

PURPOSE-GROWN TREES AS A SUSTAINABLE RENEWABLE ENERGY SOURCE

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Bioenergy has been identified as an issue of national importance. Aggressive goals are being set for the use of renewables to displace traditional fuel sources. The 2007 Renewable Fuels Standard mandates the use of 36 billion gallons of renewable fuels by 2022. Today ethanol is produced almost exclusively from corn, but corn is not expected to meet the 36 billion gallon objective. It is projected that 21 billion gallons must come from “advanced biofuels” such as cellulosic ethanol. Cellulosic feedstock must be utilized in order to meet the Renewable Fuels Standard.

Wood, especially from trees grown for industrial forestry, is an excellent source of cellulose and hemicellulose for conversion into ethanol. Purpose-grown trees have several benefits as a biomass feedstock with high growth rates, together with advantages from existing harvest, transport and processing logistics. The high productivity of ArborGen trees allows for the production of more biomass on a smaller land base that can meet supply demands within an area close to the processing facility. Trees provide a “living inventory,” eliminating the need for storage and its associated costs while providing a means to smooth supply fluctuations. Additional end uses for trees in the forest products industry provide landowners with flexibility, and leveraging the existing forest products infrastructure provides additional benefits.

ArborGen is developing technologies that will improve productivity, reduce rotation length and total cost, and enhance wood quality of purpose-grown trees. These targets are similar to those that have been defined by the U.S. Department of Energy and others for the long-term feasibility of renewable energy production from cellulosic biomass. ArborGen has trees in development that in the relative near-term are expected to achieve the growth and quality metrics that enable the cost-effective use of woody biomass for the renewable production of biofuel.

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