

Red Shield Acquisition, LLC

Red Shield Acquisition (RSA) will construct an integrated biorefinery in Old Town, Maine, to produce 77 metric tons per day of lignocellulosic sugars for use as feedstock to biofuel processes. Fermentation technology will be installed to evaluate and validate downstream conversion technologies.

More information is available at:
<http://www.oldtownff.com/>.

Project Description

In RSA's proprietary process, a biorefinery creates clean lignocellulosic sugars from wood and capitalizes on the operating pulp mill infrastructure. This pilot-plant facility, constructed and operated by RSA, will use that process. The pilot-plant forms the basis for scale-up to a Department of Energy-assisted project for a demonstration-scale facility capable of generating 77 metric tons per day of lignocellulosic sugars. These sugars will then become feedstock in a sugar conversion process, located in Old Town, that lead to biofuels, biochemicals, and/or bioplastics. The successful demonstration-scale project will provide both technical and economic metrics to validate commercial-scale projects that will compete at commodity market sugar prices, making larger facility conversions economically viable. A recent study by Oak Ridge National Laboratory supports this direction. RSA's lignocellulosic sugar composition was validated by the National Renewable Energy Laboratory in 2011.

Potential Impacts

As technology is proven at the integrated biorefinery and economies of scale are achieved, RSA's technology will provide a significant technical advantage over competing technologies since it can be integrated into existing pulp facilities and minimize the need for expensive capital. These pulp mills



The Red Shield Acquisition integrated biorefinery, Old Town, Maine, converts wood to sugars for feedstock.

could contribute to renewable biofuels and other bioproducts, while benefiting from existing wood processing equipment and infrastructure. Feedstock costs increase the price of sugar, so manufacturing costs must compete with current markets. RSA's technology can be applied to a variety of lower cost biomass materials, with comparable yields, that provide for long-term competitiveness. These same sugars will become feedstock to downstream processes that increase product value.

technologies that capitalize on RSA's process and add increased value, including technologies that create biofuels and other bioproducts.

Other Participants

RSA has partnered with the University of Maine in research and development efforts during the initial project period. Today, RSA continues to evaluate companies with downstream

Prime	Red Shield Acquisition, LLC
Location	Old Town, Maine
Feedstock (s)	Woody biomass
Size	77 biomass metric tons per day
Primary Products	Lignocellulosic sugars, algal oil
Capacity	28,000 tons per year of sugars; 555,000 gallons per year of green oil
Award Date	January 2010
GHG Reduction	TBD
Anticipated Job Creation	18 permanent, 80 construction
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