

Shell Bolsters Its Support Of Biofuels Wall Street Journal, December 28, 2009

By RUSSELL GOLD

Royal Dutch Shell PLC has roughly doubled its financial support for biofuels start-up Codexis Inc. in the past year, the latest sign that oil companies are slowly and selectively increasing their interest in plants-to-fuels research.

Shell is on pace to spend \$60 million in 2009 to fund research at Codexis, nearly twice the amount as the year before, according to regulatory filings. Codexis filed paperwork this week for a \$100 initial public offering. The start-up is developing microbes to speed up the chemical reactions that turn inedible plants, such as grasses or stalks, into ethanol and diesel.

Other crude-oil companies also have increased spending on biofuels. Exxon Mobil Corp. said this summer it would spend \$600 million over five or six years on a partnership with Synthetic Genomics Inc. to develop a way to turn algae into motor fuels. Chevron Corp. entered into a relationship in October with Mascoma Corp. to investigate plant-based fuel. And BP PLC created a venture with Verenum Corp. this year to build a fuel plant in central Florida next year.

Of course, this spending is tiny in comparison with these oil companies' annual capital budgets, which in some cases top \$20 billion a year. But the funds are significant for biofuels research and are expected to accelerate efforts to determine if plants can be economically turned into motor fuels on a large scale.

Big oil companies don't appear to be interested in generating niche fuels. Rather, they are targeting investments at companies such as Codexis that can make a significant dent in a global 80-million-barrel-a-day fuel market. And they are steering clear of biofuels such as corn-based ethanol made from edible crops.

These investments are "proof that the oil industry sees the writing on the wall; they know they need to adapt," says Paul Dickerson, a partner at the law firm Haynes and Boone LLP and a former chief operating officer at the Energy Department's Office of Energy Efficiency and Renewable Energy. "We are not going to stop using oil, but these companies are aware that other energy sources are gaining traction, and they need to diversify their business plans just as America needs to diversify its energy supply."

Oil company interest in biofuels may be the industry's best chance right now. The industry was effectively frozen out of capital markets during the economic downturn and some advocates have been discouraged by the level of federal support.

The funding freeze has prevented the industry from fulfilling lofty goals. Two years ago, Congress envisioned that the industry would produce 100 millions gallons of biofuels from nonedible plants in 2010 and 250 million gallons in 2011. But few believe it can generate much more than 15 million gallons next year.

Codexis is developing enzymes to break down plant fibers into sugars. These sugars can then be turned into ethanol and diesel. Shell has a 20% stake in the company and Chevron owns another 5%. Codexis executives declined to be interviewed. The enzymes developed by San Francisco-based Codexis could be used, under an existing agreement, by Iogen Energy Corp., a biofuels company half owned by Shell.

If Codexis goes ahead and issues stock on the Nasdaq Stock Market—it filed once before in 2008 before pulling back when stock markets started falling—it would be the first biofuels company to hold

an U.S.-listed IPO since December 2007 when China-based biodiesel maker Gushan Environmental Energy Ltd. debuted on the New York Stock Exchange, according to investment bank Dealogic.

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