SGICC News 6/9/14

"Presentations Posted from 2014 Shale Gas Innovation Contest Finals Event"

The Shale Gas Innovation & Commercialization Center held its annual Shale Gas Innovation Contest on May 15th, awarding $100,000 to 4 winners who each walked away with a check for $25K. The winners were:

- **KCF Technologies, Inc. -** SmartDiagnostics® wireless sensor system that enables low cost predictive maintenance for rotating O&G Equipment
- **NG Innovations, Inc. -** "C-FIT" unit identifies the density and amount of fluid being transported and identifies the loading/unloading points, tracking and date/time stamping truck movement via satellite
- **OPTIMUM Pumping Technology -** High-performance manifolds for reciprocating NG compressors that eliminates pulsation control bottles and their vibration-related failures, and significantly improving compressor reliability and operating efficiency
- **TM Industrial Supply-** Filtration technology to effectively separate for removal the NGL's and other contaminates from natural gas through the use of their Gas Flow Membrane Technology

All Finalist Presentations are now available at http://www.sgicc.org/2014-innovation-contest.html.

Sponsors of the event were:
Ben Franklin Technology Partners (http://www.benfranklin.org), ANGA (www.anga.us), Aquatech (www.Aquatech.com), Baker Hughes (www.bakerhughes.com), Cabot Oil & Gas Corporation (www.cabotog.com), CONSOL Energy (www.consolenergy.com), Chesapeake Energy (www.chk.com), Chevron (http://www.chevron.com/ctv/), EQT (www.eqt.com), First National Bank (www.fnb-online.com), GE Oil & Gas (http://www.ge-energy.com), Little Pine Resources (http://littlepineresources.com), the Marcellus Shale Coalition (http://marcelluscoalition.org), PPG Industries (www.ppg.com) , Praxair (www.praxair.com), Range Resources (www.rangeresources.com), Seneca Resources (www.natfuel.com/seneca), and Williams (www.williamsinthenortheast.com).

Natural gas gains on warm U.S. weather forecasts

Investing.com - Natural gas futures rose on Friday after updated weather forecasting models called or warm, summertime temperatures to settle in across much of the U.S. in the coming days, though Thursday's bearish supply report continued to weigh on the commodity.

On the New York Mercantile Exchange, natural gas futures for delivery in July traded at $4.709 per million British thermal units during U.S. trading, up 0.16%. The commodity hit a session high of $4.726 and a low of $4.680.

The July contract settled up 1.31% on Thursday to end at $4.701 per million British thermal units.
Natural gas futures were likely to find support at $4.576 per million British thermal units, Wednesday's low, and resistance at $4.827, the high from May 7.
http://www.nasdaq.com/article/natural-gas-gains-on-warm-us-weather-forecasts-cm359630
(Investing.com) (NASDAQ) 6/6/14

Barnett Shale adds to rigs during past week

The number of rigs exploring for oil and natural gas in the Barnett Shale increased two this week to 28, according to the weekly rig count report released Friday by Houston-based oilfield services company Baker Hughes.
Texas as a whole added two rigs, ending the week at 896. In other Texas basins, there were 548 rigs in the Permian, down two; 214 in the Eagle Ford, up one; and 67 in the Granite Wash, up one.

The top five basins by rig count this week were the Permian; the Eagle Ford; the Williston with 178, unchanged; the Marcellus with 80, down three; and the Mississippian with 77, unchanged.
The top five states by rig count were Texas; Oklahoma with 198, down one; North Dakota with 169, unchanged; Louisiana with 111, down three; and New Mexico with 86, unchanged
http://www.myplainview.com/business/article_1b5e6008-ee54-11e3-82bf-0019bb2963f4.html
By Trevor Hawes (Midland Reporter-Telegram) (MyPlainView.com) 6/7/14

Fix your CNG costs ahead of time, save big bucks filling up your trucks down the road

Fuel prices fluctuate dramatically and that price volatility is a source of concern to construction companies with even small fleets. One way to eliminate that variable line item is to fix the price of fuel. That's where fleets running vehicles on compressed natural gas (CNG) have a huge advantage.

Today's CNG price at public filling stations runs about $2.25 GGE. Companies with fleet contracts should be able to negotiate shaving $0.50-$0.75 GGE off that price. (To get an idea of the possible savings, take a look at this calculator.)
"On top of that, if the alternative fuel tax incentives are re-instated again this year, businesses can take another $0.50/GGE for the rebate," said John Coleman, fleet sustainability and technology manager for Ford Motor. "That could bring the cost of CNG down to as low as $1.00 GGE in some locations."

With the cost of the typical pickup/van CNG conversion running around $9,500 to $12,000, even without the government tax incentive Coleman says you would have an ROI in around 70,000 miles with a fixed-price CNG contract that saves $1.50 GGE off today's gas and diesel prices. If conventional fuel prices rise over the next five to 10 years, the ROI comes even quicker.
http://www.equipmentworld.com/fix-your-cng-costs-ahead-of-time-save-big-bucks-filling-up-your-trucks-down-the-road/
Bruce Smith (Equipment World) 6/6/14

Mass. pipeline plan stirs hope and alarm

Natural gas flow would cross state; Clash on energy, environment

A Houston energy company has proposed building a multibillion dollar pipeline that would connect Massachusetts to abundant natural gas from Eastern shale fields, entering the state through this small town on the New York border and stretching across dozens of municipalities into the Boston metropolitan area.

The proposal, by Kinder Morgan, has the potential to lower — or at least stabilize — what are some of the highest energy costs in the nation by opening up new supplies of cheap, domestic natural gas and expanding a pipeline system that is becoming inadequate to meet the region's hunger for energy, analysts say.

More than a dozen municipalities have passed nonbinding resolutions against the project.
The company estimates the pipeline, which it hopes to begin using by November 2018, would create about 3,000 construction-related jobs and generate $25 million a year in tax revenue in Massachusetts. The pipeline would carry enough gas for 1.5 million homes.
http://www.bostonglobe.com/business/2014/06/08/company-proposes-natural-gas-pipeline-cross-massachusetts/uvoxHT3zECRockdVzTIADO/story.html
By Erin Ailworth Globe Staff (Boston Globe) 6/9/14

Omnitek Receives EPA Approval for 12 Liter Diesel-to-Natural Gas Converted Mack E7 Engine
Omnitek Engineering Corp. (OTCQB:OMTK) today announced it has received a Certificate of Conformity from the U.S. Environmental Protection Agency applicable for diesel-to- natural gas engine conversions of all Mack E7 electronic engines up to model year 2006. The Certificate of Conformity allows engine conversions to proceed in 49 States and covers 166 Mack E7 engine/model/power variations.

Omnitek will offer 100 percent dyno- tested "drop-in" ready converted engines, configured for quick installation. An assembly line engine remanufacturing/conversion process performed by the company's strategic partner Reviva, based in Minneapolis, will assure that engines are in "as new" condition with the highest quality and uniformity.

"We are excited to commence Mack E7 engine conversions immediately as there is significant pent up demand for converting the popular Mack E7 engine model to natural gas. We expect strong sales momentum in the quarters ahead as fleet customers take advantage of the favorable economics of natural gas and our 'drop-in' engine program. Diesel-to-natural gas engine conversions are a viable and cost-effective option for fleets to transition to natural gas within a practical timeframe," said Werner Funk, president and chief executive officer of Omnitek Engineering Corp.
http://online.wsj.com/article/PR-CO-20140609-903899.html
(The Wall Street Journal) (GLOBE NEWSWIRE) 6/9/14

Canada's LNG Ambitions Coming into Focus

Lately, there's been a lot of talk regarding LNG exports from the United States to Europe. This new resource may become an alternative to the natural gas that's currently supplied to Europe by Russian giant, **Gazprom** (OGZPY).
But with the Obama administration (more specifically, the Federal Energy Regulatory Commission) dragging its heels with the approval of LNG projects, the prospect of U.S. LNG flowing to Europe grows more and more dim.

The Canadian government is very serious about becoming a major gas supplier to Europe. Several major projects are looking to proceed in eastern Canada.

Project #1: Repsol's $2-Billion Proposal
Repsol, S.A. (REPYY) is looking to build a $2-billion LNG export facility at its existing Canaport facility in Saint John, New Brunswick. This plant is an underused LNG import facility on which Repsol has already undergone a $1.3-billion write-down.
In effect, Repsol is following the same game plan that U.S. LNG export pioneer, **Cheniere Energy** (LNG), uses… by converting an existing LNG import plant into an export facility.
The company has filed a complete description of its plans with the Canadian Environmental Assessment Agency. But plans are not yet public.

Project #2: Husky's Early-Stage Mission
Another company contemplating an LNG export project on Canada's East Coast is **Husky Energy** (HSE.TO).
The company would like to sell the natural gas that it finds from its vast acreage holdings in Canada's Atlantic Coast.
However, this project is still in the very early planning stage.

Project #3: Pieridae Finds a Huge Buyer
The Goldboro LNG Project in Nova Scotia – proposed by privately owned Pieridae Energy – is much farther along.
http://www.wallstreetdaily.com/2014/06/06/canadas-lng-ambitions/
Tim Maverick, Staff Writer (Wall Street Daily) 6/6/14

Gail's U.S.-Linked LNG Breaking Traditional Ties to Crude

Gail India Ltd. (GAIL), the nation's largest natural gas distributor, is offering supplies from the U.S. at prices tied to the American benchmark as an alternative to its oil-linked contracts. Gail, which agreed to buy U.S. liquefied natural gas starting in four years, is offering to resell it at a fixed premium over the price at Henry Hub, the Louisiana clearinghouse and North American benchmark, Marketing Director Prabhat Singh said in an interview. Asia's LNG contracts traditionally are tied to oil, making them vulnerable to spikes in crude prices.

"Henry Hub is the cheapest gas, and the price we are offering is getting good response among Indian customers," Singh said by phone on June 4. "We have already signed term sheets with over 100 potential customers." A U.S. benchmark gas price of $4 per million Btu would mean Asian importers will pay about $11.10 including liquefaction and shipping, Houston-based Cheniere Energy Inc. said in a May presentation. Japan, the world's biggest LNG importer, paid an average $16.61 per million Btu for supplies in March.
http://www.businessweek.com/news/2014-06-05/gail-s-u-dot-s-dot-linked-lng-breaking-from-traditional-ties-to-crude
By Debjit Chakraborty and Rakteem Katakey (Business Week) 6/6/14

Only a fraction of big gas export projects will be built - Shell

Only a fraction of the natural gas export projects being developed around the globe will become reality as high costs and weakening gas prices torpedo those that until recently promised huge returns on investment.
Large natural gas field discoveries on and offshore have prompted several countries to plan liquefied natural gas (LNG) export projects, including in North America, Australia, East Africa and the east Mediterranean.

But high development costs and low profit margins in the gas sector mean most of the projects will fail, Royal Dutch Shell's director of projects and technology told Reuters in an interview.
"There is always so much talk about these big LNG projects around the world, but only a small fraction of them will get built," said Matthias Bichsel, who is also a member of Shell's Executive Committee.

"Costs in the oil and gas sector are still on the rise and outpacing inflation, and gas projects are extremely price-sensitive because the margins are so thin," he added.
http://www.reuters.com/article/2014/06/09/energy-lng-shell-idUSL6N0ON42O20140609
By Henning Gloystein (Reuters) 6/9/14

Kentucky plant emblematic of move from coal to gas

The Paradise Fossil Plant in Drakesboro Ky., is shown on Tuesday. The $1 billion facility will replace two coal burning units with natural gas in 2017. Associated Press photo.

In the shadow of Paradise Fossil Plant's aging smokestacks, where white steam and carbon dioxide rise into the sky, outdated coal-fired generators are being replaced with one that runs on natural gas.
The change in Muhlenberg County, once the nation's top producer of coal, is emblematic of what's been happening across the U.S. as natural gas becomes cheaper and electric utilities try to meet stiffer carbon emissions rules the Obama administration announced this week.

When the $1 billion natural gas facility is finished in 2017, the Tennessee Valley Authority, the nation's largest public utility, will shut down two coal-burning units at Paradise that date to the 1960s.
http://www.timesnews.net/article/9077872/kentucky-plant-emblematic-of-move-from-coal-to-gas
by DYLAN LOVAN (Associated Press) (Times News) 6/7/14

State shale impact figures released
County and municipal allocation amounts from the Act 13 natural gas impact fee are available for review on the Pennsylvania Public Utility Commission's website. "These dollars are helping local communities all across Pennsylvania meet their critical obligations to their constituents without the need to raise local taxes," said Gov. Tom Corbett.

In early April, Corbett announced that impact fee revenue totaled more than $225 million for calendar year 2013, an increase in revenue of over 11 percent from 2012. To date, the impact fee has generated a total of $630 million in new revenue for the citizens of Pennsylvania since its enactment in February 2012. This revenue is in addition to nearly $2 billion in corporate and personal income tax revenue paid by oil and gas companies since the onset of significant Marcellus shale activity in Pennsylvania seven years ago.
http://www.theprogressnews.com/default.asp?read=38872
(The Progress) 6/7/14

Brian O'Neill: Patriotism is pipe dream to some steel purchasers
If Marcellus Shale is a boon to American manufacturing, why is the U.S. Steel plant that supplies pipe to the drillers shutting down in McKeesport? The steel industry has named its villain: South Korean manufacturers who illegally dump their tubes here. But if American drillers weren't buying them, that wouldn't be a problem.

OK. So many drillers are going domestic, but not all. U.S. Steel is urging the U.S. Department of Commerce "to recognize and punish illegal South Korean dumping," as President and CEO Mario Longhi put it to the Congressional Steel Caucus last March. It won a case against China in 2009 that essentially ended its shipments here of steel pipes for drillers, Mr. Longhi testified, but then South Korea stepped into that breach.

The steelworkers union is with him there. Tom Conway, vice president of the United Steelworkers, told Paul Guggenheimer of WESA-FM's "Essential Pittsburgh" last week that preliminary findings by the Department of Commerce this year seemed to go "out of their way" to keep South Korea's illegal products coming in.

The Marcellus Shale Coalition says its member companies "are deeply committed to sourcing locally, including through purchasing regionally manufactured steel from coalition members like U.S. Steel, TMK IPSCO and Vallourec," But the coalition has no power to sanction any company that strays from that expressed commitment.
http://www.post-gazette.com/opinion/brian-oneill/2014/06/08/Brian-ONeill-Patriotism-is-pipe-dream-to-some-steel-purchasers/stories/201406080078
By Brian O'Neill (Pittsburgh Post-Gazette) 6/7/14

Once Again, Gas Industry Is Backing Corbett
A reprise of the 2010 governor's race.
As occurred during his 2010 race for governor, Tom Corbett is capturing large donations from the natural gas industry — an industry that apparently fears the 5 percent severance tax that Corbett's Democratic opponent, Tom Wolf, has vowed to impose on drilling activity, particularly in the Marcellus Shale.

The *Inquirer* reports:
Nearly $1 million that will ultimately benefit Corbett's reelection bid arrived in January from executives of the Ariel Corp., an Ohio firm that builds compressors used to extract natural gas from Pennsylvania's Marcellus Shale formation.
In February, according to state campaign-finance records, about $240,000 arrived from the president of Chief Oil & Gas, a Texas company that leases 200,000-plus acres in Northeastern Pennsylvania for natural gas drilling and exploration.

"Corbett is inching toward an untenable position where his stance on this issue goes more and more against what the public would like," one observer told the Inky. "At the same time, the high support from the shale gas industry leaves him in a difficult position for finding compromise."
http://www.phillymag.com/news/2014/06/09/gas-industry-backing-corbett/
By Joel Mathis (Philadelphia Magazine) 6/9/14

Marcellus Remains Driver of US Shale Gas Revolution

Marcellus shale gas production continues to surpass that of any shale gas play worldwide, according to Wood Mackenzie.

The Marcellus shale play remains the driving force behind the North America shale gas revolution, with current production of 12 Bcf/d surpassing production from any shale gas play worldwide, said Jeanie Oudin, Wood Mackenzie Lower 48 analyst who focuses on the Northeast, Rockies and West Coast, at a media briefing Wednesday in Houston. Wood Mackenzie anticipates production to surpass 20 Bcfe/d in 2018, attributing the enormous growth to increasingly productive wells and operators achieving better than expected results through optimal completion methods.

The Utica shale play in eastern Ohio also is garnering a lot of attention and capital from the oil and gas industry. Current production from the play is only 1 Bcf/d, but Wood Mackenzie sees production rising above 5 Bcf/d in 2018 as operators apply lessons they've learned in the Marcellus to the Utica. These lessons include pairing with midstream partners to ensure that takeaway capacity and infrastructure are in place, said Oudin. Today, 5,000 wells are producing in the Marcellus.

This year, operators will spend $18 billion in CAPEX for Northeast shale production growth, including $12 billion for the Marcellus and $6 billion for the Utica. Production from the northeast and southwest portion of the Marcellus play is growing considerably, but CAPEX has actually fallen for the northeastern Marcellus as productive wells and improving EURs allow operators to do more with fewer rigs, Oudin noted.

Northeast and southwest Pennsylvania have emerged as two core areas of the Marcellus. In the northeast, Susquehanna and Bradford counties have emerged as core subplays, particularly in the Susquehanna core. Operators active here include Chesapeake Energy Corp. and Cabot Oil and Gas operate here; Cabot was responsible for 15 of the top 20 producing Marcellus wells in the second half of 2013. Wells with EURs of 8 to 12 Bcf are being seen in the Susquehanna core; Cabot has seen wells with even greater results, thanks to the 350-foot thick Marcellus formation.

In the northeast, operator success is all about location in the core. In the southwest, operators are taking a more creative approach to completing wells, experimenting with longer laterals or different size frac stages. EURs for southwest Marcellus wells are lower than northeastern Pennsylvania, but southwest Pennsylvania is liquids rich, so well economics might be stronger.

Operators also are investing in midstream development. Currently, an estimated 1 Bcf/d of gas is being choked due to lack of takeaway capacity and infrastructure; 50 to 60 percent of that choked production is in northeast Pennsylvania. Wood Mackenzie sees more production upside potential as the backlog of northeast wells are brought online and pipeline expansions start coming online in 2015, Oudin said.

Operators also are starting to explore the Upper Devonian play in the Northeast, primarily targeting the Rhinestreet, Burkett and Geneseo formations. The Upper Devonian offers similarities to the Marcellus, with strong potential for rich gas production, but full scale development will not take place till late 2015/early 2016 as operators focus on core Marcellus assets.

Companies such as Range Resources and Anadarko Petroleum Corp. are testing the play's stacked pay potential in the southwest and northeast. The Upper Devonian's middle formation is not as productive, meaning development will likely mimic the Marcellus' northeast-southwest pattern.

Upper Devonian wells are expected to have smaller recovery rates of 3 Bcf per well, but operators could maximize Marcellus infrastructure and achieve cost savings of $300,000 to $850,000 a well through dual zone development from multi-well pads. Wells in the play are thinner and smaller well recoveries are expected 3 Bcf/ a well – but operators could maximize infrastructure build for Marcellus – and achieved 300 to 850,000 a well cost savings through dual zone or tri-zone development off multi-well pads
http://www.rigzone.com/news/oil_gas/a/133454/Marcellus_Remains_Driver_of_US_Shale_Gas_Revolution/?all=HG2x
By Karen Boman Rigzone Staff (Rigzone) 6/6/14

MarkWest Energy to Expand Hopedale Facility - Analyst Blog
In an attempt to support increased natural gas liquids (NGL) production in the Marcellus and Utica plays, MarkWest Energy Partners LP (MWE) – natural gas processor and distributor – has decided to doubled the fractionation capacity of the Hopedale fractionation complex, located at Harrison County, OH. The partnership added that the expanded facility will start operating by the first quarter of 2015.

The fractionation complex is co-owned by MarkWest Utica EMG - a joint venture between The Energy & Minerals Group (EMG) and MarkWest Energy - and an affiliate of the partnership. MarkWest Energy added that the capacity of the Hopedale fractionation complex will increase to 120,000 barrels per day (Bbl/d), once the facility's expansion work gets over. Additionally, with the expansion of the Hopedale complex, the total fractionation capacity of all the four complexes of the partnership in the Northeast will increase to 300,000 Bbl/d.
http://www.nasdaq.com/article/markwest-energy-to-expand-hopedale-facility-analyst-blog-cm359377
(Zacks.com) 6/5/14

North Carolina Governor Signs Law Paving Way For Fracking
North Carolina's governor signed a law on Wednesday that will lift a longtime state ban on fracking, allowing shale gas exploration to begin as early as next year. The Republican-led state legislature moved quickly last week to fast-track permits for fracking, in which rock formations are cracked and infused with chemical-laced water to extract natural gas. Republican Governor Pat McCrory said, "We have watched and waited as other states moved forward with energy exploration, and it is finally our turn."
http://security.itbusinessnet.com/article/North-Carolina-Governor-Signs-Law-Paving-Way-For-Fracking-3306003
(Grab Media, a blinkx company) (security.itbusinessnet.com) 6/6/14

New Patent Could Nearly Eliminate Natural Gas Emissions
Backed by a simulation, the inventor reported his filter could reduce emissions by 99 percent.
A new invention could reduce almost all emissions from natural gas compressors. The invention, essentially an engine exhaust filter, could reduce emissions by 99 percent says inventor Allen McCulloch. Emissions from natural gas and petroleum production account for 29 percent of methane emissions in the U.S., according to the Environmental Protection Agency (EPA).

The invention could help keep emissions in line with upcoming EPA regulations as the agency seeks to further limit methane, carbon dioxide, and other greenhouse gases. In a 72-hour natural gas pump simulation, McCulloch said his invention was successful, as reported by the *Daily Times*. A real-world test was not possible, he said, because he couldn't put exhaust into the production pipeline, which his invention does.

The inventor reported he is now in talks with ConocoPhillips.
http://www.govtech.com/transportation/New-Patent-Could-Nearly-Eliminate-Natural-Gas-Emissions.html
by News Staff (Government Technology) 6/6/14

UGI, gas alliance praise development, savings from area natural gas reserves
PLAINS TWP. — When Dave Stiles and his colleagues at Popple Construction decided to use natural gas instead of oil to fire their asphalt cookers, they expected to cut their fuel costs in half — huge savings for the paving company.
But it gets better.

Popple realized savings upwards of 70 percent in fuel to heat asphalt, and the initial investment to switch paid for itself within a month, Stiles, Popple's superintendent, said. The Laflin construction company was one of many success stories on display at a Thursday summit in the Mohegan Sun at Pocono Downs conference center.
http://timesleader.com/news/local-news-news/1446221/Shale-gas-fuels-business-saves-money-officials-say
By Jon O'Connell joconnell@civitasmedia.com (TimesLeader.com) 6/5/14

SAVE THE DATE
West Virginia University's Linking Innovation, Industry and Commercialization (LIINC) program will host the third annual:
Energy & Environmental Research Showcase
Thursday, September 4, 2014
Erickson Alumni Center
Morgantown, WV
Time: 4-7:30pm
Official invitations and details forthcoming

Feel free to RSVP and pass this email on to colleagues who may be interested.

About LIINC's Energy and Environmental Research Showcase
The initiative, entitled LIINC (Linking Innovation, Industry and Commercialization), aims to grow the innovative culture on campus by encouraging conversation and collaboration between WVU faculty and the private sector. Originally funded by the Benedum Foundation, this event is made possible by the WVU Office of Research and Economic Development and the STEM and Business Deans.
This particular event is the third annual showcase for energy and environmental research from the WVU faculty. This is an opportunity for faculty to share their research and mix and mingle with company representatives. The goal is to increase the opportunities for research funding, licensing, SBIRSs, STTRs, etc., as well as build relationships between the university and industry. Official invitations with more details will be sent closer to the event date. Feel free to look at last year's research abstracts. For any immediate questions, please contact Lindsay Emery at Lindsay.emery@mail.wvu.edu.

New Subscriptions
If you are not currently receiving this newsletter directly, and you would like to be added to the distribution, please send an email to mjc33@psu.edu and enter the words "subscribe SGICC" in the subject line.

About the SGICC
The Ben Franklin Shale Gas Innovation and Commercialization Center (www.sgicc.org) is designed to harness innovation and new technologies to maximize the economic return to Pennsylvania's citizens from the Marcellus and Utica shale formations. The Center's goal is to increase sustainable employment and wealth creation in Pennsylvania that has the potential to outlast the initial exploration, production and transportation of natural gas from the formations. The Center will also identify, support and commercialize technologies and early-stage businesses that enhance responsible stewardship of the environment while properly utilizing this transformative energy asset.

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