Abstract
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ETHANOL PRODUCTION IN BRAZIL
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World ethanol production is undergoing spectacular growth. Brazil, the world’s leading fuel ethanol producer until 2005, is continuing to expand production. Domestic consumption of the renewable fuel continues to rise and important export markets are being developed in Asia, Europe and North America. Brazilian ethanol production is based on sugarcane as feedstock. Cane farmers increasingly believe that world oil prices have broken out of old pricing models and that current high prices are here to stay, leaving fuel ethanol more attractive than ever as an outlet for sugarcane.

In 2005, the United States overcame Brazil as the world’s largest ethanol producer. Many of the fuel consumption trends that began in Brazil are now developing in the United States. The largest difference in the two regions is the feedstock source: corn in the United States versus sugarcane in Brazil. Each crop has its pros and cons as a feedstock for ethanol production. A question that often arises is how the process economics compare.

In this report, PEP presents process designs and associated cost estimates for producing ethanol in Brazil and the United States. Three economic models are provided: ethanol from a sugarcane mill, ethanol from a corn dry mill and ethanol from sugarcane bagasse. Sugarcane mill economics are evaluated both on a Brazilian location basis and also a U.S. Gulf Coast basis. The general conclusions are summarized below:

- The most important factor in Brazil’s growing ethanol industry is the country’s large cultivation of sugarcane. No other country has been able to match Brazil’s sugarcane cost structure. Development of an economically sustainable milling industry has also played a large role. Integration of sugar and ethanol production from sugarcane enables very competitive process economics. Future developments that could further enhance economics include bagasse processing to produce ethanol, although this technology is at least several years from successful commercialization in Brazil.

- Brazil’s favorable position relative to U.S. corn dry milling has eroded somewhat over the past year (2005 to 2006). This is primarily due to the rising value of the Brazilian real and also the rising cost of sugarcane in Brazil. Never the less, large sugarcane mills in Brazil still enjoy lower production costs than even the largest corn dry mills in the United States.
ETHANOL PRODUCTION
IN BRAZIL

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