OUTLOOK

Homegrown vision

Local entrepreneur to work with college on ethanol alternative

By Shannon Wells
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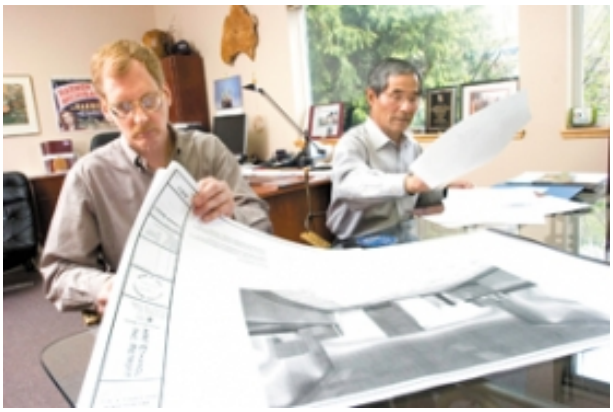
Local entrepreneur Hiroshi Morihara has at least one thing in common with President George W. Bush these days. Both men have cellulosic-based ethanol on their minds.



John Klicker / The Outlook
RIch Palmer, left, project manager of HM-3 Ethanol, goes over design plans for a cellulose-based ethanol lab with company President Hiroshi Morihara at his Persimmon Realty office.

As the pitfalls of using corn to produce a sustainable, environmentally friendly alternative to gasoline filter through the media and blogosphere, political leaders are catching on to what visionary scientists and academics have realized for some time: Cellulose derived from wood and plant material is a more plentiful, cost-efficient source of ethanol than farm-grown corn.

While the president sang the praises of cellulosic ethanol in a Tuesday, April 29, White House Rose Garden address, Morihara honed his local vision for the process at his Persimmon Country Club office in Gresham. His fledgling HM-3 Ethanol business anchors a collaboration with Mt. Hood Community College to explore the potential of plant-fueled ethanol.

He and his partners plan to have a lab operating at the college's fishery building by July. The lab will lead the way toward building a pilot production plant in 2009.

Until recently, ethanol has largely been associated with corn, but Hiroshi believes the virtues of cellulose are self-evident.

"I understand why people are concerned," he said, referring to the idea that using corn for ethanol may consume more energy than it saves. "I've always felt corn is not the way. It is not as efficient as cellulosic ethanol."

Morihara, 70, founder of Persimmon Realty and the former Oregon Science and Technology Partnership, said availability of cellulose fuels makes Oregon a prime location to experiment. Eastern Oregon is rich in poplar trees, wood chips are available at pulp mills along the Columbia River and the Willamette Valley is rich with grasses.

Utilizing these resources provides side benefits as well, he points out. For example, Eastern Oregon's tree farms require carbon dioxide to grow, so "cellullosic ethanol will help reduce greenhouse gas." The process will also aid tree farmers, and a reduction in corn-based ethanol use will keep wealth within the state.

Morihara's group has conducted tests with cellulosic-based ethanol at the University of Washington for the past four years. Now with Project Manager Rich Palmer at his side, HM-3 will bring the offsite testing closer to home at Mt. Hood.

"Nobody is doing this kind of work" in the greater Portland area, Morihara said. "Oregon is really

behind. We're trying to bring the know-how to Oregon."

The sheer diversity of fuel gives the project a wide-open field of possibilities, Palmer said. Cornstalks, wheat straw, wood chips and construction waste – even garbage is a potential source of ethanol production.

"About everything you see out there contains cellulose," he said. "You can use so many different sources, and you don't have to take away from food sources" as with corn.

The U.S. government is responding to what Morihara and Palmer identify as a shift from corn to cellulosic-based ethanol. The strain corn-based ethanol would likely place on water resources, grain stocks, livestock farming, land use and fuel supplies has gained traction in the scientific community as well as the media.

To encourage production, federal officials will reduce the corn ethanol subsidy by 12 percent and offer a $1.01 per gallon subsidy to stimulate cellulosic production, according to an article in Greenwire, an environmental policy newsletter.

Morihara said Oregon leaders are also behind the cellulosic fuel approach.

"Oregon doesn't want to rely on corn ethanol," he said. "I think the state understands how important what we're trying to accomplish is."

Mt. Hood officials are encouraged by the collaboration with HM-3. Students in the Environmental Health and Safety department will assist Morihara's team in the lab as Professor Javid Mohtasham leads his own study on biodiesel fuel, said spokesman Al Sigala.

"It's a win-win situation for us and the community," he said. "It's a good sign of the college's efforts toward sustainability. What Hiroshi is doing is pretty amazing stuff."

HM-3 researchers and Mt. Hood students will tests different stages of the ethanol process in the lab this summer. The findings will apply directly to an operating pilot plant, which will go in a college building that used to house the horticulture program.

"It is great to connect with Mt. Hood and have a lab there," Morihara said. "It will serve the mission of the college and help us also."

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