

HONOLULU

Weekly

Out of gas

Ethanol's promises have been big. Has it failed to deliver?

by Joan Conrow / 06-28-2006



It's easy to understand the appeal of ethanol fuel in a place like Hawai'i.

For starters, it's made from plants, the kind that readily grow here. It can be used in our cars, though not advisedly in mixes of less than 90 percent gasoline. And it can generate electricity in our power plants, which gobble up millions of barrels of imported crude oil annually.

Ethanol promises to help recapture everything that's eluded Hawai'i since the missionaries arrived—self-sufficiency, community-based development, viable agriculture. In short, keeping the jobs, kids and money at home. On top of all that, it's new, alternative, progressive, green.

Political manna like this doesn't fall from the heavens every day, and Gov. Linda Lingle, state lawmakers and even President George W. Bush have greeted ethanol—both the fuel itself and the companies that make it—with open hands and arms.

Federal and state tax credits have been approved for firms that produce the stuff, and a law was passed mandating ethanol use in Hawai'i's cars. Combined, the measures create the strong, steady demand needed to spur production and help ensure a continuous, hopefully cheap, supply.

With the stage thus set in the Islands, the dramatic play can now unfold. Will we end our tragic affair with oil, terminate our unsavory liaisons with bloody Middle East wars, ravaged landscapes, ozone depletion, global warming? Will we take up with ethanol and live happily ever after, amid green fields with high biomass content, instead?

Henry Curtis, executive director of Life of the Land (LOL), doesn't need to watch the whole show to issue his indictment. He's seen the cast of characters before and figured out the plot, if not the exact ending. "I think it's huge multinational companies trying to figure out how they can bolster their bottom lines," he says. "It's not about protecting agriculture or the environment, getting off oil or creating jobs."

Nor is he predicting that ethanol will ever play a starring, or even major, role in Hawai'i's energy line-up.

After all, it already bungled the opening act.

Although generous ethanol production tax credits were adopted back in 2000, and state lawmakers gave producers an 18-month heads-up before the E-10 unleaded program, which mandates at least 85 percent of Island gasoline contain 10 percent ethanol, was implemented this past April, Hawai'i still has no local supply. All the ethanol now added to the state's gasoline is imported—just like the oil that's refined into gas.

When Lingle signed the E-10 unleaded regulations back in September 2004, she said the bill, coupled with \$12 million in factory construction tax credits and a measure allowing the sale of bonds, would spur ethanol production and save hundreds of sugar jobs on Kaua'i and Maui.

All the ethanol now added to the state's gasoline is imported—just like the oil that's refined into gas. In her speech, Lingle cited studies that predicted Hawai'i could produce 90 million gallons of ethanol within the next 18 months, building up, ultimately, to perhaps as much as 400 million gallons per year.

The year-and-a-half time span she referenced has now passed, with no ethanol produced in the Islands. Similarly, the initial flurry of talk about turning sugar cane into ethanol on Maui and Kaua'i, and building an ethanol-powered electric plant on O'ahu, has turned out to be pretty much just that.

Only one proposal—a plan by Maui Ethanol LLC to build a 12-million-gallon ethanol-for-gasoline plant powered by coal and molasses at Kaumakani, Kaua'i—has entered the regulatory process. And it's not expected to be on line until 2008—if all goes according to plan.

Maui Ethanol, a subsidiary of Washington-based Pacific West Energy LLC, with William Maloney the president and chief executive officer of both ventures, recently submitted an application for the coal-burning plant's air quality permit to the state Health Department.

That's where the project caught the attention of Curtis, who lambasted it in a news release—sent out June 1 under the email heading “Hawai'i Ethanol: Upsetting Facts”—that proclaims: “Ethanol Production is a Scam.”

Reached later, Curtis was no less scathing. According to LOL's calculations, he notes, it will take 4.18 pounds of fuel to generate 1 gallon of ethanol. “The idea of using fossil fuels to create renewable energy and then calling that green is kind of an oxymoron.”

Maloney, contacted on his cellular phone in Washington state, says he was a bit taken aback by Curtis' use of the word “scam.” Although he acknowledges that LOL based its computations on data contained in Maui Ethanol's permit application, Maloney says the overall picture “is more complicated” than LOL's figures suggest.

“We put in an application for the boiler to be fired by coal because that's the worst case scenario,” Maloney explains. “It's really a coal-biomass plant. In the long run, we'll be using sugar cane to produce ethanol, and this is certainly what we want to work toward.”

Currently, cane fields are burned after harvest to clear the land for replanting. While some folks view this practice as “an environmental disaster,” Maloney says, he sees it as “an energy disaster. All of that biomass is being wasted. We will be bringing in that [cane] trash and have that be the primary fuel for the processing plant.”

When the boiler is burning sugar cane waste, Maloney says, “the energy output will be seven to 11 times what the inputs are”—a ratio considerably higher than is typically achieved through the standard process of turning corn into ethanol.

Until then, Maloney says that Maui Ethanol plans to use coal and sugar syrups to power the plant, “and not much molasses, or for very long.” That's partly because the project was originally designed for Maui's HC&S sugar plantation, which produces substantial more molasses than Kaua'i. But when HC&S “decided, for whatever reasons,” Maloney says, “to step back and evaluate all its options,” the plans were shifted to the Garden Island, where Gay & Robinson Sugar Co. was willing to be a partner.

G&R doesn't have a lot of molasses, but it can provide enough sugar syrups to generate half the plant's production capacity, Maloney says, “so we may need to move Maui molasses over for a short period of time until we can produce more biomass.”

In the meantime, G&R will be expanding its sugar cane plantings, bringing some of the Westside lands abandoned when Kekaha Sugar Co. quit business back into production, Maloney says. And Maui Ethanol will be buying new machines and implementing new harvesting techniques “to bring in more biomass from the fields.”

“The overall project involves a lot more than just the ethanol plant,” Maloney says, noting that G&R can even use the vinasse—a smelly byproduct of ethanol production—as a high potassium fertilizer on its fields.

“That's what I see as the real positive of this project: revitalizing the agricultural sector using the biomass and having a captive feed stock [fuel that feeds the boiler],” Maloney says.



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“Instead of buying the corn and producing the ethanol, like everybody else does, we’re going to grow the sugar cane until we know what our costs are,” he continues. “We control our feed stocks and that’s a big strength of this project.”

Maui Ethanol also plans to “work with the sugar industry to produce a higher-end product”—a top grade table sugar that can be lucratively marketed as a Hawai’i-made food—or help keep the plantations solvent, Maloney says.

Of course, that’s looking down the road a piece. Although the timing of the project is “permit dependent,” Maloney hopes to be producing ethanol within a year of receiving a building permit. “Right now, we’re doing all the preliminary engineering and permit work and trying to finalize all the documents and financing for the project.”

He estimates the project will require a capital investment of about \$50 million; Maloney, his family and a small group of private investors will be putting up the dough, with G&R reportedly kicking in other contributions associated with sugar production. (G&R President and General Manager Alan Kennett did not return calls seeking comment.)

The project will also take advantage of state and federal tax credits, Maloney acknowledges. Under Hawai'i law, manufacturers that produce between 500,000 and 1 million gallons of ethanol will receive a non-refundable 30 percent investment tax credit, or \$150,000, whichever is less. The credit increases for bigger manufacturers, capping at 30 percent, or \$4.5 million dollars, for companies that produce more than 15 million gallons per year. The state credits run for a maximum of eight years.

The federal small producer tax credit kicks in when the plant actually begins making ethanol, providing a credit of 10 cents per gallon of ethanol produced. Combined, they total about \$4.8 million annually for Maloney's project, if it's producing at full capacity.

Maloney thinks 2008 is a likely start-up date for the plant, but he's looking 18 months beyond that, to the time when sugar cane is the feedstock. At that point, he says, the plant will be producing its 12 million gallons of ethanol *and* enough steam and electricity to run itself and G&R's sugar mill, while still returning 140 kilowatts of electricity to Kaua'i's grid.

He is certain it will all work out as planned "because we're basing it on the Brazil model. This is what they're already doing in Brazil."

Curtis isn't reassured by such assurances; indeed, they depress him further. "Brazil is often touted as the model of ethanol, but they have lax labor and environmental laws, and only a very small percentage of the population owns land," he says.

What's more, "two-thirds of the ethanol business in Brazil is owned by multinational corporations, like Cargill, Syngenta and Monsanto," Curtis says.

These are the very companies that are behind genetically engineered (GE) agriculture —with corn, the most common source of American ethanol, one of the biggest GE crops.

Curtis recalls attending a biotech conference in Honolulu last January, where "they were talking about this huge push to genetically engineer crops to increase the amount of product that can be converted to ethanol, and GE microorganisms to make it easier to break down the crops. You see the same players in both [industries].

"For the big corporations, it's all about the bottom line," he says. "And for the state, it all comes down to creating an atmosphere in Hawai'i that shows we're open for business."