

## C-Green Solutions – Carbon Cycling – in populated areas *Converting carbon dioxide, trace minerals and excess waste into fuel and food, reviving local economies*

*Improve youth nutrition, feed the homeless and destitute, creating new sustainable industries as customers of local businesses, paving the way to solving the problems that the young had no hand in creating, but are set to inherit.*

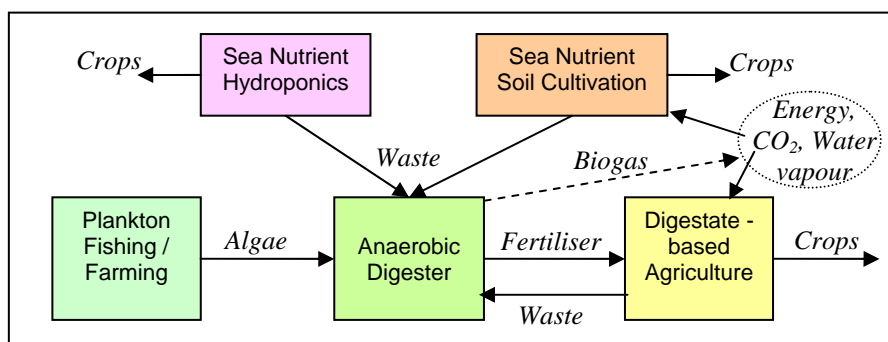
### Did you know?

1. **Composting organic waste in the absence of air produces biogas and fertiliser.** (“Anaerobic Digestion”) The resulting fuel could heat “half of UK homes” as reported on the BBC news website on 2<sup>nd</sup> Feb 2009. The resulting fertiliser could preserve the quality of arable land, instead of causing landfill sites to overflow and belch out carbon dioxide, and methane – a highly potent greenhouse gas.
2. **Algae – green scum – are the fastest growing plant-life.** For example, in early summer, after being completely netted off so that no more is visible, a marine algae completely re-carpets the Verulamium Lake (in St Albans) each week, making it look like grassland. Some species can even multiply their mass by 40 times in 24 hours. (*Food from Sunlight* ISBN-13: 9780916438135)
3. **Water-based agriculture is superior.** Crops can be grown suspended in nutrient-rich water, rather than soil, using a technique called hydroponics. The plants do not need to put down roots to reach nutrients or anchor themselves, so all the growth is immediately upwards and outwards, giving high-yield crops. Cultivation can be more intensive, and conducted away from pests.
4. **Just about any crops can be grown in nothing but dilute seawater.** Controlled quantities of seawater or sea solids can also be used to treat depleted soil. Sodium compounds, such as common salt, are the most soluble and the first to be washed away by rain – leaving ultra-fertile land and yielding super-foods.
5. **Minerals present in seawater, but now absent from our soil, promote growth and total health.** Crops treated with sea nutrients mature quickly, are resistant to pests, taste better, are more nutritious and have a longer shelf-life. Animals fed on the crops have been shown to acquire immunity to even cancer. (*Sea Energy Agriculture* ISBN-10: 091131170X)

### Putting it all together – Local recovery plan

1. Divert local unemployed **effort** / under-utilised resources from chasing larger shares of old, shrinking markets into creating new sustainable industries of the future as customers of existing businesses.
2. Use some of that effort to secure green **funding** and attract investment to complete any R&D required to launch sustainable enterprises. Those involved can gain CV-fillers, new careers and/or a stake in expanding ventures.
3. Begin to Anaerobically Digest organic waste (food, green, animal) to produce **bio-gas** and **fertiliser**.
4. **Increase** yield by adding algae from lakes, coastal waters, or even farmed in sewers.
5. Add sea nutrients when creating biomass to dramatically improve land **fertility** and food **nutrition**.

*Edible output can be sold or used in school canteens or hampers for the needy. Energy can be fed back into the Grid, converted into petrol/diesel or used to heat greenhouses / growing domes for all-year-round production. Biodegradable materials can be grown. Local economies can be restored.*



## C-Green Solutions – Carbon Cycling – **in arid areas**

**Converting excess air-carbon, sea nutrients and sunlight into world resources**

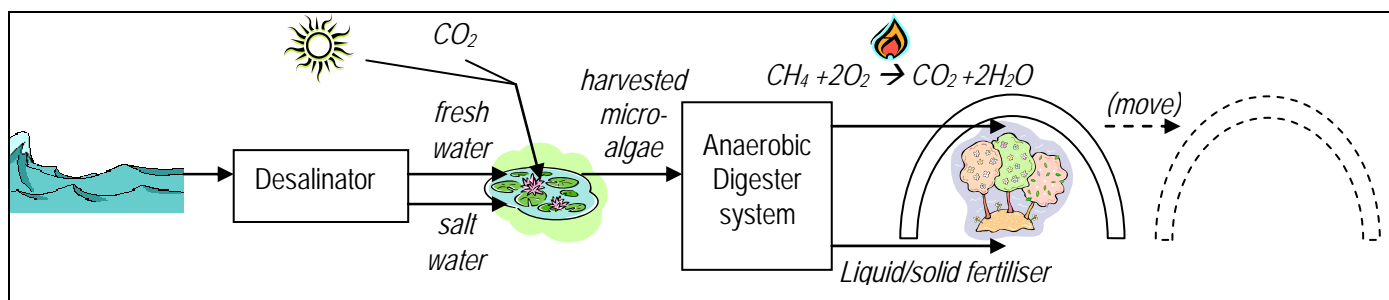
*The inter-related problems of starvation, climate change, energy crisis, modern disease, pollution and economic collapse could all be solved using a plentiful free resource – seawater – with the help of the earliest life-form on earth.*

### **Did you know?**

1. **Plants are our best partners.** Plants take CO<sub>2</sub> from us and convert it into carbohydrates, such as food and fuel. We are now complaining of too much CO<sub>2</sub> and not enough food or fuel. The answer is then obvious – grow and use more plants on non-productive land, fertilised with fast-growing algae.
2. **No shortage of desert!** Deserts now make up 75% of the world's land. (Harry Hart, Global Eco)
3. **Trees stimulate rainfall.** Hardwood trees stimulate rain. We originally cut down trees to grow crops / graze cattle. The rains stopped coming and we left vast swathes of desert behind us.
4. **No shortage of energy in the desert!** The solar energy falling on an area of the Sahara slightly smaller than Portugal, exceeds the electrical output of all the world's power stations put together. (Time magazine, "Out of Africa")
5. **Just about everything humanity needs can be grown** – food, fuel, fertiliser, fabrics, medicines, materials (even biodegradable plastics!)
6. **Desert – today's best investment?** An acre of desert currently costs around £1. Develop it into a seaside resort, real estate or agro-forestry land, and it becomes worth millions.

### **Putting it all together – Global recovery plan**

1. Starting from the desert coastline, use solar (or wave) energy to pump **seawater** inland and desalinate most of it
2. **Mix** the fresh water with seawater and nutrients from the land to produce the concentration at which microalgae multiply at maximum rate.
3. Cultivate **microalgae** in shallow ponds of dilute seawater.
4. Harvest microalgae and break it down using anaerobic bacteria to produce **bio-gas** (mainly methane) and liquid/solid **fertiliser**.
5. Burn bio-gas to produce **energy**, carbon dioxide and water (vapour).
6. Fertilise and grow rain-inducing **trees** (and other **crops**, eg high-nutrition foods and ethical biofuels) in inflatable-walled dome into which the carbon dioxide and water vapour are pumped.
7. When vegetation is established, extend seawater piping, move dome further inland, and **repeat**.



*Global recovery will be co-ordinated by Global Eco (formerly the Green Deserts charity) who will disseminate and maintain the required knowledge base, built by thirty global field experts over more than thirty years.*