

Fuel

Continued from A1

harvester. Inside the cylinders, water flows past hanging filaments that BioProcess makes out of seven different materials. The algae clings to the filaments and grow till it is harvested for processing.

Algae react with light in the same way leaves on trees do in the process of photosynthesis. That process needs carbon dioxide, which is emitted from ethanol plants and from other fuel sources and is cited as a main cause of global warming. BioProcess catches that car-

bon dioxide from those emissions and uses it to grow the algae.

That technology is being put to use at an ethanol plant in Shenandoah, Iowa. Ethanol is produced at that plant by fermenting corn, and carbon dioxide is a byproduct of that process. The company also is preparing to work with two coal-fired plants in other parts of the country.

"People look upon carbon dioxide as a toxin and a pollutant, but to this company it is a raw material," said Dan Turner, head of sales. "We value water and we value carbon. The way we bring the two together is unique in the industry."

Besides fuel, the algae can be used to produce petrochemicals, plastics or anything else that oil is used to make. When the oil is extracted, the remaining material — cellulose and other carbohydrates — can be used for feedstock for fish farms or cattle, Haley said.

Engineer Ryan Armasu said discharging carbon dioxide into the air as a byproduct of ethanol production is like watching dollar bills go up in smoke.

"On top of that, it is a greenhouse gas that is toxic to the climate," he said.

The potential for developing fuel from algae is far greater than the potential from corn, he

said. An acre of corn will produce about 600 gallons of ethanol a year, he said. A comparable amount of algae can produce 10,000 to 20,000 gallons.

"You can get 1,000 times more production from algae than in a terrestrial crop such as soybean or corn," Armasu said.

Growing algae also needs such nutrients as phosphorous and nitrates — two elements found in wastewater.

BioProcess is also in the business of purifying wastewater. The company has developed hollow fibers which bacteria cling to in a filtration process for turning wastewater into purified water, Burns said. The

phosphorous and nitrates taken out of the wastewater are saved as food for the algae.

He said parts of southeastern Florida are running out of water, and BioProcess has set up a demonstration project at a wastewater treatment plant there that cleans the water so well that it is injected back into the aquifer.

The company employs about 30 people at its 30,000-square-foot plant in the business park. Burns said the company spends a lot of money on research and development. Then the task goes to the folks who sell it and manufacture the equipment.

"Our goal is to bring manu-

facturing back to the state," Burns said. "John and I have a strong belief that the country has lost its way because we don't make products anymore. You need to make products here and at the same time deliver solutions."

Armasu said that is a triple winner.

"You take care of wastewater and CO2 and turn them into beneficial products," he said. "That helps clean the environment. And you create jobs at a fairly large scale."

Send reporter James A. Johnson e-mail at Johnson@NewportRI.com.

Community

Continued from A1

day, I think it is important for people to know what is going on there."

The absolute poverty she witnessed on her visit to Haiti made such an impression that she decided that she wants to teach there for at least a year when she graduates from Salve.

For her project, she will provide help to any local church, business, school, college, organization or youth group that would be interested in hosting an event for Haitian relief. She said she is trying to set up a Web site that would include a calendar of such events.

She also wants to talk to groups about Haiti. "I would love to be able to get into schools on the island — public and private — to reach out and get kids involved and make sure they know what is going on in Haiti," she said. "I want people to know about the struggles that were occurring before the earthquake so they can see the reality of the situation today."

For more information, send an e-mail to AquidneckHeartsforHaiti@yahoo.com.

THE NEWPORT ROTARY CLUB and other rotary clubs in the county are leading a different campaign. The clubs are seeking matching donations to buy Rotary Shelter Boxes that will be shipped to Haiti. The boxes, which cost about \$1,000 each, contain vinyl sleeping mats, thermal blankets, plastic water carriers, water purification tablets, a shovel, a cooking stove, eating utensils, a tool kit and survival items.

Betsy Wylie, president of the local club, said a team of three or four experts accompanies each shelter box to help the local people make the best use of them.

"From our perspective, it's a standup, ready-to-go operation," she said. "It doesn't need a whole lot of preparation, so we decided that is where we wanted to put our efforts. We said we would match the funds people donate up to a certain amount."

The club already has sent in its money so seven shelter boxes could be sent to Haiti.

"We decided not to wait because we wanted to put our money to work right away," she said. "I've seen on the television what is going on, and my heart just absolutely goes out to those people."

Checks can be sent to the Newport Rotary Charitable Foundation, P.O. Box 164, Newport, RI 02840 with a notation in the lower left-hand corner saying "Shelter Box."

IN PORTSMOUTH, members of a high school knitting club that began last spring are knitting teddy bears that will be given to the American Red Cross for shipment to Haiti. When the club began, members were knitting baby hats for newborns at Newport Hospital and teddy bears that would be sent to an AIDS clinic in Africa.

Now the students have set a goal of sending 50 teddy bears to Haiti by Valentine's Day.

Math teacher Kimberly Cunningham, who began the club, said she is confident they will surpass that goal, as family members are joining in the effort.

Tori Garcia, a senior at Portsmouth High School, said knitting the teddy bears, which they call Knitty Bears, is an enjoyable way to make someone else happy.

She said she comes from a family of knitters and her mother and grandmother have joined the Knitty Bear effort.

So has her cousin Leanne LeParle, a freshman at Rhode Island College who graduated from Portsmouth High School in June. The two were knitting together Wednesday at Custom House Coffee at Clock Tower Square in Portsmouth, where the club meets every week.

News of the project has spread and boxes have been set up at the coffee house and at Empire Tea on Broadway in Newport where people can donate knitting supplies.

For more information, go to goinfinity.org or call 787-5150.

EARLIER THIS WEEK, 11 staff members of Naval Health Clinic New England in Newport and Naval Branch Health Clinic in Groton, Conn., were sent to Haiti for the relief effort.

The nurses, laboratory technicians and surgical technicians will be serving aboard the USNS Comfort in support of the humanitarian assistance and disaster relief efforts in Haiti, the Navy said in a press release. An information technician was sent a week ago. No one is sure how long the relief effort will continue.

Besides the 12 staff members that left for Haiti, 22 staff members are serving in Iraq and Afghanistan.

THE PINK PINEAPPLE clothing store has begun a campaign to raise funds for Haitian relief by asking for donations. For every \$5 donation, it will contribute a piece of clothing from its Pink Pineapple brand to Fashion Gives, which will send the clothing to Haitian victims.

Donations will be accepted at both locations: 380 Thames St., Newport; and 101 Clock Tower Square, Portsmouth.

THE TENTH GATE CENTER of Yoga and Meditation at 1016 East Main Road, Portsmouth, will hold a weekend of yoga classes, meditation and holistic bodywork to raise funds for the people of Haiti on Feb. 5-7.

"We know that money is most needed right now," said Reinet Fournier, co-founder and director of the center. "One hundred percent of the proceeds and donations from this special weekend of classes will go to Haiti, specifically to the International Medical Corps."

Send reporter James A. Johnson e-mail at Johnson@NewportRI.com.

EARTHQUAKE IN HAITI

Cluny Sisters feel impact

By James A. Johnson
Daily News staff

The Cluny Sisters in Haiti felt the devastation caused by the recent earthquake, according to a report from the Cluny Sisters living in Middletown.

No nuns were killed, but three were injured in the earthquake, according to the local order, which is best known as the founders of the Cluny School on Brenton Road in Newport.

Cluny Sisters have been in Haiti since 1864 and have 14 communities there now.

Three schools and an orphanage were destroyed in the quake and the novitiate and provincial house were heavily damaged. The day school, which serves 600 primary pupils, collapsed. None of the pupils were in the school

when it collapsed, but some street children and adults were in the building. It is not known if any were trapped in the rubble.

Another building housing a primary school with 500 pupils, a secondary school with 400 pupils and a literacy center for 100 adults took a direct hit. Very little of that building is standing.

A newly constructed orphanage that was almost ready to open, collapsed. A school for very poor children was completely destroyed.

"Even in good times, these children were given one meal a day by the sisters," according to a press release from the order. "The sisters are sleeping in the yard with the people."

Sister Edwige Desir, principal of the school, was trapped under the rubble for about 12 hours and both her legs were

broken. She needed surgery.

Most of the buildings in a dispensary either collapsed or are unusable, yet hundreds of injured people still come to the area looking for the dispensary.

The nuns in Middletown are seeking donations to help the Cluny Sisters in Haiti. They promise that 100 percent of all donations will go directly to the order in Haiti.

To donate, send checks payable to the Cluny Sisters to Cluny Sisters, 7 Restmere Terrace, Middletown, RI 02842, or go to www.clunyschool.org, select the online giving option and write "Haiti" in the comment box.

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Survivors

Continued from A1

ly pale that rescuers said his mother thought he was a corpse. He said he survived the ordeal in part by drinking his own urine. Doctors said he is expected to make a full recovery.

"I am here today because God wants it," Buso said from his bed at an Israeli field hospital.

Earlier Friday, an 84-year-old woman was said by relatives to have been pulled from the wreckage of her home, according to doctors administering oxygen and intravenous fluids to her at the General Hospital. They said they had little hope the woman, in bad condition, would live.

The rescues came two days after many international search teams began packing up their gear.

The 7.0-magnitude quake

struck Jan. 12 and killed an estimated 200,000 people, according to Haitian government figures cited by the European Commission. Countless dead remained buried in thousands of collapsed and toppled buildings in Port-au-Prince, a city of slums that drew migrants from an even more destitute countryside.

Now that movement has abruptly reversed, as quake victims, with meager belongings, jam small buses and battered automobiles, take to bicycles or just walk to outlying towns and rural areas, to relatives or whatever shelter they can find.

They jammed a simple Port-au-Prince wharf as well, in hopes of a spot aboard an out-bound skiff sailing up the coast. "I'll wait till I find one," said Edson Roddy, 18.

As many as 200,000 have fled the city of 2 million, the U.S. Agency for International Development reported, citing

a Haitian survey of bus stations and of sources in destination towns. At St. Marc, 40 miles to the north, most arrived with injuries from the quake, the U.S. agency said.

At least 100,000 people may have fled farther north, to Gonaives, a city of 280,000 devastated by back-to-back hurricanes in 2008.

Brazilian U.N. peacekeepers and work crews have begun clearing a site at Croix-des-Bouquets, just northeast of Port-au-Prince, for what may become a tent city for 30,000 people, the International Organization for Migration said.

Six other sites have also been identified, but it will probably take weeks before the first camps accept Port-au-Prince's homeless, the group's spokesman Jean-Philippe Chauzy said in Geneva.

Such camps "cannot be built overnight," said the agency's Haiti mission chief, Vincent

Challenge

Continued from A1

sensation Tuesday, upsetting Democratic Attorney General Martha Coakley in a special election for the seat held for 46 years by the late Sen. Edward M. Kennedy, D-Mass. — a story that made front-page headlines across the country.

Loughlin, 50, said he realizes Brown's victory does not guarantee a ripple effect into heavily Democratic Rhode Island. But he saw a jump in donations late this week.

"I got a couple in this morning, from Rhode Islanders," he said Thursday.

Kennedy could be more vulnerable than he has at any point since he first went to Washington in 1995. His most serious challenge came in 1994, against challenger Dr. Kevin Vigilante. Since then, none of Kennedy's opponents have come close to unseating the congressman, who calls Portsmouth home.

But Loughlin said he feels the Democrats and the Obama administration are losing touch with the electorate. They have failed to make the economy the front and center topic, he said. "The issues are jobs, jobs, jobs," he said. "Unemployment is 10 percent nationally and 12.7 percent in Rhode Island (12.9 percent as of Friday). But we're hearing about cap and trade and greenhouse emissions.

"Some politicians say the people don't understand the issues. It's more the fact that some politicians don't understand the people."

Loughlin said he sees the fix as a combination of tax cuts and a reduction in government spending. He said President John F. Kennedy instituted tax cuts, as did President Ronald Reagan. "Even George W. Bush in his early days," Loughlin said. "The problem was he failed to cut spending."

The economy is a personal

'Some politicians say the people don't understand the issues. It's more the fact that some politicians don't understand the people.'

REP. JOHN J. LOUGHLIN II

R-Tiverton

issue for Loughlin, too. He and his wife, Susan, are parents of daughters, Victoria, 21, and Carrie, 10. Rhode Island, in its current state, provides them little future.

"My oldest daughter is at (the University of Rhode Island) and is looking to go to law school," Loughlin said. "I can see her moving out of state and never coming back. Then there will be grandchildren, and they'll never know what it's like to live in a beautiful state with a treasure like Narragansett Bay. Things have to change."

Claudia Linhares, long involved in Tiverton Republican politics, said she is excited about Loughlin's candidacy. "I've known John a long time," she said. "He is a grass-roots guy. He'll go door to door and campaign real hard. I think he stands a good chance. He's for the people, for jobs and wants to improve the economy."

Loughlin has spent most of his life in Rhode Island. Born in Worcester, Mass., his family moved to Portsmouth when he was in grammar school and then to Lincoln, where he attended middle school and high school.

Loughlin's parents were Democrats, he said, though on the conservative side. "I was raised a Democrat," he said. "I even campaigned for some local Democratic candidates in Lincoln. But as time went on, I found that my values probably fit more with the Republicans — this was probably during the Reagan years."

Loughlin is a veteran of the

Army Reserve and the National Guard. He currently runs Media Rite, a television production company, and has served as a public affairs officer for the National Aeronautics and Space Administration.

Loughlin also worked on and off in his younger years as a standup comic. It's good to have a sense of humor in the arsenal in political life, he said.

In challenging Kennedy, Loughlin will take on a politician of considerable wealth and a legacy of what in sports would be termed "off-the-field problems." Kennedy has battled prescription drug problems and depression in recent years, which he has turned into advocacy for mental health parity. A shoving incident with a security guard at Los Angeles International Airport and an emergency call from a woman with him on a yacht also made headlines.

While Loughlin's Web site lampoons Kennedy's 2003 joke that he has never worked a day in his life (in response to not needing President George W. Bush's tax cuts), Loughlin shied away from Kennedy's personal and medical problems.

"That information is out there," he said. "And that's all I'm going to say about it."

A year after President Barack Obama's strong win over Sen. John McCain, R-Ariz., Loughlin said he feels a shift in the public mood. People want jobs, he said, and they do not want to continue to pay for burdensome health insurance plans.

"This isn't really anything to do that much with Scott Brown," he said. "I've been hearing this since April, all over the state. People are very unhappy. And I'm optimistic things might change in this election."

Send reporter James J. Gillis e-mail at Gillis@NewportRI.com.

WEATHER

COASTAL RHODE ISLAND

Today, sunny. High near 38. Tonight, mostly clear. Low around 21.

Sunday, increasing clouds with a slight chance of afternoon rain. High near 43.

MARINE

Today, north wind 10-15 knots with gusts to 20-knots. Waves 1-2 feet. Tonight, west wind around 5 knots. Waves 1 foot or less.

Sunday, southeast wind around 5 knots with gusts to 20 knots. Waves 1-2 feet. Sunday night, southeast wind 15-20 knots. Gusts to 30 knots. Waves 2-3 feet.

Monday, south wind 20-25 knots with gusts to 30 knots. Waves 2-3 feet. Monday night, west wind 10-15 knots with gusts to 25 knots. Waves 2-3 feet.

EXTENDED

Sunday night, rain, windy, thunderstorms possible. Low around 40.

Monday, rain, windy, thunderstorm possible. High near 54. Monday night, cloudy with a chance of rain. Low around 34.

TIDES

Sunday's sunrise 7:05 a.m., sunset 4:52 p.m. High tides: 1:27 a.m. 2:01 p.m. Low tide: 7:43 a.m., 7:31 p.m.

Monday's sunrise 7:04 a.m., sunset 4:53 p.m. High tides: 2:29 a.m., 3:07 p.m. Low tides: 9:09 a.m., 8:39 p.m.

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