

SHAPING THE SOUTH'S BIOFUELS INDUSTRY: ADVANCES IN CONVERSION TECHNOLOGY

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The Energy Independence and Security Act of 2007 provided clear direction for reducing the nation's dependence on imported petroleum. With an annual target of 31 billion gallons of renewable fuel, conventional corn ethanol production was capped at 15 billion gallons. The remaining 16 billion gallons is comprised of advanced biofuels. Given the added requirement of greenhouse gas reduction, the roadmap provided clear direction for a major southern contribution to the goal. Because of a perceived technology advantage resulting from a long development history it was largely assumed that cellulosic ethanol would fulfill the demand. Dramatic research and development progress in both the biochemical and thermochemical conversion platforms has altered the landscape in just a few short years. Drop-in fuels that are chemically and functionally similar to today's gasoline are garnering fresh attention. The promise of this new class of biofuels to alleviate the infrastructure incompatibility problems presented by ethanol as a liquid fuel has broadened the range of alternatives that will shape the use of lignocellulosic biomass for renewable fuels and industrial chemicals. Although creating more near term uncertainty on the conversion technology front, this progress has expanded the potential deployment of the industry in the Southeast, where feedstock diversity reigns supreme. This presentation will overview recent developments in biomass conversion technologies, and highlight ongoing barriers to industry expansion.