

PARIS TRIALS ALGAE FARM TO PURIFY WATER AND ABSORB CARBON



Rapid algae growth in the wastewater of a big block of flats in Paris might sound to you like a nasty problem. But to Los Angeles-based entrepreneur and algae enthusiast Riggs Eckelberry, it's a three-way smart solution. Bred in flat panel photobioreactors (PBRs – enclosed containers to minimise contaminants) on the roof and the sides of the building, and nourished on the impurities from the toilets, his beloved algae will turn the waste back to pure water.

They'll soak up carbon dioxide in the process too. And the heat they'll give off, as they multiply and grow, will do just nicely for keeping the residents warm.

This is more than a heat transfer system to recover the existing heat from wastewater. It's a more sophisticated process than capturing biogas, too. The most innovative bit is harvesting the heat directly from the PBRs. That's the beauty of the "urban algal farm", as Eckelberry calls this project: you use, rather than lose, the high heat-to-power ratio of harvesting algae for energy (the baseline business of his company, OriginOil, a pioneer in algal biofuels). You get from one-and-a-half to four times as many units of heat as you get of power, he says.

The technology is unlikely to be practical on a small scale, but this scheme seeks to substantiate his bold belief that it's a viable aid to heating a large apartment complex. OriginOil calculates that fitting flat-panel PBRs, rather than solar thermal arrays, to big buildings should become competitive once you have an area of at least 4,000 square metres exposed to the light.

And why try this out in Paris? The pilot project at La Défense, with OriginOil's joint venture partner Ennesys, is neatly attuned to the French Government's requirement that all new buildings should both be net producers of energy and purify their own water naturally by 2020.

Source: <http://thisbigcity.net/paris-trials-algae-farm-purify-water-and-absorb-carbon/>