

A New Era in Agriculture: Crop cultivation with Negative Carbon Footprint

Brite in cooperation with Tsantalis, the largest winemaker in Greece, developed an experimental greenhouse for viticulture cultivation using Brite's Solar Glass. This fully automated greenhouse has a cultivation area of 1,200 m² and operates all year round due to its heating and cooling systems. The cultivated crop is a grape variety native to Greece, called Asyrtiko, and used for making white wine. After a cultivation cycle Brite conducted a detailed study aimed to determine the carbon footprint per kilogram of grapes produced in the greenhouse. The study considers all factors contributing to the CO₂ emissions footprint:

- i. Greenhouse infrastructure
- ii. Heating / cooling energy requirements
- iii. Electricity needs & Brite's solar glass PV system electricity production
- iv. Crop Cultivation Operations
- v. Fertilizers & Plant Protection Products
- vi. Irrigation

The study outcome for this cultivation yields a carbon footprint of -15,78 kg CO₂e / kg of produced grapes which is an extraordinary result and perhaps a global first for a negative carbon footprint for crop cultivation. This result is highly attributed to the solar glass used in the greenhouse and the clean energy it produces. It points to a great potential and hope for reversing climate change by eliminating or even reversing the carbon footprint in agriculture by using solar glass in greenhouses and Agri-PV systems.

[CO₂ Footprint Study](#)

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