



Monday - November 10, 2003

[evcommunity](#) | [eveducation](#) | [evinvesting](#) | [evindustry](#) | [home](#)
Our world of sustainable transportation
[find story](#) [news](#) [go](#)
 Features
 Interactives

 Free Newsletter

 Subscriptions

 About EV World

 Login

A Green Bill Of Health?

Little-noticed provision in the new farm bill could spark a surge in biobased product sales.

Source: Tompaine.com
[May 26, 2002]

For the past three decades, manufacturers of biobased products have struggled to establish a toehold in the U.S. marketplace. These companies say their products, ranging from adhesives to plastic bags made of corn, soy or gelatin, are less polluting and more biodegradable than traditional petroleum-based products. But others say that biobased products may not live up to their environmentally-friendly claims.

Today, products made from plant matter supply only a small percent of transportation, electricity or chemical needs in the United States, according to research. But a little-noticed provision buried in the farm bill that President Bush signed into law this May could spark a surge in sales for the biobased industry. Under the new law, federal agencies are now required to give biobased products preference over nonbiobased products that are comparable in price, performance and availability.

Environmental and farm groups, eager to promote what many see as a kinder, gentler, greener path helped craft the provision, which is modeled on a previous directive for recycled paper. The earlier decree helped build the recycled paper industry. It opened the door for one of the largest purchasers in the United States --


[Printer Friendly Version](#)

[Email to Friend](#)

Related News

[Toyota Prius: P2C2E](#)
[Mass-produced Hybrid Now a Reality](#)
[GM Opts for 'Mild Hybrid' for Saturn Vue](#)
[Economic Recovery Seen Boosting](#)

the federal government -- to spend billions of dollars on more environmentally sustainable products.

For years, David Morris, vice president of the nonprofit Institute for Local Self-Reliance (ILSR), has promoted shifting from what he calls today's corporate-run fossil fuel or hydrocarbon-based economy, to a local or farmer-owned plant or carbohydrate-based economy.

Morris generally rates carbohydrate products far ahead of hydrocarbon products because they don't require the toxic chemicals and high temperatures, which are needed to extract and breakdown crude oil into petrochemicals. Furthermore, many biobased products are biodegradable, unlike their petrochemical counterparts, he says.

But not everyone is certain that biobased products are more environmentally friendly. University of Oklahoma Professor Robert Anex says he wants to see "empirical evidence." Anex, a science and Journal of Industrial Ecology, which examines the environmental implications of biobased materials and fuels.

Anex points to a 1999 article in Nature Biotechnology that compared a genetically engineered corn-based bioplastic to a similar amount of fossil fuel-derived polyethylene. The report concluded that bioplastic uses more energy because it involves a fermentation process. According to Anex, this means the biobased plastic actually winds-up producing more greenhouse gases, not less.

Biobased supporters argue that the biobased industry is still in its early stages, and a lot more research needs to be done. But Anex says the relative environmental costs should be weighed now before biobased manufacturing takes off, even if it is "like comparing apples to oranges." When evaluating biobased products, factors like farming's erosion of topsoil, loss of soil nutrients as well as the effects of irrigation and pesticides, need to be considered, Anex says. While the use of fossil fuels to create products may require toxic chemicals, the process gains points for its relative efficiency.

In the end, whether an individual biobased product is environmentally sustainable depends on the product and the process. Architect William McDonough's Virginia-

[Demand for Petroleum](#)

[Global Fuel Cell Markets Quantified](#)

[Texaco-Ovonic Battery Plant Commissioned](#)

[Ford Decides to Keep Excursion SUV, Rankling Environmentalists](#)

[Firms Plan to Introduce First Fuel Cell Hybrid-electric Scooter](#)

[Corruption Re-emerging in Iraqi Oil Industry](#)

[Cleaner Cars On the Way](#)

- Features
- Interactives
- Free Newsletter
- Subscriptions
- About EV World
- Login

based architectural firm, McDonough Braungart Design Chemistry (MBDC), designs products intended for "cradle-to-cradle" use -- recycling over and over without loss of quality, and without harming the environment or human health.

MBDC worked with chemical company BASF to develop a new nylon called Savant that can be recycled and used in carpets. Ken Alston, an MBDC executive, says BASF is guaranteeing a certain percentage of reused, or "upcycled" material in its new Savant carpets. This way old material gets used again, and is not dumped into the trash. The MBDC Web site rates that type of recycled product as far superior to cotton, which requires a "pesticide intensive agricultural process."

As Americans become more sensitive to environmental issues, many are being drawn to the biobased industry despite the many unanswered questions. Businesses that once kept such companies at arms length, are now pursuing biobased companies and the products' green credentials.

Kim Kristoff is president of the Arizona-based GEMTEK, which produces non-toxic plant-based lubricants, detergents and shampoos. Kristoff recalls that when he started producing biobased products in 1991, he received "lots of sideways glances from people saying you're nuts, you will bomb."

Even Kristoff began to have doubts during the next three years as GEMTEK lost \$1.5 million. The company had great difficulty finding plant-based cleaners that would not have toxins. Today GEMTEK's four manufacturing facilities boast a green bill of health -- none are listed in the Environmental Protection Agency's "Toxic Release Inventory." In other words, they do not use, make, or release any of the 650 toxic chemicals that companies are required to report to the EPA. This year's sales are projected to reach \$10 million, and now Kristoff gets calls from ExxonMobil, GEMTEK's number-one client, and Coca-Cola.

The industry has grown so much that Kristoff is organizing an association of biobased manufacturers, which may start with as many as 400 members. The association will not claim that all its products and processes are non-toxic -- for example, some plants contain the toxin terpene -- but all products will be from a renewable resource, and will be biodegradable, Kristoff says.

Biobased supporters like ILSR's Morris say the products are also often cost-competitive "if you take into account clean-up costs, occupational health and safety, and pollution."

For example, Bob Boyle of Cortec Corporation says his company's biodegradable, dry-packaging film reduces labor, and clean-up costs usually involved in shipping metal parts. Traditional methods require a chemical coating that is first applied to metal parts for protection during shipping. Special packaging is then needed "to prevent the harmful chemical from seeping-out"; once delivered, the chemical coating needs to be stripped off with a "harmful degreaser"; and then the company has to dispose of the waste, says Boyle.

"Which do you think is less expensive?" he asks rhetorically.

The federal government has played an important role in shaping and cultivating the biobased industry through regulations, research and funding, according to Morris. Thanks to the government ban on the toxic chemical trichloroethylene, Cortec sold water-based biodegradable cleaner to a northern Minnesota plant that had to switch, Boyle says.

On the other hand, the United States Agriculture Department's criteria for what will qualify as a biobased product could trigger millions of dollars in sales to a product that environmentalists decry. Cameron Griffith with the non-profit Consumers Choice Council, which advocates third-party labels for environmental practices and labor rights standards, says the USDA has failed to consider whether wood products are harvested in a sustainable manner.

Others say that the USDA's minimum biobased content requirement is too low for some products -- it's just 20 percent for tree-free paper. Environmentalists fear the term "biobased" will become a vague term with as little meaning as "environmentally friendly."

USDA official Ronald Buckhalt defends the criteria for biobased products as having been vetted, and says it should be viewed as the beginning of the department's effort to help market biobased products.

- [Features](#)
- [Interactives](#)
- [Free Newsletter](#)
- [Subscriptions](#)
- [About EV World](#)
- [Login](#)

Although large companies are plunging into the field -- Cargill Dow has opened a biorefinery to make corn-based plastic -- it's still a small market. The USDA Web site states that bio-plastics sales are projected to reach 8 billion pounds a year by 2020 -- that's a little over 10 percent of the current U.S. plastics market. Backers say the potential biobased market is huge - theoretically anything made from petroleum can be fashioned from plant matter.