

## **“Shell opens bidding for ethane at proposed Beaver County cracker plant”**

By Anya Litvak, *Pittsburgh Post-Gazette*, August 27, 2013

Royal Dutch Shell hasn't decided if it will build an ethane cracker in Beaver County, but it's taking bids from oil and gas companies in the Marcellus and Utica shales to gauge how much ethane would be available if it pulls the trigger.

Shell began a two-month bidding period Tuesday to supplement commitments it already has secured with Consol Energy Inc., Noble Energy Inc., Seneca Resources Corp., and Hilcorp Energy Co. Shell's own exploration and production company also would feed ethane into a potential cracker.

Absent from that list are some of the region's largest so-called wet gas producers, including Range Resources, Chevron Corp., Chesapeake Energy Corp. and EQT Corp.

Ethane, a natural gas liquid found in shale gas in Western Pennsylvania, can be turned into ethylene, a feedstock for the petrochemical industry.

Texas-based Range, whose local headquarters is in Southpointe, already has committed to shipping 300 million barrels of ethane by pipeline over the next 15 years. But company spokesman Matt Pitzarella said it can produce more than three times that from its entire resource base, if there's demand

Read more: <http://www.post-gazette.com/stories/business/news/shell-opens-bidding-for-ethane-at-proposed-beaver-county-cracker-plant-700939/#ixzz2fuCE8PGj>

## **“Casey cautions against funding cut to natural gas lab”**

By Damon C. Williams, *The Philadelphia Tribune*, August 29, 2013

With roughly a month to go before Congress' budgetary deadline, Pennsylvania Sen. Bob Casey, who serves as chair of the Senate Committee on Finance's Sub-Committee on Fiscal Responsibility and Economic Growth, sounded an alarm over funding for a crucial natural gas development operation in Pittsburgh.

Casey, using the full weight of his position as chairman, is pushing for the restoration of \$87 million in proposed cuts to the National Energy Technology Laboratory there, warning that cuts

will not only immediately affect the economy of the western portion of the state, but that the ripple effect will be felt throughout the commonwealth and beyond.

As part of Casey's efforts, the senator also sent a letter to key Senate officials, outlining the necessity for reinstating the funding.

"Natural gas development and new coal technologies will allow Pennsylvanians to control our economic and energy destiny," Casey said via a statement released by his office. "Now is not the time to cut back on vital investments that help move natural development and coal forward and will ultimately lead to more job creation and economic growth."

According to the U.S. Department of Energy, the NETL is operated by the DOE and is one of that agency's workhorse laboratories.

"NETL implements a broad spectrum of energy and environmental research and development programs that will return benefits for generations to come," read a note provided by the DOE. "[Such as] enabling domestic coal, natural gas and oil to economically power our Nation's homes, industries, businesses and transportation, while protecting our environment and enhancing our energy independence.

"In addition to research conducted onsite, NETL's project portfolio includes research and development conducted through partnerships, cooperative research and development agreements, financial assistance and contractual arrangements with universities and the private sector," the note continued. "Together, these efforts focus a wealth of scientific and engineering talent on creating commercially viable solutions to national energy and environmental problems."

Funding for the NETL may become crucial, as America looks to regain its position as a worldwide science and technology leader, a position that has eroded recently due to the gains made by other nations.

Read more: <http://www.phillytrib.com/cityandregionarticles/item/10617-casey-cautions-against-funding-cut-to-natural-gas-lab.html>

## **“\$100 million GTL plant investment announced for Westlake area”**

By Tamar Hallerman, *Greenhouse Gas Monitor*, August 30, 2013

The current public comment period on a draft Department of Energy solicitation for advanced fossil energy projects is an attempt to gauge industry interest and learn from previous mistakes, according to the head of the DOE Loan Programs Office. In a recent interview with GHG Monitor, LPO Executive Director Peter Davidson said the \$8 billion draft solicitation, unveiled earlier this summer as part of the White House's climate plan, was the product of "a great deal" of internal work with the Office of Fossil Energy and the national labs. "We wanted to respond to what we were hearing from industry about other ways we could be helpful on accelerating new technology development and deployment," Davidson said. "We wanted to make sure that

we could learn from things we've done before, and that's why we thought it would be better to go out for a public comment period.”

The solicitation, if it moves forward, would be the LPO’s second for fossil energy technologies. The Department issued a narrower solicitation for coal gasification projects under the Section 1703 Loan Guarantee Program in 2008. But most of those projects withdrew from consideration as development plans were shelved and cancelled. As of this spring, only one project was still in active review by the Department and in the due diligence stage for a \$2.8 billion loan guarantee, according to the Government Accountability Office. Davidson would not comment on the first solicitation but said, “Some of those [projects] are still very alive. ... We're working on them.” He said, “Some of these are very big and complicated projects with multiple offtake agreements that would have to be signed before we can move ahead on them. So there is still movement on those.”

### **Technologies on the ‘Cusp’**

Davidson said this time around, DOE designed the new draft solicitation to be intentionally broad. “We wanted to make [the solicitation] as attractive to developers and participants out there as possible,” he said. A notice published in the Federal Register earlier this summer calls for “innovative and advanced” fossil energy technologies that are on the “cusp” of commercialization, including carbon capture and storage, chemical looping and other technologies that could increase the efficiency of fossil fuel-fired electricity generation like hydrogen fuel cells, combined heat and power and waste heat recovery technologies. The draft solicitation also included calls for “advanced resource development and extraction technologies” to cut down on upstream greenhouse gas emissions like dry fracking, coal-bed methane recovery, underground coal gasification and methane emissions capture from energy production.

Read more: <http://ghgnews.com/index.cfm/doe-official-fossil-solicitation-result-of-e28098greate28099-collaboration/>

Link to Office of Fossil Energy Request for Information issued Aug. 30, 2013:  
[http://www.netl.doe.gov/business/solicitations/Request%20for%20Information\\_Final.pdf](http://www.netl.doe.gov/business/solicitations/Request%20for%20Information_Final.pdf)

### **“\$100 million GTL plant investment announced for Westlake area”**

SDN Staff Report, *Sulphur Daily News*, September 6, 2013

WESTLAKE — A dormant steam methane reformer in the Westlake area will be upgraded as part of a multi-million dollar natural gas-to-liquids plant project. Governor Bobby Jindal and Juniper GTL LLC President Vianney Valès announced Thursday that the company will invest \$100 million to renovate the reformer and convert it to a natural gas-to-liquids (GTL) facility, producing clean waxes, drilling fluids, diesel and naphtha. Juniper GTL is expected to create 29 new direct jobs averaging \$85,000, plus benefits. LED estimates the Westlake development will also result in an additional 112 new indirect jobs, for a total of 141 new jobs.

Southwest Louisiana is quickly becoming a hub for GTL facilities. In December, Sasol announced a \$16 billion to \$21 billion GTL and ethane cracker complex that will be the largest manufacturing investment in Louisiana history. In January, G2X Energy announced a \$1.3 billion GTL facility at the Port of Lake Charles that will yield chiefly gasoline. The Juniper GTL project, with a design production of 1,100 barrels per day of clean chemicals and transportation fuels, will be a forerunner of smaller commercial GTL plants. The Juniper GTL project is expected to create an estimated 125 construction jobs.

Read more: <http://www.sulphurdailynews.com/article/20130906/NEWS/130909846>

### **“Carbon Sciences Appoints James E. Leahy GTL Project Advisor”**

Carbon Sciences (Press Release), *The Wall Street Journal Market Watch*, September 10, 2013

#### **Industry Veteran to Assist the Company With Planning and Developing Its First Plant for Transforming Natural Gas Into Liquid Transportation Fuels**

SANTA BARBARA, CA, Sep 10, 2013 (Marketwired via COMTEX) -- Carbon Sciences Inc., provider of a complete solution for transforming abundant and affordable natural gas into clean burning gasoline and other transportation fuels, today announced that James E. Leahy has joined the company as GTL Project Advisor. Mr. Leahy will assist the company with planning and developing its first gas-to-liquids (GTL) plant.

Mr. Leahy has extensive experience in process development, project management, and process plant technical support in the petrochemical and synthetic fuels industries. He received his Bachelor of Science in Chemical Engineering from Illinois Institute of Technology in 1969 and Master of Science in Chemical Engineering from University of Houston in 1973. Mr. Leahy joined Shell Chemical Company in 1969 as a process engineer. From 1974 to 1975 he worked as a process engineer for M.W. Kellogg Company. Mr. Leahy joined ARCO Chemical Company and served as Chief Process Engineer from 1976 to 1989, Engineering & Construction Manager from 1990 to 1997 and Project Manager from 1997 to 1999. From 2000 to 2007, he was Director, Special Projects at Syntroleum Corporation where he developed gas-to-liquids and coal-to-liquids processes. From 2008 to 2011, Mr. Leahy was Engineering Manager for Australian American Energy Company and managed various coal-to-liquids studies and projects. He is the holder of six patents in the field of synfuels.

Bill Beifuss, the company's CEO, commented, "We are very fortunate to have Mr. Leahy leading our GTL plant development effort. His in-depth knowledge of synfuels, chemical engineering and years of hands-on experience in the petrochemical industry makes him an ideal choice to help us launch our first GTL plant."

Carbon Sciences previously announced its plan to build a miniGTL plant, designed in a modular nature, which will allow the matching of the equipment to the quantity of natural gas, as well as allow for portability if gas flow declines over time. The company estimates that a miniGTL plant producing approximately 1,000 barrels per day of transportation fuel can be contained in as few as 60 modules. A modular design enables rail car or truck transportation and installation to

remote sites with limited infrastructure. Modular construction additionally will allow the company to manufacture in low cost production centers and then transport the modules to the gas field, resulting in a substantial cost savings over on-site construction.

Read more: <http://www.marketwatch.com/story/carbon-sciences-appoints-james-e-leahy-gtl-project-advisor-2013-09-10>

## **“Sasol land purchase finalized”**

By Shane Jones, *Sherwood Park News*, September 12, 2013

A major addition to the Industrial Heartland is one large step closer to reality.

Sasol Canada has completed the purchase of land for its proposed Canada Gas-to-Liquids (GTL) facility.

Located in Strathcona County, the site covers approximately 526 hectares in Alberta’s Industrial Heartland.

Sasol acquired an option to purchase the land from Total E&P Canada in February, 2012.

The completion of the land purchase came as good news to Strathcona County Mayor Linda Osinchuk.

“This is an exciting day, one that we have been working towards for two and a half years,” she said.

“We are ecstatic that this is such a major step forward for value-added industry here in Alberta’s Industrial Heartland, but also the incoming economic benefits for the region, the province and the country.”

The proposed GTL facility, a multi-billion dollar investment, is expected to add value to Canada’s supply of natural gas by converting it into high-quality transportation fuels and petrochemical feedstocks to meet local demand.

The GTL facility would be the first of its kind in Canada.

Read more: <http://www.sherwoodparknews.com/2013/09/12/sasol-land-purchase-finalized>

Related article\*

## **\* “Early plans moving ahead for Canada's first gas to liquids plant”**

By Richard Gilbert, *Journal of Commerce*, September 18, 2013

South African based Sasol Canada is moving forward with a plan for the construction of Canada's first gas-to-liquids plant with the purchase of land for the facility in Strathcona County, Alberta.

“Abundant natural gas reserves in Canada present exciting opportunities for gas-to-liquids (GTL) technology,” said Martin Waterhouse, Sasol Canada country president.

“Completing this land purchase reinforces Sasol’s long-term commitment to the energy sector in Canada.”

The company recently purchased about 526 hectares of land for its proposed Canada GTL facility. The parcel of land is about 4 km northeast of Fort Saskatchewan and 40 km northeast of Edmonton.

The land is in Alberta’s Industrial Heartland, which is an area zoned for heavy industrial development.

Sasol acquired an option to purchase the land from Total E&P Canada in February 2012. As a result, the chosen site has already been designated for industrial use.

The proposed GTL plant would be the first of its kind in Canada and will add value to natural gas by converting it into high-quality diesel, naphtha and liquefied petroleum gas.

The project would be constructed in two phases, with each phase having a production capacity of 51,950 barrels per stream of liquid fuels.

When both phases are operating, the GTL facility would use up to 1 billion cubic feet per day of natural gas to produce about 103,900 barrels per day. The total construction cost for both phases of the project could reach \$16 billion.

Read more: <http://www.journalofcommerce.com/article/id57020/--early-plans-moving-ahead-for-canadas-first-gas-to-liquids-plant>

## **“Recent Findings in Chalcogens Described by H.J. Tian and Colleagues”**

By News Reporter-Staff News Editor at Life Science Weekly, *Hispanic Business News*, September 17, 2013

According to news originating from Morgantown, West Virginia, by NewsRx correspondents, research stated, "Chemical looping combustion (CLC) is a combustion technology that utilizes from oxygen carriers (OC), such as metal oxides, instead of air to combust fuels. The use of natural minerals as oxygen carriers has advantages, such as lower cost and availability."

Our news journalists obtained a quote from the research, "Eight materials, based on copper or iron oxides, were selected for screening tests of CLC processes using coal and methane as fuels. Thermogravimetric experiments and bench-scale fixed-bed reactor tests were conducted to investigate the oxygen transfer capacity, reaction kinetics, and stability during cyclic reduction/oxidation reaction. Most natural minerals showed lower combustion capacity than pure CuO/Fe<sub>2</sub>O<sub>3</sub> due to low-concentration of active oxide species in minerals. In coal CLC, chrysocolla (Cu-based), magnetite, and limonite (Fe-based) demonstrated better reaction performance than other materials. The addition of steam improved the coal CLC performance when using natural ores because of the steam gasification of coal and the subsequent reaction of gaseous fuels with active oxide species in the natural ores. In methane CLC, chrysocolla, hematite, and limonite demonstrated excellent reactivity and stability in 50-cycle thermogravimetric analysis tests. Fe<sub>2</sub>O<sub>3</sub>-based ores process greater oxygen utilization but require an activation period before achieving full performance in methane CLC."

According to the news editors, the research concluded: "Particle agglomeration issues associated with the application of natural ores in CLC process were also studied by scanning electron microscopy (SEM)."

Read more:

[http://www.hispanicbusiness.com/2013/9/11/recent\\_findings\\_in\\_chalcogens\\_described\\_by.htm](http://www.hispanicbusiness.com/2013/9/11/recent_findings_in_chalcogens_described_by.htm)

## **“ISU study: Investment in E85 could be cheaper than purchasing ethanol credits”**

By Christopher Doerin, *Des Moines Register*, September 23, 2013

A study from Iowa State University said the cost of installing tanks to handle fuel with 85 percent ethanol could be cheaper than purchasing energy credits to avoid blending the fuel mostly made from corn.

Iowa State professor Bruce Babcock said ethanol demand would increase by between 800 million and 1 billion gallons per year for every 2,500 stations with E85 fueling capabilities. His study estimated that it could cost those stations about \$87.5 million if new tanks do not need to be installed and at least \$325 million if they do.

Congress created Renewable Identification Numbers (RIN), a special serial number given to batches of biofuels before they are sold to refiners and gasoline importers looking to comply with a federal mandate to use a certain amount of ethanol. In exchange for not blending ethanol, the refiner can choose to purchase RINs. Iowa is the nation's largest ethanol producer.

“With the price of the tradable ethanol credits trading between 60 cents and 70 cents per gallon, and with at least 14 billion credits needed under current mandates, it seems that the reduction in compliance costs could be greater than the costs of investing in E85 infrastructure, which would create an incentive for investment,” Babcock said in the report.

“Oil companies might find it more efficient to make the investment themselves if the required price of ethanol credits rises too high for too long,” he added.

Read more: [http://blogs.desmoinesregister.com/dmr/index.php/2013/09/23/isu-study-investment-in-e85-could-be-cheaper-than-purchasing-ethanol-credits/article?gcheck=1&nlick\\_check=1](http://blogs.desmoinesregister.com/dmr/index.php/2013/09/23/isu-study-investment-in-e85-could-be-cheaper-than-purchasing-ethanol-credits/article?gcheck=1&nlick_check=1)

## **“Pinto Energy Announces Gas-to-Liquids Plant”**

*PR Newswire*, September 23, 2013

Pinto Energy LLC (Pinto), a developer of smaller scale Gas-to-Liquids (GTL) facilities, is pleased to announce its Ashtabula GTL project.

The 2,800 barrel per day (bpd) plant will be built at Pinto's 80-acre industrial site to the east of Ashtabula, Ohio. It will convert abundant low-cost natural gas from the Utica and Marcellus shale region, into high value specialty products (solvents, lubricants and waxes), as well as ultra clean transportation fuels.

The state of the art GTL facility will create 30 new, direct, well-paying jobs, 400 temporary construction jobs, as well as result in the creation of an estimated 112 indirect jobs, to give a total of 542 local jobs. Pinto recently filed the project's air and water permits, and is in discussions with regional economic authorities for further local support.

"Pinto is pleased to be joining the Ashtabula community," stated Guy Dove, Chairman of Pinto Energy. "By building one of the first North American GTL facility in Ashtabula County, Pinto is creating well-paying jobs and extending the benefits of increased domestic energy production to North Eastern Ohio."

North American natural gas production has increased significantly in recent years, leading to persistent low natural gas prices and an increase in gas conversion projects. Gas-to-Liquids technologies, such as Fischer Tropsch (FT), have existed since the early 20th century, but recent technological advancements have radically transformed the GTL landscape.

After a thorough review of the existing technologies, Pinto has chosen to utilize Velocys Plc (Velocys) FT technology. Velocys advanced catalysts and proprietary microchannel reactors offer unparalleled efficiencies for GTL projects today. Pinto has agreed to commercial license terms with Velocys and made a down payment towards the FT reactors.

Read more: <http://www.prnewswire.com/news-releases/pinto-energy-announces-gas-to-liquids-plant-224847542.html>

## **“Shell announces Gulf Coast site for potential multibillion-dollar plant”**

By Zain Shauk, *Fuel Fix*, September 24, 2013

Royal Dutch Shell has picked a site in Louisiana for a plant costing at least \$12.5 billion that would turn natural gas into diesel, jet fuel and other liquids, the Louisiana governor’s office announced Tuesday.

Shell said the project, which is no sure thing, could help to harness more domestic natural gas to make transportation fuels. The company will continue to consider the option before making an investment decision at the site in Ascension Parish, Louisiana, according to the news release.

The plant would offer the benefit of displacing oil used to make fuels and other products and lowering emissions, since Shell says liquids produced from natural gas burn cleaner than those produced from oil.

It also would create at least 740 direct jobs with an average salary of \$100,000, as well as at least 3,900 indirect jobs, according to the announcement. Louisiana State University estimates the project would have an economic impact of \$77.6 billion over the construction period and the first 15 years of operation of the plant, according to the press release.

“Today’s announcement is a historic new opportunity for Shell to potentially expand its manufacturing operations onshore in a world-class, gas-to-liquids facility in Ascension Parish on the Mississippi River,” Louisiana Gov. Bobby Jindal said in a statement. “Here in the heart of Louisiana’s world-scale petrochemical industries, the Gulf Coast GTL project would give thousands more of our people an opportunity for a rewarding career right here at home.”

Read more: <http://fuelfix.com/blog/2013/09/24/shell-selects-louisiana-for-possible-12-5-billion-plant/>