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Evergreen mill may test hydrogen technology  
John Driscoll/The Times-Standard  
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Evergreen Pulp is aiming to be a proving grounds for technology that could wean it off natural gas and potentially produce hydrogen fuel, part of a push by the state to develop clean energy.

The mill already produces about 95 percent of its own electricity and most of its overall energy from sawmill waste. But despite that, the energy-intensive pulp-making process still draws about 300 therms of gas each day through the Pacific Gas and Electric Co. pipeline.

The proposed project would gasify fine wood residue to create a gas of carbon monoxide and hydrogen, which it would burn in place of natural gas. Since the mill is one of the largest users of natural gas in the county, the replacement fuel could reduce costs significantly and shield the operation from fluctuating gas prices.



"We would be completely free of fossil fuel," said Evergreen Senior Resource Manager Rex Bohn.

The project would move forward if a California Energy Commission grant is awarded in April. Money would come through the commission's Public Interest Energy Research Renewables Natural Gas Program.

The company that would develop the project, Diversified Energy of Gilbert, Ariz., said that Evergreen was a good fit for the emerging technology it calls HydroMax.

"We as a company have demonstrated the pieces of this technology," said Vice President of Business Development Jeff Hassannia. "Now it's ready to go."

Initially, the project would produce synthetic gas -- a carbon monoxide and hydrogen mixture -- and a modest amount of hydrogen could also be parsed out. If it works, the process could be done on a larger scale.

That may be able to produce a fair amount of hydrogen fuel for fuel-cell cars. That could be an additional supply of that type of fuel which Humboldt State University's Schatz Energy Research Center wants to produce using landfill gas.

It would be helpful to have a good local supply of hydrogen fuel to encourage the use of hydrogen-powered cars beginning to crop up, said Peter Lehman, HSU environmental resource engineering professor and fuel cell expert.

But Lehman said it's complicated to strip out and clean hydrogen from the synthetic gas mixture.

"That's not a snap-your-fingers-and-it's-done," Lehman said. "It's within the realm of possibility."

The energy commission calls for the project to be done over the period of three years. Hassannia said the technology could also be used in other industries that are sensitive to natural gas prices, especially those which use a lot of heat in their processes, like paper, cement, glass and wallboard producers.

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