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A French vintner plants vines under solar panels to shield grapes from climate extremes

The project in Cognac highlights a growing fight over whether agrivoltaics can protect vineyards without violating appellation rules

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A vineyard owner in southwestern France has planted four hectares of vines under photovoltaic panels in a bid to protect his crop from heat waves, hail and late frost, a move that is drawing attention in the wine sector as climate risks grow and regulators

weigh how far the practice should be allowed in protected appellations.

David Moreau, a 45-year-old cognac producer in Saint-André-de-Lidon, south of Saintes in Charente-Maritime, said repeated weather damage pushed him to try agrivoltaics, a system that combines farming with solar power generation. He said he loses 5% to 10% of his harvest each year because extreme heat scorches grapes. In hail events, he said, flattening the panels can save 70% to 80% of the vines, while the installation gives him a 90% chance of avoiding frost damage.

The project uses 6,000 remotely adjustable solar panels supplied and installed by Sun'Agri, the agrivoltaic unit of the Eiffage group. The company says the panels can be tilted to alternate shade and sunlight according to the plant's needs. The installation cost €4 million, according to the company.

Under the metal structure, which rises about five meters above the ground, Moreau planted rows of ugni blanc, the main grape used for cognac. The agrivoltaic plant was inaugurated in early May and is presented as the first vineyard installation of its kind in the department. It comes at a difficult moment for the cognac industry, which has been facing a crisis and recently announced a broad vine-pullout plan.

The electricity generated by the site is sold by an investor, who pays the farmer annual rent of €600 over 30 years, according to Sun'Agri. The company says output from the installation is equivalent to the yearly electricity use of 800 to 1,000 households. Panel management is handled in real time through software that combines plant growth models with weather data collected by sensors in the plot, though the grower can take control directly if needed, including during hailstorms.

Sun'Agri says it has about 20 similar projects around the Mediterranean, in the Rhône Valley and in Nouvelle-Aquitaine. The company says the climate-protection case is less clear farther north.

The French market for agrivoltaics has been encouraged by the APER law, which aims to speed renewable energy production. At the same time, several research projects are testing how suspended solar panels affect vineyards. Among them are Vitivolt in the Loire Valley and Vitisolar near Bordeaux, both scheduled to run through 2028. In the

Pyrénées-Orientales, Domaine de Nidolères is seen as an early example after planting 4.5 hectares of vines under an agrivoltaic system in 2018.

Supporters say these systems could become one tool for adapting vineyards to climate change. But their expansion faces a major regulatory barrier. Since 2002, French rules have barred any covering of vineyards producing wines under appellation d'origine contrôlée, or AOC, and indication géographique protégée, or IGP. Together those categories account for 95% of national wine production.

Christian Paly, president of the wine and spirits committee at France's National Institute of Origin and Quality, or INAO, said exceptions are possible for experimental projects. He said photovoltaic systems should not be dismissed outright as part of a national climate adaptation strategy, but only if they are tested and tightly regulated.

Some appellations have already moved to block agrivoltaics in their own specifications. The Côtes-du-Rhône appellation did so last fall, citing concerns including landscape damage. In cognac, industry officials have not yet taken a final position and say they will wait for ongoing assessments on landscape effects, product quality, economics and regulation.

For now, Moreau knows his future harvest from the site will not qualify for a protected geographical designation and will instead be sold as wine without geographical indication. That trade-off shows how climate adaptation is colliding with one of French wine's core principles: that place and production rules define value.

The debate is also widening beyond wine quality. Critics worry about visual impact in vineyard landscapes that are central to tourism and regional identity. Supporters argue that fears are outpacing reality. Olivier Dauger, a board member at France's main farm union FNSEA and co-president of France Agrivoltaïsme, said there is caution and internal debate within appellations because there is still limited long-term evidence. But he said people should be reassured that panels will not spread everywhere.

Current projections point to agrivoltaics covering 0.5% of French agricultural land by 2050 across all sectors combined. Even so, what happens in vineyards may carry outsized weight because wine regions sit at the intersection of farming, heritage,

energy policy and export value.

In places like Charente-Maritime, where growers are dealing with hotter summers and more volatile weather, that tension is becoming immediate. Moreau expects his first harvest from the new plot in 2029. By then, French regulators and wine bodies may have clearer data on whether solar canopies can protect vines without undermining appellation rules that have shaped the country’s wine industry for decades.