



The Seawater Energy and

Agriculture System

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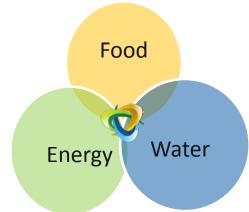
Motivation

 The UAE Energy Plan 2050 aims to cut carbon dioxide emissions by 70 per cent, increase clean energy use by 50 per cent and improve energy efficiency by 40 per cent

Food security is a strategic issue

"Water is much more important than oil for the UAE

and its people"





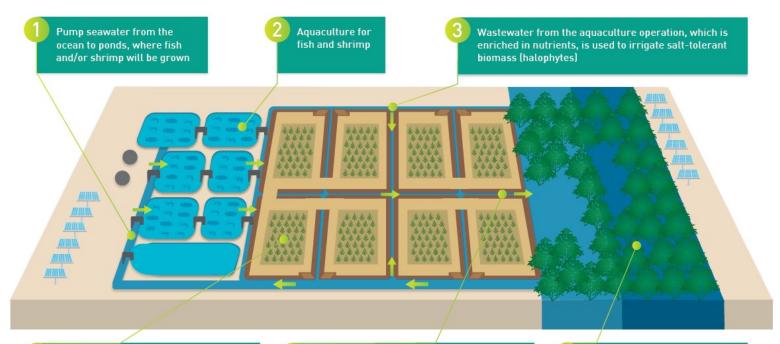
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- Biomass from the halophytes is used to produce bioenergy, including biofuels
- Water that drains from the halophyte fields would then be fed into the mangrove wetland
- Biomass from the mangroves can be converted into bioenergy



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Next steps

- The Seawater Energy and Agriculture System is no longer a concept
- The next implementation of the project is a demonstration scale in 200 hectares, following a stage-gate approach:
 - 1st stage: 20 hectares of Salicornia plus associated subsystems
 - 2nd stage: 100 hectares (1st + 2nd stages)
 - 3rd stage: 200 hectares (final size of demonstration scale production plant)





Moving forward

- The SEAS is feasible from a financial perspective, however, it also generates important environmental and social benefits that make it a relevant player in the transition from petroleum-based fuel to renewable sustainable alternatives for the aviation industry
- At a local level, SEAS is conceived as the centerpiece of an industrial ecology network that can provide 100% UAE-generated advanced biofuels, food, and carbon offsetting opportunities
- At a global level, it is important to promote integrated food-energy systems that use the available resources in a smart and sustainable way



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