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## Algae grows around the globe

by Jerry W. Kram

At opposite ends of the Earth, companies are making progress toward a viable source of algae oil. From the south island of New Zealand to the Gulf coast of Texas, entrepreneurs have reached milestones in their quests to provide an economical feedstock for various biofuel producers.

In Marlborough, New Zealand, Aquaflow Bionomics Corp. Ltd. announced that commercial-scale algae harvesting is taking place at its oxidation ponds, which cover 100 acres and produce several tons of algae daily. According to founding director Barrie Leay, an on-site biorefinery will convert the algae into what the company calls "biocrude." Aquaflow has investigated other possible harvest areas, including 1,000-acre oxidation ponds in the United States. "We believe this is an important step, not just for our company but for everybody," Leay said. "The processes we have worked through are evolutionary—not revolutionary—to get to this scale over the past two-and-a-half years. It's been a slow, gentle accumulation of knowledge to get us to this point."

Leay said the company's business model is to create a network of small biorefineries based around existing water treatment lagoons. He compared this with the existing biodiesel and ethanol industries, where feedstocks are shipped to a central facility. "The model we developed is quite different than anybody else's," he said. "We will not be looking at concentrating production in large oil refineries. We shall be using a distributed model in which we do the conversion of algae to oil on the site where the algae is housed. The closest analogy is that we are reversing the pattern of the old IBM mainframes (one central location), and moving to laptop and Blackberry models (which go where users need them)."

Aquaflow is looking to expand its reach. It has partnered with Singapore-based Pure Power Asia to license and develop its technology in south Asia. Pure Power took a 19.9 percent share in Aquaflow in 2007. "[Pure Power] will be developing a significant part of the Asian market, probably in 2009," Leay said.

In Rio Hondo, Texas, PetroSun Inc. is continuing to develop its open-pond algae farm. The company began preparing the site for production April 1. Chief Executive Officer Gordon LeBlanc has met with state environmental regulators in Austin. "There is some work we are doing in advance of our final permit," he said. "[The regulators] wanted to know if we would be discharging into the river there, which we won't be. The other questions dealt with the strains of algae we were going to be using, which are going to be native strains." He said the facility should reach full production sometime in June.

LeBlanc said the project is basing its economic model on a production rate of 2,000 gallons of algae oil per acre. He added that the residual biomass from the algae could also be processed into cellulosic ethanol or other advanced biofuels, raising the energy production from the facility. "That's what we are basing our economics on," he said.

PetroSun is also completing due diligence on the acquisition of a biodiesel facility in Alabama and is in the preliminary stages of developing a second plant in the state.

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