



BP and Verenium joint venture fact sheet

BP and Verenium are forming a 50-50 joint venture company to develop and commercialize cellulosic ethanol from non-food feedstocks and bring them to market in the US. This joint venture builds on the technology partnership made between the two companies in 2008.

The joint venture is intended to progress the design and engineering required for the development of a commercial-scale cellulosic ethanol facility, located in Florida. The partnership is a further demonstration of BP's commitment to bringing to market better, more sustainable biofuels, sooner.



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BP and Verenium partnership

Through partnership, BP and Verenium will develop ethanol via non-food feedstocks such as energy cane and energy grasses. Through the new joint venture company, the partners have agreed to commit \$45 million to take development of cellulosic ethanol further towards commercial production.

This investment builds on the \$90 million investment made by BP in 2008 to further develop existing Verenium technical work and develop a demonstration plant at commercial scale.

Key facts

Partnership

BP and Verenium are creating a joint venture company with a total commitment of \$45 million in funding and assets contributed from BP and Verenium. BP are committing \$22.5 million, \$15 million of which will be utilized to fund operations through to the end of 2009 and \$7.5 million payable in 1 January 2010. Verenium are committing development assets, including the Highlands County, Florida, project and another yet to be identified commercial project site. The joint venture company will be led and supported by a small team comprised of employees from both BP and Verenium and will be governed by a board of directors with equal representation from both parent companies. The joint venture company will initially be based in Cambridge, Massachusetts.

The formation of the joint venture company builds on \$90 million investment made by BP in 2008, which allowed the two companies to advance efforts at Verenium's proof-of-concept demonstration facility in Jennings, Louisiana.

The joint venture will now progress the design and engineering required to develop a commercial facility in Highlands County, Florida, utilizing Verenium's existing cellulosic ethanol process technologies.

Feedstock

- Ethanol will be developed via non-food feedstocks such as energy cane and energy grasses using proprietary technology.

- Energy grasses will be an essential part of the future US feedstock mix, given their yield improvement potential and global pressure on land resources.
- Cellulosic ethanol from energy grasses will therefore be a compelling source of renewable fuel for the foreseeable future. It provides a greenhouse gas emissions reduction of up to 90%.

Technology

- BP and Verenium's proprietary technology enables conversion of nearly all the sugars found in cellulosic biomass, including both five-carbon and six-carbon sugars into ethanol.
- The technology is expected to enable entry into the cellulosic ethanol industry more quickly and to improve how biofuels are sourced and produced.

Cellulosic ethanol plant

- The joint venture company is intended to progress the design and engineering required to develop one of the first commercial-scale cellulosic ethanol facilities in the US, located in Highlands County, Florida. The partners expect to break ground for the facility in 2010.
- The estimated construction cost for this 36 million gallon-per-year facility is between \$250 and \$300 million. Production from this plant is expected to begin in 2012.
- With plans to add additional capacity, the joint venture company intends to develop a potential second site in the Gulf Coast region.

Partners

- Verenium Corporation is a leader in advanced cellulosic ethanol, as well as high performance specialty enzymes for applications within the alternative fuels, specialty industrial processes, and animal nutrition and health markets.
- Verenium is based in Cambridge, Massachusetts, and has research and development activities at the Sid Martin Biotechnology Development Incubator at the University of Florida as well as a research laboratory at its pilot plant in Jennings, Louisiana. Verenium has also been working with other academic and

industry sources including Dartmouth, Auburn, the University of Colorado, and the University of California at Davis, and is engaged in an East Asia project based in Osaka, Japan.

- BP Biofuels is based in London and is a global business with offices and operations in Europe, Latin America and the United States. BP Biofuels staff working on projects in the US are based in the Chicago area.

Policy

- The Energy Independence and Security Act of 2007 mandates that advanced biofuel production consist of 21 billion gallons by 2022, of which 16 billion gallons come from cellulosic ethanol. Further, it calls for a modified standard, starting at 9 billion gallons of renewable fuel in 2008 and rising to 36 billion gallons by 2022.



beyond petroleum

