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Here comes the biodegradable fork

By Michael Kanellos, Staff Writer, CNET News.com

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Some people want to take fossil fuel out of cars. Frederic Scheer is taking it out of picnicware.

Scheer, CEO of Santa Monica, Calif.-based Cereplast, says his company has come up with a way to produce things like forks, knives, cups, food packages and other items out of plastic derived from cornstarch, rather than from petroleum-based compounds.

Because Cereplast's plastic is composed of organic material, the items made from it will dissolve in a compost pile in 180 days or less, Scheer said. In a landfill, a plate made from Cereplast's material might take two or three years to decompose.

"But compare that to regular plastic, which can take 100 years or more," he said. "Our resin is primarily designed for products to be composted. It will go back to water, CO₂ and biomass (often) in less than 60 days."

Just as important, the stuff may be cheaper, thanks to improved technology and rising gas prices. A pound of Cereplast's resin sells for around 58 to 60 cents. A pound of petroleum-based polystyrene, meanwhile, sells for around 60 cents.

"We believe we are the same price or lower," he said. "In the past, one of the problems was everybody wants to be green, but nobody could afford it."

Industrial customers, he added, are responding to the company's pitch. Solo, the disposable-cup giant, will later this year start to offer a paper cup that's coated with Cereplast's materials rather than the petroleum-based plastic film typically used on these cups.

Cereplast is also contemplating discussions with large chemical companies about licensing. (The company also produces its own line of Nat-ur utensils.)

Entrepreneurs and activists have touted green technology for years, and its appeal among consumers and industrial buyers is growing. Part of the revival of clean technology comes from concerns about the environment, but a significant driver, according to Scheer and others, lies in how the economics have



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improved. Products made from things other than fossil fuels are losing their price premium. Additionally, they can help consumers avoid clean-up costs or health risks.

Green at the Olympics

For the 2000 Olympic Games in Sydney, Cereplast won a contract to supply the organizers with utensils made from biodegradable starch. At the time, a box of 1,000 utensils from the company cost about \$60, he said. Now the same box of utensils would cost around \$10. In October, he'll visit Beijing to make a pitch to the organizers of the 2008 games.

Like many other modern green companies, Cereplast doesn't list the overthrow of the petroleum universe as one of its objectives. Instead, it just wants to nibble off some of the edges. Chemical companies sell around 115 billion pounds of plastic resin a year in the U.S. alone.

By the end of the year, Cereplast will be capable of producing 40 million pounds of resin, and it should grow to a 300 million-pound capacity by 2008. In five or six years, Scheer said, he wants the company to produce a billion pounds a year. Even then, though, Cereplast would remain a small provider of resin overall.

The company's resins can be used in the same injection-molding and other processes currently employed by manufacturers, he said. It takes around 15 to 20 percent longer to produce something with Cereplast's resins than with conventional resins. That adds costs, but the Cereplast resins don't have to be heated to the same extreme temperatures, which cuts down on fuel costs. With fuel prices rising, the cost difference for manufacturers becomes negligible. Although some experts believe that oil prices will be lower in the near future, the long-term forecast is for oil prices to climb.

Cereplast makes 12 different types of resins, and how they get used depends on the end product. A plastic bottle, which is created on different machinery, requires a different type of resin than does a straw.

But what about the carbon dioxide that gets released when Cereplast's plastic forks decompose? Doesn't that contribute to global warming?

"The CO₂ is insignificant--less than 1 percent in weight--and does nourish the biomass to make the soil amendment called compost," Scheer said.