Boeing, Honeywell's UOP, Masdar Institute and Industry Team Launch Study of Jet Fuel Made from Saltwater Plants

Study of halophytes to measure potential for sustainable production

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HONG KONG, Oct. 6 /PRNewswire-FirstCall/ -- Boeing (NYSE: BA) today announced it is joining with Honeywell's UOP to commission a study on the sustainability of a leading family of saltwater-based plant candidates for renewable jet fuel. The study is being commissioned as part of the Sustainable Aviation Fuel Users Group (www.safug.org) consortium. The Masdar Institute of Science and Technology in Abu Dhabi will lead the study, which will examine the overall potential for sustainable, large-scale production of biofuels made from *salicornia bigelovii* and saltwater mangroves - plants known as halophytes. Yale University's School of Forestry & Environmental Studies and UOP will also participate in the analysis, which will include an assessment of the total carbon lifecycle of biofuels.

Halophytes can be highly productive sources of biomass energy, thrive in arid land and can be irrigated with sea water, making them suitable for biofuel development and Abu Dhabi a viable location for conducting a lifecycle-analysis study. With improved plant science and agronomy, early testing results indicate that halophytes have the potential to deliver very high yields per unit of land.

"Boeing and the scientific and academic communities are stepping forward to look at the totality of each renewable fuel source that can help us reduce carbon emissions," said Billy Glover, managing director of Environmental Strategy for Boeing Commercial Airplanes. "By working with Masdar Institute to look at these species in a formal research framework, we will better know if certain types of halophytes meet the carbon reduction and socioeconomic criteria that will allow them to become part of a portfolio of sustainable biofuel solutions for aviation."

The Government of Abu Dhabi founded the Masdar Institute of Science and Technology (www.masdar.ac.ae) to research and develop alternative energy and sustainable technologies. Masdar Institute is an independent, non-profit, research-driven graduate institution established with the support and cooperation of the Massachusetts Institute of Technology, recognized as one of the world's premier scientific institutions.

The halophyte study will evaluate aquaculture management and practices, land use and energy requirements and identify any potential adverse ecological or social impacts associated with using halophytes for energy development, specifically for aviation biofuel development.

"We must continue to evolve biofuels to incorporate feedstocks that are not only sustainable, but actually regenerative and can restore the ecosystems where they are found," said Jennifer Holmgren, general manager of UOP Renewable Energy & Chemicals. "Global Seawater Inc. has led the development of a promising solution, and we are excited to be working with this team to further develop and understand the potential impact of integrated seawater systems."

A successful outcome of the study will give the Masdar Initiative (www.masdar.ae) an opportunity to expand its portfolio of renewable energy technologies into biofuels that are sustainable and can be grown locally, Dr. Sgouris Sgouridis of Masdar Institute said. The Masdar Initiative aims to create and sustain the world's first carbon-neutral, zero-waste city, Masdar City, located on the outskirts of Abu Dhabi.

"Masdar City will have access to important production of locally grown food and thus reduce its dependence on carbon-intensive imports," Sgouridis said. "In terms of the United Arab Emirates, it would provide an additional significant source of biofuels that would allow the UAE to transition into a less fossil fuel-dependent economy."

Sustainable biofuel development is a key component of aviation's strategy for lowering carbon emissions. Potential plant sources being considered are only ones that don't distort the global food-chain, compete with fresh water resources or lead to unintended land use change. To verify data gathered during the analysis, the halophyte study will be peer-reviewed by third parties and measured against practices and principles developed by the Roundtable for Sustainable Biofuels. The results are expected to be available in late 2010.

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