

BUSINESS

Green-tech firms win key backing for work

EarthClean Corp. and Mcgyan Biodiesel recently passed important milestones.

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A couple of young Minnesota companies that make substitutes for petroleum-based products are getting some traction.

EarthClean Corp. of South St. Paul has signed a three-year, \$4.3 million contract with South Korea's SAM JOO S.M.C. Co., an industrial coatings and clean-technology firm based in Seoul. The deal was inked during Gov. Mark Dayton's recent trade mission.

And chemist Clayton McNeff's biodiesel company, Mcgyan Biodiesel, has raised expansion capital behind its "Mcgyan Process" technology, which it plans to license to ethanol plants and others.

At EarthClean, which makes nontoxic fire-suppressant foam, CEO Doug Ruth said the company has raised a total of \$3 million in equity from 11 Minnesota individual investors. It also signed a five-year, \$8 million contract with Atira Systems, which will be the California and Oregon distributor.

EarthClean's two-year-old TetraKO firefighting gel, conceived by volunteer firefighters and a retired 3M Co. chemical engineer, is made largely of cornstarch and water.

It has gotten high grades as a biodegradable gel that knocks down fires fast and sticks to objects as a fire-suppressing coating as effective -- and safer than -- chemical foams or phosphorus-based retardants.

EarthClean, which uses local contract manufacturers, has had a tough time cracking U.S. markets that are dominated by huge chemical companies. Ruth said Korea and Japan are promising markets because their national governments tend to centralize their firefighting procurement business.

"We have a distributor we're working with in Japan," Ruth said. "We'll be testing with the Tokyo Fire Department in November. The way the wind seems to be blowing, I think international sales will initially outdrive our domestic sales."

EarthClean, which expects to more than double employment to 30 next year, projects that it will more than triple sales in 2012 to \$1.5 million and hit nearly \$5 million in 2013, based on existing contracts.

Mcgyan Biodiesel

McNeff has three related companies working on a process that produces biodiesel from used cooking oil.

One of them, Mcgyan Biodiesel, has raised more than \$2.6 million, according to filings with the Minnesota state angel investor tax credit program. The biodiesel licensing company has individual investor commitments that will bring in an additional half-million or so this year.

Two years ago, McNeff's family-owned Anoka company inaugurated a \$9 million plant in Inaok, Minn., that uses 400,000 gallons of used cooking oil a year to produce 100,000 gallons of biodiesel. The approach is based on a discovery by a chemistry student and his professor at Augsburg College in Minneapolis.

The Augsburg scientists turned to the McNeffs' 30-year-old farm-chemical operation to refine and develop what has become a one-step waste oil-to-fuel production process, called the "Mcgyan Process."



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GLEN STUBBE, STAR TRIBUNE

Clayton McNeff, of Mcgyan Biodiesel

The multi-patented process converts triglycerides and free fatty acids in used cooking oil and other waste products into biodiesel fuel.

McGyan and the related Ever Cat Fuels, which was created to test and commercialize the process, employ about 25 people.

McNeff said last week that he also has a letter of intent with a customer to build two 3 million-gallon McGyan biodiesel plants next year at ethanol facilities. He said he is bound by a confidentiality agreement not to name the client without their express permission.

Ever Cat and McGyan plan to expand in part through ethanol plant operators that use the McGyan process to refine waste oil left in the distiller's grain that becomes animal feed after the ethanol has been extracted.

"McGyan is the technology provider, and we'll provide each of our [ethanol] plant partners a license on our patented technology. We'll oversee the construction into existing facility, or a 'greenfield' development, and train operators how to run the plant," McNeff said.

"We're going to offer a one-stop, turnkey solution to the biofuels industry. We get an ongoing royalty payment based on the size the production of the plant on a per-gallon basis," he said.

Meanwhile, the family's farm chemical operation, SarTec, last week received a \$500,000 U.S. Department of Energy grant as part of a larger project to develop inedible energy crops for the production of advanced biofuels using the McGyan process.

The project will involve northern-plains farmers who will grow winter-cover crops of Pennycress and Camelina that will be harvested and crushed for oil that will be processed into commercial-grade biodiesel by Ever Cat Fuels at Isanti.

The McGyan process is named for McNeff, Augsburg College Prof. Arlin Gyberg and SarTec scientist Bingwen Yan. Clayton McNeff, also an Augsburg graduate, holds a doctorate in chemistry from the University of Minnesota.

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