

## **The Biorefining Story, Progress in the commercialization of biomass-to-ethanol and the work of IEA Bioenergy Task 39**

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### **Abstract**

A combination of continued insecurity around oil supplies and concerns about fossil fuels contributions to green house gas emissions has helped keep oil prices high and have driven the rapid expansion of global bioethanol and biodiesel production. While foods such as sugar and corn are still the dominant feedstock for biofuel production, interest in utilizing lignocellulose for the production of advanced (or so called second) generation biofuels has grown significantly. This area has been the focus IEA Bioenergy Task 39 which is a group of international experts working on commercializing sustainable biofuels used for transportation. The goal of Task 39 is to provide participants with comprehensive information to assist with the development and deployment of transportation biofuels. The Task coordinates both technical and the infrastructure issues related to Biofuels and the main objectives of our network are to: Provide information and analyses on policy, markets and implementation issues that help encourage the adoption of sustainable conventional biofuels and help commercialize advanced liquid biofuels as a replacement for fossil-based fuels; Catalyze cooperative research and development projects that will help participants develop improved, cost-effective processes for the production of advanced liquid Biofuels, and; Provide information dissemination, outreach to stakeholders, and coordination with other related groups.

There are a number of complementary platforms for processing lignocellulosic feedstocks, including traditional platforms (i.e. existing pulping technologies) as well as emerging technologies that are biological-based or thermochemical-based. Each of these platforms can be organized to produce bioenergy, biofuel, and/or bioproducts (including both material and chemical products). However, it is apparent that technical barriers remain for advanced biofuel production. Production costs are uncertain but currently thought to be around USD 0.80 – 1.00/litre of gasoline equivalent. There is still no clear candidate for “best technology pathway” between the competing biochemical and thermo-chemical routes and monitoring of large-scale demonstration projects is essential to provide accurate comparative data. This has been one of the “deliverables” of the IEA Bioenergy Task 39 network and progress by the various approaches will be discussed in the presentation. A summary of Task 39's work and the various reports and activities that have been carried out in the last few years will be also described

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