ICAO AVIATION AND SUSTAINABLE ALTERNATIVE FUELS WORKSHOP

ICAO Headquarters, Montréal, Canada

18 to 20 October 2011

Saltwater tolerant biomass as source of aviation fuel – a way forward for Abu Dhabi?

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Founding Member Sustainable Bioenergy Research Consortium
Member Sustainable Aviation Fuel Users Group

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Criteria for Source Material

- Geographically suitable
  - No freshwater requirements
  - Tolerant of very high temperatures
  - Substantial land availability
- Sustainable
  - SAFUG principles / RSB criteria
  - Community benefits

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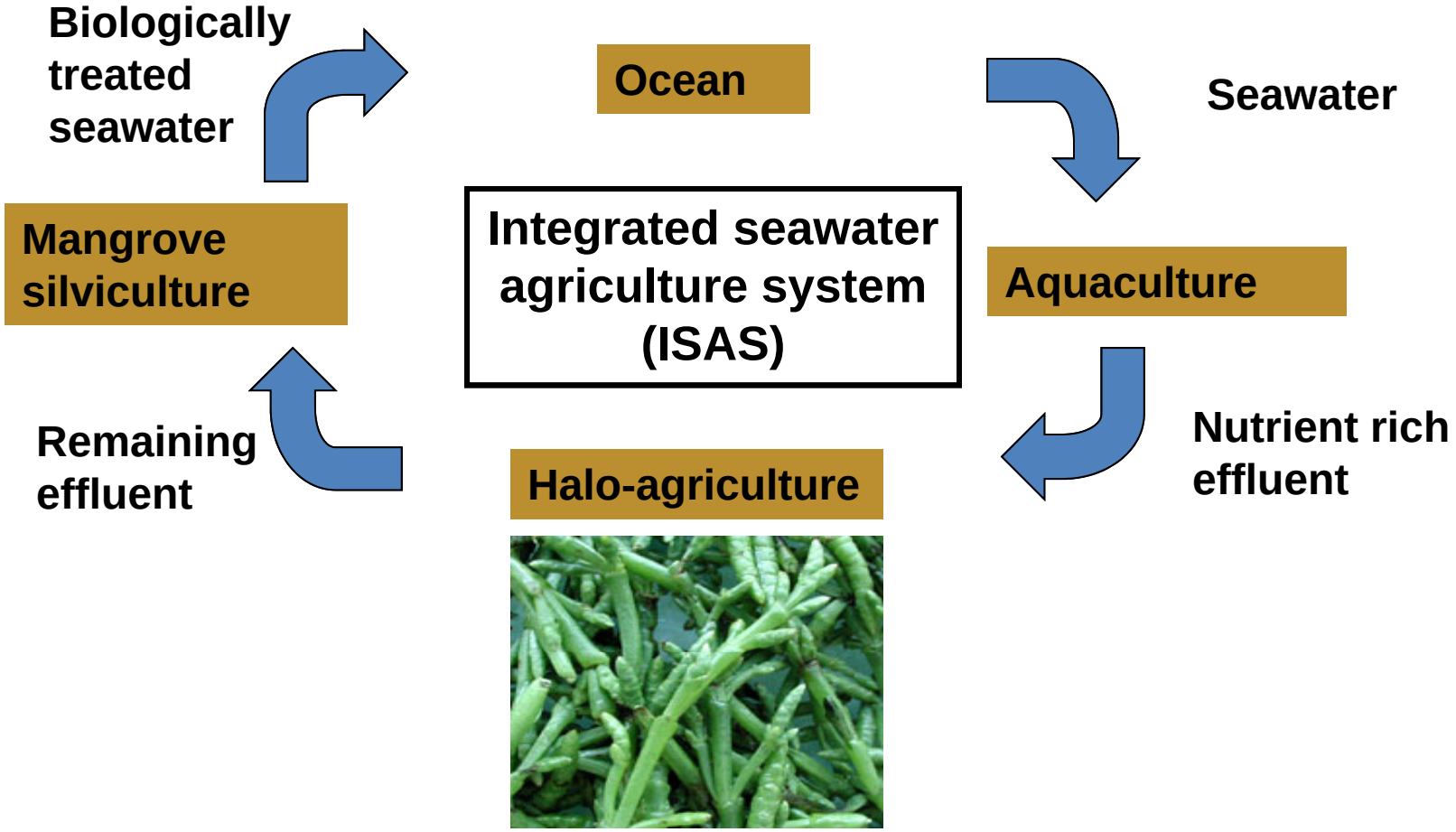
Integrated Seawater Agriculture System (ISAS)



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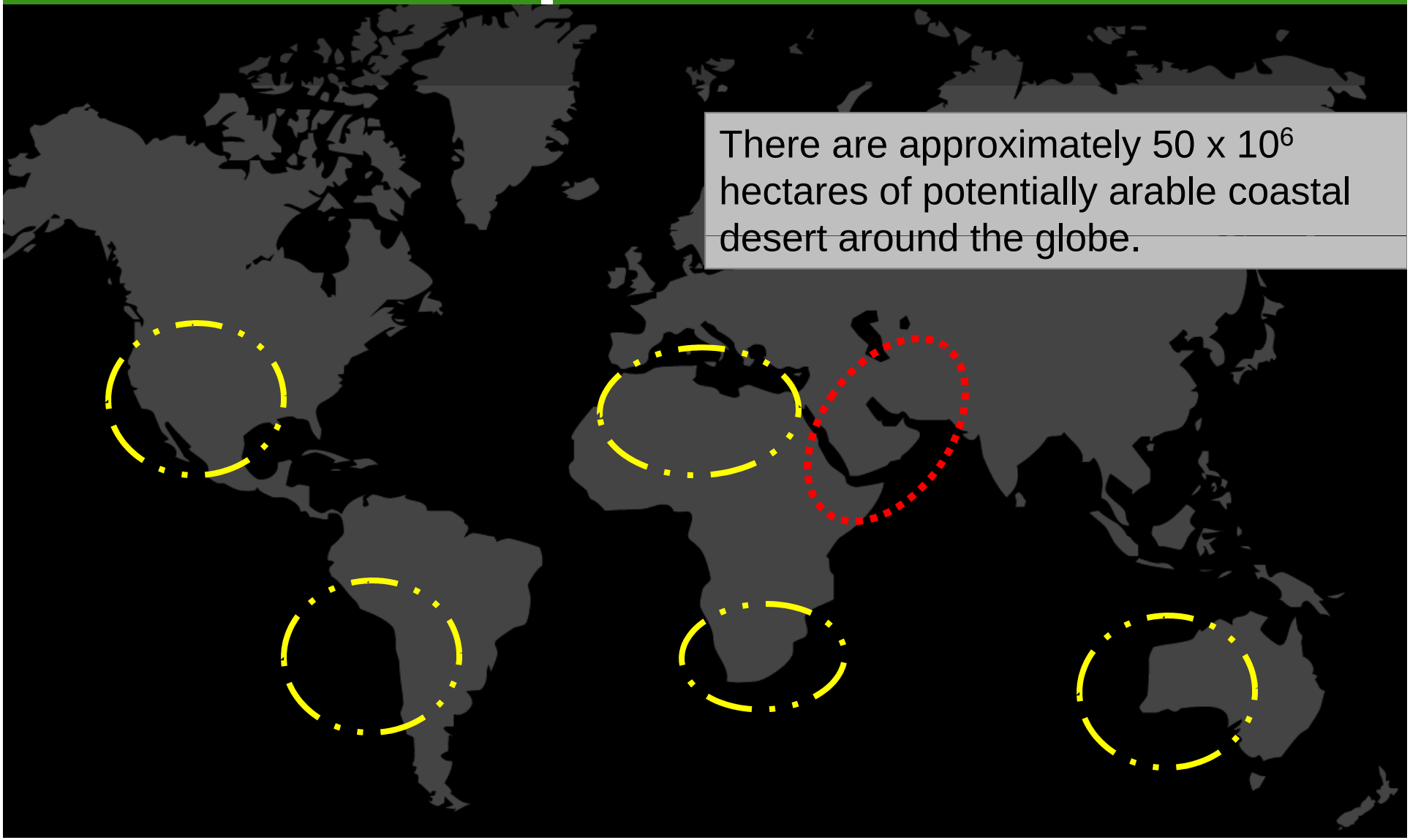
Global potential

There are approximately 50 x 10^6 hectares of potentially arable coastal desert around the globe.



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Sustainable Bioenergy Research Consortium

Host Institution

Masdar Institute

Industry Launch Partners

BOEING

UOP A Honeywell Company

ETIHAD AIRWAYS

Physical Infrastructure

- Research Labs: Masdar Institute
- Pilot Plant Farm: **200 hectares** in Abu Dhabi, UAE

Progress to date

- Early LCA study (Boeing funded)
  - Quantify inputs and outputs
  - Site management alternatives

Results indicated high potential for carbon storage and emissions reductions compared to fossil fuel

- Identification of challenges
  - Yields
  - Land requirements & ability to scale up
  - Hypersalinisation & eutrophication

Summary

- Significant potential for biofuels as part of integrated aquaculture system
- If this works in Abu Dhabi then can be used in many more coastal desert environments
- Net benefits through carbon soil sequestration