

AQUAFLOW

Wild algae extraction, conversion and refinement

Media Release

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Aquaflow working with Honeywell's UOP on U.S. Department of Energy algal project

Kiwi clean tech company reports breakthrough in US market

BLLENHEIM, NEW ZEALAND: New Zealand-based Aquaflow Bionomic Corporation announced today that it will be working with Honeywell's UOP on a United States Department of Energy cooperative agreement project to demonstrate technology to capture carbon dioxide and cultivate algae for use in biofuel and energy production.

"It is significant for a New Zealand company to be involved in a complex project like this.

It is an indication about the broad application of the Aquaflow technology," comments Aquaflow director Nick Gerritsen.

Aquaflow will contribute its accumulated knowledge and experience gained from its Blenheim site to grow and assess key characteristics of algae species indigenous to the local James River waterway. The company will work with its US based staff in a series of monitored algae cultivation trials involving CO₂ and nutrient waste water from a Honeywell manufacturing site in Hopewell Va.

In its media statement today, UOP announced that it had been awarded a US \$1.5 million cooperative agreement from the U.S. Department of Energy.

The funding will be used for the design of a demonstration system that will capture carbon dioxide from exhaust stacks at Honeywell's manufacturing facility in Hopewell, Virginia. The project, managed by the U.S. Department of Energy's National Energy Technology Laboratory, will realize further environmental benefit because wastewater from the manufacturing facility will be used in the algae cultivation system, allowing the algae to consume nitrogen in the wastewater.

Algal oil can then be extracted from the algae for conversion to biofuels, and the algae residual can be converted to pyrolysis oil, which can be burned to generate renewable electricity.

"This project will demonstrate integrated concepts and technologies that can help reduce greenhouse gas emissions while showing the viability of new sources of energy," said Jennifer Holmgren, vice president and general manager of UOP's Renewable Energy and Chemicals unit, which develops and licenses process technology for the production of biofuels.

“Integrated approaches such as these are our best hopes for creating economically sustainable renewable energy solutions.”

At the demonstration site, UOP will design cost-effective and efficient equipment to capture CO₂ from the exhaust stacks of the Hopewell caprolactam facility and deliver it in a controlled and efficient process to a pond near the plant, where algae will be grown using technology developed by Aquaflow Bionomic Corp as well as automated control systems from Honeywell Process Solutions.

This project supports ongoing development efforts from Honeywell’s UOP for a range of process technologies to capture carbon dioxide and produce green fuels and chemicals. UOP has already commercialized the UOP/Eni Ecofining™ process to produce Honeywell Green Diesel™ fuel from biological feedstocks, including algae and demonstrated process technology to produce Honeywell Green Jet™ fuel.

The project will also support the independent evaluation of the use of RTP® rapid thermal processing technology from Envergent Technologies, a joint venture between UOP and Ensyn Corp. The RTP system can be used to convert waste biomass from the algae production into pyrolysis oil, which can be burned to generate renewable electricity.

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Editor’s note: Illustrations available from Brenda Saunders at Trio Communications, Auckland, New Zealand.

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