

## Range Fuels' Soperton Project

**A commercial-scale biorefinery converting biomass into biofuels and power.**

Range Fuels is designing, building, and operating a commercial scale biorefinery that will produce biofuels and power from the abundant biomass resources available in the vicinity of Soperton, Georgia. Construction of the first phase of the biorefinery was recently completed. Following startup and commissioning, the plant will produce methanol and ethanol for use in motor fuels. Expanded production of biofuels and biomass-generated power are planned for build out of the project.

<http://www.rangefuels.com/our-first-commercial-plant.html>

### Project Description

Range Fuels is developing a site near Soperton, Georgia with the potential to produce up to 100 million gallons per year of biofuels as well as green power.

The plant uses a thermo-chemical process to combine pressure, heat, steam, and biomass to produce synthesis gas, or syngas, a mixture of hydrogen and oxygen that can be converted to a wide range of products. Historically, syngas from fossil fuels has been converted to motor fuels and other products ranging from plastics to fertilizer, but Range Fuels' process provides a new option for reducing greenhouse gas emissions while reducing dependence on foreign oil.

Woody biomass is delivered by trucks to a wood yard, where the biomass is processed and stored prior to conversion. The biomass passes through a pressure barrier into a devolatilization section where it is



converted to a gas leaving only residual char and minerals. The gases pass through a reforming section where they are heated further and high temperature steam is injected to complete the conversion to syngas. Finally, the syngas is cleaned and compressed before injection into a catalytic converter that performs the final transformation into low-carbon biofuels.

The Soperton site is located in a region rich in biomass resources. Test plots of high-yield energy crops on the plant site demonstrate the potential these feedstocks have to supplement the woody biomass already available in the region.

### Potential Impacts

The Soperton Project is providing much needed new job opportunities for residents of the region. Besides the operations and maintenance people employed at the plant, the project will expand economic opportunities for local biomass growers, harvesters, and transporters. Local growers are already considering developing new, high-yield feedstock alternatives for the Soperton Project.

### Other Participants

The State of Georgia; The Treutlen County Development Authority; and the U.S. Dept. of Agriculture have provided additional project support with the U.S. Dept. of Energy.

Prime	Range Fuels, Inc. and Range Fuels Soperton Plant LLC
Location	Soperton, Georgia
Feedstock (s)	Woody biomass, forest residues, pre-commercial thinnings, others
Size	775 dry tons per day
Primary Products	Cellulosic methanol, ethanol, and power
Capacity	20 million gallons per year (DOE-funded Project)
Award Date	November 2007
GHG Reduction	100% reduction versus fossil product
Anticipated Job Creation	250 peak construction, 70 plant employees at full capacity
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