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Considerations for the Future of the Biofuels Market

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Considerations for the Future of the Biofuels Market

By Michael Harris
BioWorld Executive Editor

BioWorld sees a number of dynamics that have the capacity to impact and define the future of the biofuels market. Some of these mitigating factors are:

- Total venture capital investment in the overall alternative energy sector has been idling at approximately \$20 billion since 2000, largely attributable to the pre-2007 reticence of traditional private VCs; however, recent volatile dynamics have incited an increase in market production and speculation activity. Also, corporate investors may cause a noticeable increase in that average in 2008, as deep-pocketed and resource-abundant companies and individuals in other industries have been joining in the trend of crossing over to speculate on the potential of biofuels, crop- and biomass-based in particular, but also on solar, wind and hydrogen projects to a lesser degree.
- Another delineating indicator for the increasing number of research and development projects fueling the industry is revealed in the trend of biofuels-related patent filings. In 2000, 2,034 alternative transportation fuel-related patents were submitted to the U.S. federal government. That figure could top 30,000 in 2008, as researchers are experimenting with an extensive list of possible feedstocks and applying discoveries of recent genomic research to enzyme processes.
- Biofuels can be over-hyped, but the actual and impending consequences of increasing oil use cannot, as the latter is accelerating toward a future with evermore punitive results. Even if another century of underground oil reserves is discovered, the inherent problems will not only still exist, but will increase the certainty of negative effects.
- The extended future of gasoline is abounding, with gasoline prices under \$4 now considered "cheap," a devastated ecology and a relatively frustrated and suffering public.
- The fastest way for biofuels to muscle into the market will be from a sustained government push and an appreciable public interest that keep the technology in the forefront. Unfortunately, in order for that to happen, consumers must likely suffer through a stabilized price at the pump for gasoline of \$4 per gallon.
- Corn is grown in the middle of America, while drivers are predominantly on its coasts, making for unwieldy transportation and distribution, and it is improbable that enough corn can be planted in the U.S. to meet the demand for a fuel to displace oil, so the fulfillment of the cellulosic ethanol market is a mandatory component of a successful biofuels plan.
- Companies such as Archer Daniels Midland Co., Cargill Inc., DuPont, Monsanto Co., Ford Motor Co. and General Motors Corp. are big players, not quite matching the overall profits of Exxon Mobil Corp. and Royal Dutch Shell plc, but with more than powerful enough corporate structures, lobbying clout and financial resources to deliver and sustain a market to respectability, profitability and permanence. Increasing the potential profitability of biofuels is the fact that such a convergence of clout and resources has rarely, if ever, been formed.
- The U.S., counted on to lead the biofuels market in this century, has unquestionably been on a slower pace to this point than Brazil in pursuing and perfecting an exit strategy from its oil dependence; however, with technological advances in areas such as automobile manufacturing, biofuels refining, and IT processing hardware and software, it would seem that a speedier rate of progress than the quarter-century it took Brazil to succeed, with less technological options, will be more attainable now.
- A crucial issue will involve making a research breakthrough that will result in lower production costs in the cellulosic ethanol refinement process.
- Licensing enzyme, bio-IT and other technologies will increasingly thrust biotechnology companies into the biofuels investment spotlight.

- Oil companies will eventually compete with Big Pharma peers for ownership stakes in biotechnology companies, which bodes well for biotechnology investment and growth, and will bring added value to the industrial biotechnology sector, in particular, increasing its 10 percent share of the total biotechnology market and its 13 percent revenue share in it.

The amount of investment in biofuels has dramatically increased, but it still represents a fraction of what will be needed to fund the optimistic purpose and promise of biofuels.

The future of biofuels and its aptitude to compete with gasoline no longer rests on the success of today's ethanol market; it rests on the capability of second-, third- and fourth-generation alternative fuels to develop into broad production markets within the next 10 years, allowing consumers to reclaim some of their optimism that has been in decline over the last 30 years, offering that there is something that can be done about oil dependency and its resultant effects.

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