

On the Fiji Islands, the average relative humidity ranges from 75% to 90%.



The structure uses next-generation flexible CIGS panels (Copper Indium Gallium Selenide). These thin-film photovoltaic cells offer high efficiency (13–17%), perform well under diffuse light, and are resistant to high temperatures—ideal for the climate of Fiji. They can be integrated into flexible fabrics, allowing them to blend seamlessly into the shape of the "solar wings." CIGS



Productivity of 1 m <sup>2</sup> of the covering: 1.5–2 L/day Structure area: 38 m <sup>2</sup> Daily water volume from the structure: ~57–76 L Annual water volume from the structure: ~20,800–27,700 L	
Area of solar covering for one structure (including partial integration of water-harvesting elements): approx. 25 m <sup>2</sup> of active surface with CIGS Average daily generation (based on 5.5 sun- hours per day according to Fiji's climate data): 25 m <sup>2</sup> × 150 W/m <sup>2</sup> × 5.5 h × ~15% efficiency = ~3100 Wh/day (3.1 kWh/day) Annual energy output per module: approx. 1130 kWh	





A nutrient drip system with water circulation is used

Water collected from the air is pumped to the

upper part of the column. The nutrient solution slowly trickles down through the substrate (mineral wool or coconut fiber),

nourishing the plant roots. Excess solution is collected at the bottom and recirculated.

One column accommodates 30 to 60 plants, depending