



Bixby Energy Systems Catches China's Eye With Coal Processing Technology

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December 17, 2010

<http://moneymorning.com/2010/12/17/bixby-energy-systems-chinas-us-coal-processing-technology/>

As energy policies become more of a global financial and environmental concern, a clean energy company that can successfully develop "green" technologies will be at the forefront of the next energy industry investment wave.

A comment sent in from a Money Morning reader recently addressed a new coal processing technology developed by a U.S. company to make headlines this year.

Do you know anything about a coal processing technology from Bixby Energy Systems Inc.? It sounds interesting.

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Minnesota-based Bixby Energy Systems Inc., a "new-energy" company dedicated to developing clean energy technology, introduced a coal-to-gas conversion process this summer intended to drastically reduce carbon emissions and produce high quality natural gas.

The "Bixby Process" extracts energy from any carbon-based material to make a synthetic natural gas. It works by superheating coal, instead of burning it, in a closed-loop sealed environment that prevents carbon emissions. The process is able to extract more than 80% of usable energy from coal - much more efficient than the 31% retrieved when it's burned - and produces a high-quality synthetic natural gas. Utilities running on synthetic natural gas produce up to 65% fewer carbon emissions than those burning coal.

About 30% - 50% of the superheated coal is turned into synthetic gas during the process, which is also called devolatilization. The rest is activated carbon solids. Bixby also developed a liquefaction technology that combines the carbon solids with hydrogen to make a light sweet crude oil - which the company hopes will allow countries to reduce their dependence on foreign oil.

"Discussions of energy independence rarely end with the proposal of real solutions. Our liquefaction technology has the potential to provide significant change in the balance of resources, and perhaps to change the current geopolitical and economic landscape," said Bob Walker, chairman, chief executive officer and president of Bixby Energy.

The process will also allow nations with high coal supplies to use a higher percentage those reserves, like the United States. The United States has 27% of the world's coal reserves, according to the Institute for 21st Century Energy.

"The United States has centuries' worth of coal underground," said Walker. "Coal is thought to be a 'dirty' source of energy. But, in reality, coal is not the culprit. The carbon-emissions problem actually stems from the process of burning coal to produce energy which was developed more than 80 years ago."

Money Morning Contributing Editor Peter Krauth said that Bixby's process is not the only environmentally friendly process designed for coal production. Global energy counterparts have similar technologies to reduce carbon emissions.

Germany's energy giant RWE AG (PINK ADR: RWEQY) burns coal in its plants, but manages to emit almost no carbon dioxide. It has implemented an Integrated Gasification Combined Cycle (IGCC), meaning coal is not burned in the conventional manner, but is instead first converted into a combustible crude gas. The gas is converted into hydrogen and carbon dioxide, captured by carbon capture and storage (CCS) technology before the hydrogen is burned.

South Africa's Sasol Ltd. (NYSE ADR: SSL) employs the Fischer-Tropsch technology to remove sulfur from synthetic gas to reduce emissions. The F-T process uses gas-to-liquids and coal-to-liquids technologies for a cleaner-produced diesel fuel.

But Bixby says its patent-pending process is more advanced than many competitors' "clean coal" processes because it eliminates the need for elaborate and expensive clean energy technologies like CCS.

While U.S. policymakers have given little attention to Bixby's process, the city of Shanxi, China, bought five Bixby conversion units right off the bat in June, generating millions in revenue. The country wants to clean up its image as the world's largest polluter.

China also has large gas reserves but falls short on oil and natural gas, which caused widespread power outages last winter. That makes the Bixby Process ideal for the country's energy needs.

"By the end of this year we expect \$12.5 million in revenue [from China] and we expect to more than double that in 2011," said Walker, "And this will create jobs for Minnesotans and others as we expand manufacturing in the United States."

China's interest in Bixby follows the country's trend of investing in foreign-developed technologies to improve policies at home. Money Morning Chief Investment Strategist Keith Fitz-Gerald said investors need to be aware of this trend so they don't miss key profit opportunities in the global energy industry.

"China has very specific long-term energy objectives that are going to result in the complete realignment of the global energy industry. [Deals] like this will continue as long as there is growth in China," said Fitz-Gerald.