

“Primus Green Energy to Support Gas-to-Liquids Research at Princeton University”

Primus Green Energy, March 21, 2013

Hillsborough, N.J. and Princeton, N.J. (March 21, 2013) – Building on its firm commitment to alternative fuels research and development, Primus Green Energy Inc., an advanced alternative fuel company based in Hillsborough, N.J., today announced it will provide financial support to engineers at Princeton University for general research on synthetic fuels, which will include assessments of various gas-to-liquids (GTL) technologies for sustainability and economic viability.

Primus’ STG+ technology converts syngas derived from natural gas and/or biomass into drop-in high-octane gasoline and jet fuel with industry-leading process efficiencies. The fuels produced from the Primus STG+ technology are very low in sulfur and benzene compared to fuels produced from petroleum, and they can be used directly in vehicle engines as a component of standard fuel formulas and transported via the existing fuel delivery infrastructure.

“Primus is always looking for opportunities to support academic research on issues that impact our business and our commercialization efforts,” said George Boyajian, vice president of business development at Primus Green Energy. “Chris Floudas is one of the premier experts in the field of gas-to-liquids technologies, and we believe that his research will play a key role in identifying important developments and financial differentiators among GTL technologies, especially as they relate to our STG+ technology.”

The work at Princeton University will be conducted in the laboratories of Professor Christodoulos Floudas, Ph.D. Floudas is an expert in chemical process systems engineering, with a specific emphasis on process synthesis and design, interaction of process design and control and process operations. His research has garnered him academic and industry-wide recognition, including the 2001 Professional Progress Award from the American Institute of Chemical Engineers (AIChE), the 2006 Computing in Chemical Engineering Award from the CAST Division of AIChE, and the Presidential Young Investigator award from the National Science Foundation. He was elected in 2011 to the National Academy of Engineering.

Read more: <http://www.primusge.com/?press-release=primus-green-energy-to-support-gas-to-liquids-research-at-princeton-university>

“Dominion wants larger Md. gas processing site”

By Erich Schwartzel, *Pittsburgh Post-Gazette*, April 2, 2013

Dominion announced Monday it was applying to the federal government to approve a massive natural gas liquefaction project expected to receive supplies from the Marcellus and Utica shales of Appalachia.

The Richmond, Va.-based energy and utility company said the natural gas liquid processing and exporting facilities will be added to its existing Dominion Cove Point LNG Terminal in Lusby, Md.

The Chesapeake Bay site will have access to natural gas and natural gas liquid supplies that include those being extracted from the Marcellus and Utica shales. The Cove Point facility can process natural gas into various products that are then exported.

"No other proposed liquefaction facility can provide the strategic value in terms of supply and location," said Thomas F. Farrell II, Dominion chairman, president and chief executive officer, in a statement.

The Cove Point site will be one of several expected to begin receiving gas extracted from Pennsylvania and surrounding states. Several arrangements have already formed between pipeline companies to ship Appalachian gas to facilities in Texas and along the Gulf Coast.

Read more: <http://www.post-gazette.com/stories/business/news/dominion-wants-larger-md-gas-processing-site-681785/>

“Foster Wheeler Awarded SNG Studies by Pecket Energy in Chile”

Foster Wheeler AG (Press Release), *Market Watch*, *The Wall Street Journal*, April 2, 2013

ZUG, Switzerland, Apr 02, 2013 (BUSINESS WIRE) -- Foster Wheeler AG /quotes/zigman/93231/quotes/nls/fwlt FWLT +0.58% announced today that a subsidiary of our Global Engineering and Construction Group has been awarded a contract by Pecket Energy to perform feasibility, conceptual and basic engineering studies, and develop an overall investment cost estimate for a substitute natural gas (SNG) production facility which is planned to be built near Punta Arenas, Chile.

The value of the award was not disclosed and will be included in Foster Wheeler's first-quarter 2013 bookings.

The main objective of the project is to produce syngas that will be used as a clean feedstock for the production of SNG, which gas is intended to be distributed to the existing grid in the region of Magallanes, Chile for domestic consumption or for industrial purposes.

The new facility intends to include several state-of-the-art units, including air separation, partial oxidation for syngas production, syngas treatment, acid gas removal, methanation and solid sulfur production. Foster Wheeler's scope of work is expected to be completed by mid-2013.

Read more: <http://www.marketwatch.com/story/foster-wheeler-awarded-sng-studies-by-pecket-energy-in-chile-2013-04-02>

“Interview with Don Pierson, Senior Director of Business Development, Louisiana Economic Development (LED)”

OilVoice, April 9, 2013

Sasol has announced plans to build an integrated Gas to Liquids (GTL) plant in Louisiana. The GTL facility, the first of its kind in the U.S., will produce high quality transportation fuels, including GTL diesel, as well as other value-adding chemical products. This project will be the largest single manufacturing investment in the history of Louisiana and it also represents one of the largest foreign direct investment manufacturing projects in the history of the entire United States. Here Don Pierson of Louisiana Economic Development (LED) provides an insight into the Lake Charles project and its benefits.

What attracted LED to gas to liquids as a gas monetization option?

Louisiana Economic Development (LED) is a branch of state government that seeks to attract jobs and investment to the State of Louisiana. LED has a long history of working closely with Chevron, Shell, Exxon and other major companies involved in energy production. Louisiana provides approximately 30% of US oil and gas production via the Gulf of Mexico (GOM). Louisiana is also home to over 17 refineries and 90 chemical plants. All this is recited to say that the foundation for working in the gas monetization arena was established long ago. Louisiana's companies and workforce are skilled in meeting new challenges and embracing the technology changes that have been a part of the energy production industry for decades. All this is to say that the “LED attraction to GTL activity” is indeed already in our DNA.

What are the benefits and incentives for the project developer, Sasol?

LED worked closely with Sasol (and is willing to work with other companies) to provide 10 or more years of tax abatement (no property tax on building or equipment); world class training of the required work force at no cost to the company and a payroll rebate of 6%, each year for 10 years. Of course these incentives are subject to certain representations by the company and approval by governmental agencies. To secure the project, Louisiana offered Sasol a custom incentive package that includes a performance-based grant of \$115 million for land acquisition and infrastructure costs associated with the facility. Sasol also will receive the services of LED FastStart™, the nation's No. 1 state workforce training program. In addition, the company will qualify for Louisiana's new Competitive Projects Payroll Incentive (up to 15 percent payroll rebate for each GTL job) and Quality Jobs Program (up to 6 percent payroll rebate for each ethane cracker job). To support the project's workforce needs during construction and operations, the state will be investing \$20 million for a new training facility and associated equipment focused on industrial technology at SOWELA Technical Community College in Lake Charles.

Finally, Sasol is expected to utilize the Industrial Tax Exemption Program for both the GTL and the ethylene facilities.

The new training center initially will focus primarily on meeting the training needs of Sasol; once Sasol's initial needs have been met, the facility will serve the broader needs of growing manufacturers throughout the region.

Read more:

http://www.oilvoice.com/post/Interview_with_Don_Pierson_Senior_Director_of_Business_Development_Louisiana_Economic_Development_LED/55cee2879f.aspx

“Oxford Catalysts Group announce \$8 million Ventech reactor order”

OilVoice, April 10, 2013

Oxford Catalysts Group (OCG.L), the technology innovator for smaller scale Gas-to-Liquids (GTL), is pleased to announce that Ventech Engineers International LLC (Ventech) has placed an order with the Group for Fischer-Tropsch (FT) reactors worth \$8 million.

This order, placed in accordance with the agreements between the parties announced on 19 November 2012, is expected to generate revenues to the Group of \$8 million over the period of their fabrication, estimated at 18 months, with a minimum payment of \$3.6 million guaranteed in 2013. The reactors will have sufficient capacity for a plant of approximately 1,400 bpd. At the time when they are transferred from Ventech to a plant owner, the Group expects to receive additional license and catalyst revenues.

Ventech, headquartered near Houston, Texas, is a global leader in the design and construction of modular refineries, and an early pioneer of modular GTL plants. Ventech's manufacturing complex specialises in completely assembled and tested modules that are easily transported by truck, rail, and barge. Through its affiliate, Ventech Project Investments LP, it has \$200 million available to make equity investments in energy projects, including GTL plants.

Read more:

http://www.oilvoice.com/n/Oxford_Catalysts_Group_announce_8_million_Ventech_reactor_order/eb8be2e9093a.aspx

“Cleaning Coal May be Possible”

By Sarah Battaglia, energybiz, April 18, 2013

The damaging effects that result from burning coal may soon be nonexistent. It took scientists from Ohio State University 15 years and \$5 million, but the clean coal technique has finally been developed. They have discovered a way to obtain the energy from coal without actually burning it, eliminating nearly all of the pollution.

According to the U.S. Energy Information Administration (EIA), "Coal emits sulfur dioxide, nitrogen dioxide, and heavy metals (such as mercury and arsenic) and acid gases (such as hydrogen chloride), which have been linked to acid rain, smog, and health issues. Coal also emits carbon dioxide, a greenhouse gas." Even with so many harmful side-effects, the U.S. continues to get a large amount of its energy from coal, roughly 20 percent. Well enough is enough. It is time to embrace the clean coal technique.

Eliminating 99 percent of the pollution from coal, the Coal-Direct Chemical Looping (CDCL) technique will have a significant impact on the rate of global warming. The Environmental Protection Agency has found that in 2010, coal-burning power plants were responsible for about one-third of the country's carbon dioxide, equivalent to 2.3 billion metric tons. If energy can be obtained from coal without burning it, this number should drop considerably.

Liang-Shih Fan, a chemical engineer and director of Ohio State's Clean Coal Research Laboratory, explains the process, "We found a way to release the heat without burning. We carefully control the chemical reaction so that the coal never burns--it is consumed chemically, and the carbon dioxide is entirely contained inside the reactor." The metal from the iron-oxide is recyclable and the only waste products are coal ash and water. If everything goes according to plan, Fan is confident that his discovery can be used to power energy plants within the next 10 years.

Read more: <http://www.energybiz.com/article/13/04/cleaning-coal-may-be-possible>

“U.S. Energy companies work to turn gas into liquid motor fuels”

By Timothy Puko, TribLive, April 20, 2013

When Roy Lipski went to Houston last month to pitch his business at one of the world's largest meetings of energy executives, he went armed with photos of a little town in Butler County.

He's one in a growing group of businessmen trying to make Pennsylvania the lab for an experiment of global importance. The price difference between oil and gas has been at historic levels for nearly four years, pushing companies to chase a holy grail in the energy industry: A way to make money by turning cheap natural gas into expensive liquid motor fuels.

A few companies have made the technology work in other parts of the world, but it's never been profitable in the United States — despite being hyped every few decades. Lipski's company, Ohio-based Velocys Inc., is the latest to try and turn that corner, using a refinery in Karns City as the trailblazer.

Velocys has been working with the plant's owner, Calumet Specialty Products Partners L.P., to install the technology in Karns City, with the hope that it could be the first step to widespread commercialization in the United States

The market is absolutely huge, said Lipski, chief executive officer at Velocys, a subsidiary of Oxford Catalysts Group PLC in the United Kingdom. The Calumet facility is kind of a dream

project. ... They will pave the way for other people to follow. In that respect, they play a really important role.

Calumet turns crude oil into waxes and white oils, and then into personal care and pharmaceutical products. Velocys is planning to provide Calumet with technology to use gas instead of expensive crude oil. That same process can turn gas into liquid fuels, such as gasoline. It could be a commercial breakthrough that Lipski hopes to sell worldwide.

Entrepreneurs are racing toward the same goal across Pennsylvania and the nation. Last month, one group announced a \$200 million project to turn methane into gasoline and propane south of Altoona. Businesses based in Allegheny County and Philadelphia are mulling gas-to-liquids projects, too. Sasol Ltd. could spend \$14 billion to build a plant that makes diesel from shale gas delivered to the Gulf Coast.

Read more: <http://triblive.com/business/headlines/3818064-74/gas-oil-calumet#axzz2RBtQmxBZ>

“Alberta eases royalty on five pilot projects”

By OGJ editors, Oil & Gas Journal, April 23, 2013

The Alberta government has awarded royalty allowances worth a total of \$33 million to five pilot projects designed to improve recovery rates and lower environmental effects of oil sands and conventional oil and gas production.

Contributions from the four companies receiving assistance under the Innovative Energy Technologies Program will total \$173 million. Since its start in 2004, the \$200-million program has supported 46 projects.

Recipients of the latest round of royalty help are:

- Imperial Oil Ltd. for a pilot at its Cold Lake project involving a cyclic solvent process, which uses propane and propane-diluent solvent injection and production cycles to mobilize heavy oil instead of using steam. The royalty allowance is \$10 million for a project expected to cost \$100 million.
- Cenovus Energy Inc. for a 10 Mw chemical looping steam generator at its Christina Lake thermal project. The specialized steam generator keeps carbon dioxide separate from other gases emitted during combustion, avoiding the need to remove CO₂ after combustion and making pure CO₂ available for capture and storage. The royalty allowance is \$10 million, the total project cost \$62 million.
- Perpetual Energy for a low-pressure electro-thermally assisted drive pilot 75 km north of Red Earth. The project will use three parallel horizontal wells with electric cables to heat bitumen with water or solvent injected during electrical heating. Perpetual Energy expects the process to

require less energy and water than conventional steam-assisted gravity drainage. The project cost is \$18.2 million, the royalty allowance \$5.46 million.

- Cenovus for a sand-alkali-surfactant associative polymer flood in conventional oil production at Canadian Forces Base Suffield near Medicine Hat. The pilot is expected to encourage conservation of fresh water in enhanced recovery. The royalty allowance is \$5.37 million for a project costing \$17.9 million.
- Canadian Natural Resources Ltd. for a pilot at its Horizon mine near Fort McMurray involving two processes to treat, recycle, and reuse high-saline and process-affected water. The project cost is \$8.32 million, the royalty allowance \$2.496 million.

Read more: <http://www.ogj.com/articles/2013/04/alberta-eases-royalty-on-five-pilot-projects.html>

“Alternative fuels' best friend: Buses”

By Larry Copeland, USA Today, April 25, 2013

Public transportation is going green.

People who want to celebrate Earth Day week by commuting in a vehicle powered by a cleaner-burning fuel should hop on the bus.

More than a third of the nation's city transit buses are now powered by fuels other than diesel. That's up from fewer than 10% a decade ago, according to the American Public Transportation Association citing January 2011 data.

That compares with about 9 million passenger automobiles in the USA that ran on alternative fuels in 2010, according to the U.S. Energy Administration; that's less than 3% of the total.

Transit agencies across the nation, spurred by federal incentives for buying and using greener vehicles and by the potential savings of switching from diesel, are transitioning to buses that run on compressed natural gas, propane, diesel-electric hybrids and biodiesel. In total, there are more than 66,200 city buses in the country.

Many people get their first introduction to alternative fuels via public transit, say industry officials such as Steve Myers, transit director of Lee County Transit in Fort Myers, Fla. About half the agency's 60 fixed-route buses are diesel-electric hybrids, meaning they run on diesel at start-up, then switch to electric power.

Read more: <http://www.usatoday.com/story/money/cars/2013/04/25/public-buses-alternative-fuels/2113825/>

“MAN to supply compressor technology for Chinese synthetic fuels project”

Hydrocarbon Processing, April 26, 2013

The site of the project is Yinchuan in the Ningxia region, where air separation plants are being built under the management of Linde and Hangyang for one of the world’s largest coal liquefaction production plants. The turbomachinery ordered will be used in one of the air separation plants.

MAN Diesel & Turbo was awarded a contract for a major project to build 11 turbomachinery trains in China, the company announced on Friday.

The contract value is in excess of €125 million.

The site of the project is Yinchuan in the Ningxia region, where air separation plants are being built under the management of Linde and Hangyang for one of the world’s largest coal liquefaction production plants.

The chemical process used requires huge quantities of oxygen. The turbomachinery ordered will be used in an air separation plant which will generate about 40,000 tpd of oxygen from the atmosphere, according to company officials.

The plant is operated by the Shenhua Ningxia Coal Industry Group.

Read more: <http://www.hydrocarbonprocessing.com/Article/3197994/Latest-News/MAN-to-supply-compressor-technology-for-Chinese-synthetic-fuels-project.html>

“EIA releases ethanol statistics for January”

By Erin Voegele, Ethanol Producer Magazine, April 26, 2013

The U.S. Energy Information Administration has published the April issue of its Monthly Energy Review, showing a slight decrease in ethanol production in January. According to the review, the U.S. produced 1.047 billion gallons of ethanol in January, a slight drop compared to the 1.091 billion gallons produced the prior month. It was also a reduction from the same period of 2012, when 1.221 billion gallons was produced.

Net imports for January equaled -546,000 barrels. The net import level for December was -79,000 barrels. January marked the second month since July 2012 that ethanol exports outnumbered imports. One year prior, in January 2012, the net import level was reported at -1.789 million barrels.

Read more: <http://www.ethanolproducer.com/articles/9797/eia-releases-ethanol-statistics-for-january>