

Algae Clean Energy and Wastewater Treatment



→ Ennesys' biomimetic solution uses microalgae for the triple advantage of wastewater remediation, clean energy generation, and thermal insulation of buildings.



ENVIRONMENTAL

One hundred percent of wastewater from office or residential buildings can be recycled, generating 8 kWh of clean electricity, according to Ennesys.



SOCIAL

In developing countries, local water treatment leads to an increase of water availability for sanitation, reducing the risk of disease transmission.¹



ECONOMIC

Harvesting both solar and biological energy leads to low-cost heat and power production, as well as reduced heating and cooling demand in buildings.

In photo-bioreactors placed on building roofs or façades, **microalgae growth** in sunlight is enhanced by the supply of wastewater. Pollutants are assimilated and increase biomass production. After harvesting, the biomass can be transformed locally to **produce power, heat, or cooling**, and the **water is cleaned**.

The functioning demonstrator in France has proven the quality of the cleaned water, suitable for irrigation or sanitation. The positioning of photo-bioreactors on the roof and façades of buildings improves their thermal behavior, **providing better insulation** and user comfort.

Why a Sustainia100 solution?

Combining wastewater remediation and clean energy production, Ennesys' technology allows city districts to recycle their organic waste and produce energy to cover local consumption. The low cost of the electricity generated and the wastewater treated makes the technology scalable to other settings, particularly where decentralized water remediation is required.



Developed in France

Deployed in **France, Brazil, Chile, Israel, Morocco**



Ennesys' water cycle recovers biologic energy from wastewater and solar energy to grow microalgae, locally transformed into heat and power, recycling wastewater to irrigation and sanitation quality.



¹ WHO, "Domestic Water Quantity, Service Level and Health."