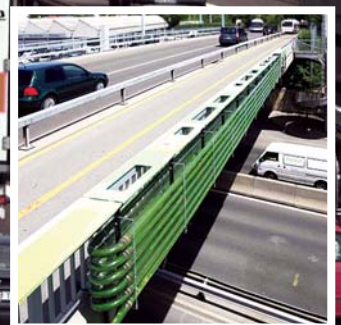


Growing Roads

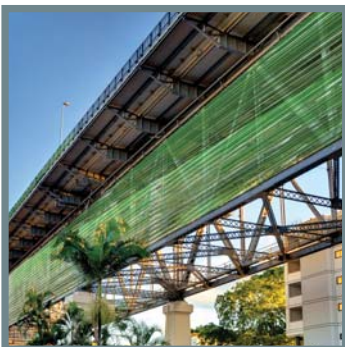
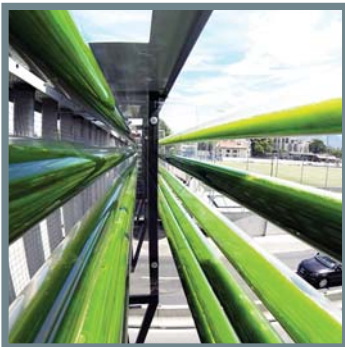
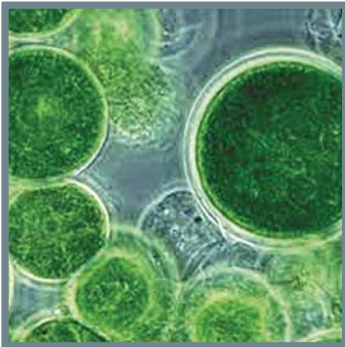
Integrating sustainable green algae production systems into transport infrastructure



Centre for
Solar Biotechnology

The initiative

Integrating microalgae production systems into urban infrastructure. Rendering of algae road barriers by Frederico Fialho.



Top: Microalgae cells. Middle: The Urban Algae Farm on an overpass in Geneva Switzerland, designed by Cloud Collective. Image courtesy of: www.inhabitat.com. Bottom: Rendering of algae overpass by Frederico Fialho.

VISION

The Growing Roads initiative is designed to advance cutting edge green technologies based on microalgae that can be integrated aesthetically into evolving transport infrastructure.

Our vision is to re-green our cities to reduce CO₂ emissions, open up new economic opportunities and sustainable services, offset infrastructure and vegetation management costs, and visually innovate rail and roadsides.

Imagine 'growing roads' in which old noise barriers are replaced with new eco-algae production facilities that re-green our roads and provide the jobs of the future. Imagine the integration of modular microalgae systems into transport infrastructure that filter the air and create aesthetic city-scapes.

The Growing Roads initiative will facilitate the integration of aesthetic, architectural microalgae production units into rapidly evolving roadsides which will not only reduce CO₂ emissions, and eco-enhance projects, but can also produce an income stream, thereby reducing infrastructure and vegetation management costs.

Microalgae cells are rapidly growing microscopic solar driven 'cell factories' which can capture sunlight and CO₂ in low grade water, producing O₂, clean water and biomass. The latter can be used to derive valuable bio-products (e.g. renewable fuels, bio-plastics, green chemicals and bio-fertilisers).

The modular units for microalgae production being developed by the Centre for Solar Biotechnology are designed to be robust, economically scalable, automated, high-efficiency systems. In addition to their productive use they can be crafted into visually striking 'living art' architectural designs that will attract visitors, locals, business and innovators.

The project is guided by robust techno-economic and life cycle analysis to ensure that production systems are feasible, durable, and sustainable.

For more information, please contact us.

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