How Bugs (Yes, Bugs) May Make High Priced Oil a Thing of the Past

Did you ever think that microscopic bugs could present an alternative to drilling for oil, and what that might mean for all sectors of the world economy, especially transportation, design and manufacturing? To create that alternative, with the help of funding from venture capitalist Vinod Khosla, LS9, an industrial biotech firm in South San Francisco, CA, has been developing a line of patent-pending biofuels through the process of synthetic biology. The process involves using genetically modified (and non pathogenic) strains of e. coli, which are essentially "fed" various kinds of "feedstock" (wheat straw, wood chips, etc), resulting in a fermentation process that yields a fuel virtually ready for a gas pump. In that it doesn't require a fuel-intensive distillation process, it is much more efficient than the process used to produce ethanol. LS9 believes that they are about one month away from being able to use the fuel as traditional gasoline would be, such as in a car's gasoline tank, or to power a manufacturing plant, and they plan to have a demonstration-scale plant open by 2010 and a commercial-scale plant open by 2011, which may incorporate Brazilian sugar cane for feedstock.

There is no doubt that the efforts of LS9 and other firms like it, represent a positive step in ending our dependence on traditionally sourced foreign (and domestic, think ANWR) oil, especially as oil prices remain so high. However, like corn-based biomaterials, bio fuels also have their challenges, such as the emissions they create when burned, and that the scale of production required to meet even domestic fuel demand is so great - some say a plant the size of the City of Chicago! But perhaps considering the way Silicon Valley works, and how many firms have become strongly devoted to alt fuel and clean tech initiatives, it may not be too long before an entrepreneur develops some sort of emissions-free biofuel that can be produced at facilities tethered to municipal waste treatment plants. Although that may be just a concept today, when achieved, it would help create a truly "sustainable" alternative to traditional petroleum, and thus decrease the overall environmental impact of the global economy.

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