projects Maubec, Lapenche and Solomiac aim to improve agricultural plantations.

Improving livestock and agriculture

Climate change causes heat stress in both cattle and pastures, which affects milk production and quality. To combat this problem, in the Kirch project the solar structures are placed at a minimum height of 1.5 metres to allow the cows to find shelter under the photovoltaic panels. In addition, each panel is equipped with a smart system that allows rainwater to be collected during the winter period, stored in a tank and filtered, and then used in the hot season to irrigate the paddock and humidify the cows to relieve them from the high temperatures.

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Iberdrola's prototype also predicts the onset of heat stress by cross-referencing data from the farm's weather station and health parameters captured through smart collars placed around the cows' necks. Thus, in the event of extreme temperatures, sensors placed under the panels detect the presence of the cows and automatically activate the foggers.

The system is also able to predict the water needs of the grassland and activate the smart irrigation system when necessary, in order to ensure green pastures all year round. The aim is to improve the quality and organic milk production of the farm.

The second solution, focused on maximising the agricultural planting of the land, is based on the tracker technology of the PV panels, but instead of following the sun to maximise electricity production, the single-axis trackers aim to optimise crop production. The panels are installed in rows from north to south, which allows a rotation of the PV panels from an angle range between -70° and $+70^\circ$ in an east-west direction. Thus, they are able to protect the crops from frost in winter or intense sunlight in summer, and improve the quality of the plantation.

The shading of the panels is driven by an intelligent system that monitors the state of the plantation through sensors installed under each row of panels; these collect and cross-reference plant and weather data to predict when the crops need sunlight and when they need shade.

In addition, the panels are strategically positioned to allow tractors to pass between their rows and to support the transition from traditional to agroforestry farming. Thus, by planting complementary plantations between rows of crops, such as cereals and oilseeds, an ecosystem is created to protect them from pests and diseases in order to maintain the level of production, reducing the use of pesticides.

Betting on France

Iberdrola has been developing, building and operating renewable energy projects in France since 2005, prioritising respect for the environment and the social and economic development of the regions where its facilities are located. The company plans to invest around 4 billion euros by 2025, mainly in renewable projects.

With a presence in 8 cities, such as Paris and Marseille, Iberdrola has 118 MW of operational onshore wind generation in France and a growth plan for both onshore wind and photovoltaic projects of between 700 and 900 MW by the end of the decade.

The company has also just completed the first phase of construction of its first offshore wind project in France, Saint-Brieuc. With almost 500 MW of capacity, it will generate enough clean energy to meet the electricity consumption of 835,000 people once it comes on stream later this year.

Iberdrola puts its experience at the service of its industrial customers and also in France has recently launched [Energy Transition as a Service](#) to accompany them in their decarbonisation processes.

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