

### Natural Gas Futures Tumble From Four-Year High on Milder Weather

Natural gas futures plunged in New York, declining from the highest price in almost four years, as forecasts showed mostly normal weather on the East Coast in early February.

Gas slid 6.5 percent, the most since May 2, after soaring to \$5.442 per million British thermal units, the highest price since Feb. 16, 2010. Commodity Weather Group LLC in Bethesda, Maryland, said average or higher-than-usual temperatures would extend from Florida to Maine from Feb. 1 through Feb. 10 after frigid weather this week.

"The market's collapsed after pushing up to a four-year high," said Gene McGillian, an analyst and broker at Tradition Energy in Stamford, Connecticut. "We're going to see some volatility, with prices basically being pushed and pulled by the weather patterns." Natural gas for February delivery fell 33.5 cents to settle at \$4.847 per million British thermal units on the New York Mercantile Exchange. Trading volume was 81 percent above the 100-day average at 2:43 p.m. The futures are up 15 percent this month. The February contract expires on Jan. 29. The more active March gas futures tumbled 32.4 cents, or 6.5 percent, to settle at \$4.674 per million Btu.

<http://www.bloomberg.com/news/2014-01-27/natural-gas-trades-at-highest-level-in-four-years-on-u-s-cold.html>

reporter Christine Buurma cbuurma1@bloomberg.net editor Dan Stets dstets@bloomberg.net (Bloomsberg) 1/27/14

### Opinion: Shale helping boost Pa. recovery



Make no mistake, the past few years have been difficult for Pennsylvanians looking to find well-paying jobs. Our state's unemployment rate has been stuck above 7 percent for more than five years. Many people have become so frustrated that they've stopped looking for work. The one bright spot has been Marcellus Shale development, which has offset this larger trend by providing hundreds of thousands of Pennsylvanians with meaningful work and newfound hope for their financial future.

Since shale development began in earnest just a few years ago, it has created more than 239,000 jobs, according to the state Department of Labor. Of these, more than 28,000 are in "core" positions that pay at least \$83,000 per year, while the remainder are in fields that, while very different, support this development and employ hard-working people of diverse technical backgrounds.

Despite our distance from the Marcellus Shale, some of the examples of this newfound hope are very close to home. In Philadelphia, the once-struggling Aker Shipyard is now "thriving" due to the abundant quantities of oil and natural gas being extracted from shale. Now, instead of facing imminent closure as it was just a few years ago, the shipyard rehired more than 1,000 of its workers - many of whom are members of the International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers, and Helpers - to fulfill more than \$1.1 billion in contracts that are in place through 2017

Of course, the shipyard and its employees aren't the only ones benefitting from this surge of employment activity. In Southeastern Pennsylvania, both the Marcus Hook and Trainer refineries have gained new life processing oil and liquids from shale development. Those projects will save and create thousands of jobs for skilled workers. Meanwhile, across the state, Chris Petrone, of the International Union of Operating Engineers Local 66, noted last year that his 7,000-member union is "very close to full employment, with much of the work being a direct result of the Marcellus Shale."

[http://www.philly.com/philly/news/local/20140127\\_Shale\\_helping\\_boost\\_Pa\\_recovery.html](http://www.philly.com/philly/news/local/20140127_Shale_helping_boost_Pa_recovery.html)

Mike Butler (Philly.com) 1/ 27/14



### A new compressed natural gas fueling station is set to open in Charleston this week.

An IGS CNG service station is having a grand opening Tuesday, January 28, at 10:00 a.m.

The new station is located on Spring Street next to the Bigley Avenue Foodland. The station will service the growing number of West Virginia businesses and residents who are converting to natural gas vehicles (NGVs) as a way to save money and use a clean, West Virginia fuel. This will make the second CNG fueling station to be constructed by IGS CNG Services in West Virginia. The other two stations are located in Bridgeport and Jane Lew.

<http://www.wsaz.com/news/charlestonnews/headlines/Natural-Gas-Fueling-Station-Opening-in-Charleston-242119341.html>

(WSAZ News Channel) 1/26/14

### Clean Energy hopes natural-gas-powered autos fuel its first profit

The builder and operator of natural-gas filling stations is betting that fleet sales of clean-energy vehicles will increase enough to produce the firm's first annual profit since its 1997 founding.



Clean Energy Fuels Corp., the Seal Beach company that builds and operates natural-gas filling stations for some of the nation's biggest bus and truck fleets, is banking on corporate customers to buy more clean-energy vehicles this year. Executives hope that a growing fleet will boost sales of natural gas and propel Clean Energy to its first annual profit since its 1997 founding by Texas billionaire T. Boone Pickens, the onetime oil baron and corporate raider, and the company's chief executive, Andrew Littlefair.

Clean Energy has become one of the biggest players in the industry with customers such as Frito-Lay North America Inc., Proctor & Gamble Co., United Parcel Service Inc., Ryder System Inc. and home improvement chain Lowe's Cos.

Natural-gas engines and fuel systems have proved themselves in some of the most grueling urban conditions.

The nation's second-largest street transit fleet, run by the Los Angeles County Metropolitan Transportation Authority, for example, retired its last diesel bus in January 2011.

Metro, with 2,200 buses running on natural gas, is one of Clean Energy's biggest customers. Metro also has a few buses that are electric or hybrids.

In November, the company reported a third-quarter loss of \$14.7 million, an improvement over the loss of \$16.7 million a year earlier. But the growing number of vehicles Clean Energy could serve is giving the company hope of turning things around this year.

"The pronounced trend toward natural gas as a transportation fuel is clear," Littlefair said in a recent statement to investors.

Customers, he said, ordered 70% more natural gas vehicles from January 2013 through September than they did during the same nine-month period in 2012.

Littlefair said that manufacturer Cummins Inc. produced engines and fuel systems for about 2,400 natural gas trucks last year and will make enough for about 10,000 this year.

<http://www.latimes.com/business/la-fi-stock-spotlight-clean-fuels-20140127,0,7041215.story#axzz2rhRYFDPT>

Ronald D. White ron.white@latimes.com (Los Angeles Times) 1/26/14



### 3 Companies to Watch in the Marcellus This Year

It's safe to say that natural gas production from Pennsylvania's Marcellus shale continues to exceed even the most optimistic of forecasts. Despite the bitter cold that has halted much activity across the nation, gas drilling in the Marcellus has seen little impact. According to the US Energy Administration's monthly drilling productivity report, Marcellus shale output surged by about 261,000 Mcf/d to a record 13.46 Bcf/d in December. That's a whopping 12% increase over October production levels of 12 Bcf/d and a roughly sevenfold increase since 2009.

With new infrastructure projects set to substantially improve takeaway capacity in the region this year, let's take a closer look at three Marcellus producers worth keeping a close eye on.

#### Cabot Oil & Gas

First up is Cabot Oil & Gas, one of the largest and most profitable producers in the Marcellus. Over the past three years, the company has delivered annual production growth in excess of 40%, which is just remarkable. With the company's gross Marcellus production having recently surpassed the 1.5 Bcf/d mark, Cabot is targeting 30%-50% year-over-year production growth this year and plans to drill 130 to 140 net Marcellus wells with a seven-rig drilling program. Having already secured significant takeaway capacity and with roughly 3,000 remaining drilling locations in the play, I wouldn't be surprised if Cabot's gross Marcellus production surpasses the 2 Bcf/d mark this year.

#### Chesapeake Energy

Despite its aggressive push into ramping up oil production, Chesapeake Energy remains one of the largest and most active drillers in the Marcellus through its joint venture with Norway's Statoil, which purchased a 32.5% interest in Chesapeake's Marcellus acreage back in 2008. Despite takeaway capacity challenges, Chesapeake's third-quarter Marcellus production surged 53% year over year and 6% sequentially, coming in at approximately 825 mmcfe per day.

Looking ahead, the company's production should continue to grow at a rapid clip as new infrastructure projects are brought online. Chesapeake has already secured firm transportation contracts for roughly 550 mmcfd of new Marcellus pipeline capacity that was brought online during the fourth quarter, including capacity on Kinder Morgan's recently expanded Tennessee Gas Pipeline.

These and other expansion projects should allow Chesapeake to boost production by connecting more wells to sales, which should help relieve its sizable backlog of 128 Marcellus wells that were either awaiting pipeline connection or in various stages of completion as of the end of the third quarter and help the company penetrate more attractive markets and improve gas price realizations.

#### CONSOL Energy

Though it had traditionally focused on coal, CONSOL Energy is now a natural gas-focused company, after getting rid of five of its legacy coal mines. In its recently released 2014 capital program, the company reaffirmed its target of growing gas production by 30% this year and through 2016. To achieve this goal, CONSOL will spend roughly \$825 million of its \$1.5 billion capital budget for the year on drilling gas wells in the Marcellus.

Thanks to completions enhancements, the company has improved its initial production rates from dry gas wells by roughly 40%, which it believes will result in a 15%-20% improvement in well EURs. Not only will this help the company boost volumes now, but it will also allow it to extract more gas over the lifetime of the well.

Importantly, CONSOL is targeting both the liquids-rich and dry gas areas of the Marcellus, with plans to allocate roughly equal amounts of capital to each. Along with joint venture partner Noble Energy, the company expects to drill at least 162 gross Marcellus wells this year, of which 74 will be dry gas wells and 88 will target liquids-rich zones.

[www.dailyfinance.com/2014/01/26/3-companies-to-watch-in-the-marcellus-this-year/](http://www.dailyfinance.com/2014/01/26/3-companies-to-watch-in-the-marcellus-this-year/)

by Arjun Sreekumar, The Motley Fool (Daily Finance) 1/26/14

## Natural Gas Is Making Inroads to Clean Up This Dirty Industry



Shell's oil sands mining operations. Photo credit: Shell Flickr page.

The world's 10 largest mining companies use more than 2 billion gallons of diesel each year. It's a constant burn, as the industry has more than 28,000 large mining trucks around the world, each typically running around the clock. That's a steady stream of dirty diesel emissions that need to be addressed.

Westport Innovations and Caterpillar are among the companies working on a solution. The partners are co-developing technologies for off-road engines that could substitute 95% of the diesel used in mining by replacing it with natural gas. Not only would that cut carbon dioxide emissions, but it would also cut other harmful emissions that come from burning diesel. That will enable the fuel to help clean up one aspect of the dirty mining industry.

In Canada, for example, mining trucks used in oil sands operations are a substantial source of carbon dioxide emissions, according to Royal Dutch Shell. That's why last year the oil sands miner and global energy giant announced that natural gas is its fuel of choice for a test project with Caterpillar to help it curb emissions.

Shell's emissions from the oil sands are rising as it continues to expand, in part because its trucks need to travel longer distances as the mine size increases. Because of this and other factors, carbon dioxide emissions from the oil sands are 5%-15% higher than most oil consumed in the United States. That bigger carbon footprint is one reason environmentalists are opposed to Canadian oil. However, if Shell and other oil sands miners can reduce emissions by using natural gas, it could make this oil a bit more palatable.

<http://www.dailyfinance.com/2014/01/25/natural-gas-is-making-inroads-to-clean-up-this-dir/>

by Matt DiLallo, (The Motley Fool) 1/ 25/14

### VNG.CO to provide CNG fueling to Donlen fleet customers

Donlen and VNG.CO have reached agreement to provide compressed natural gas (CNG) to Donlen fleet customers.

Donlen is a provider of integrated financing and asset management solutions. VNG.CO offers CNG retail-centric fueling facility programs.

"By partnering with VNG.CO, we're providing resources that our customers need to successfully implement light-duty CNG vehicles in their fleet," said Amy Blaine, Donlen's vice president of consulting, analytics, and sustainability. "Now, in addition to providing analysis and vehicles that show customers where CNG makes sense for them, we're giving them access to a network of stations. This comprehensive program makes sense from both implementation and ROI perspective and will help customers make decisions about choosing CNG vehicles for their fleet."

According to Donlen, VNG.CO fueling facilities will be available to fleets at prime retail locations. For fleets operating bi-fuel vehicles which can fuel on CNG or gasoline, drivers have access to both fuels at a single location.

"We look forward to working with Donlen to provide their light-duty fleet customers a fueling solution that enables a seamless transition to NGVs," said Robert Friedman, Chief Operating Officer of VNG. "This initiative is aligned with our vision of developing a national CNG fueling network for all drivers."

<http://fleetowner.com/running-green/vngco-provide-cng-fueling-donlen-fleet-customers>

(Fleet Owner) 1/24/14



## **Ohio EPA fast-tracks pollution permits for shale-gas companies**

NEW MIDDLETON

Some environmental groups and eastern Ohio residents say the state is hurrying permits for gas processing plants amid the shale drilling boom.

They say fast-tracking some permit requests prevents examination of local concerns about air and water pollution from refineries and the fracking process that frees the gas. Ohio Environmental Council lobbyist Jack Shaner says the state is bending over backward to accommodate the industry.

The Columbus Dispatch reports that demands for a public hearing in Mahoning County on a refinery permit application last year for the Hickory Bend processing plant in New Middletown were rejected by officials trying to avoid lengthy delays. Instead, the company got its permit in about four months.

State environmental officials say they are taking the right steps to protect residents and the environment. Operations with major pollution issues undergo much more scrutiny.

<http://www.vindy.com/news/2014/jan/26/ohio-epa-fast-tracks-pollution-permits-f/?nw>

(Associated Press) 1/ 26/14

## **European Commission recommends minimum environmental standards for shale gas fracking operations**

EU member states that are considering 'fracking' for shale gas as part of their national energy mix have been encouraged to plan ahead, monitor local environmental conditions and keep the public informed during the course of any works by the European Commission. The Commission's new 'minimum principles' for fracking projects, published as part of its 2030 energy and climate change policy framework, are designed to ensure harmonised environmental standards for such projects across the EU.

The principles form a set of recommendations rather than mandatory standards; however, member states will be required to notify the Commission about compliance measures annually. Compliance information will be made public in the form of a 'scoreboard', the Commission said.

<http://www.out-law.com/en/articles/2014/january/european-commission-recommends-minimum-environmental-standards-for-shale-gas-fracking-operations/>

(Out-Law.com) 1/27/14

## **PSE&G will lower February gas bill for NJ customers by 25 percent**

PSE&G said the average customer will see a savings of around \$40 for February.

Public Service Electric & Gas says it will give residential gas customers a credit on their February bill, cutting the typical monthly rate by about 24 percent.

PSE&G, New Jersey's largest gas and electric provider, said the average customer will see a savings of around \$40 for the month. Depending on meter reading schedules, many customers will see some of the reduction in February with the remainder in March, the company said today in a statement announcing the move. The company has 1.2 million gas customers in New Jersey. Jorge Cardenas, a PSE&G vice president, said the Newark-based company is required to pass along any savings it sees "to our customers and are particularly happy to do so at a time when they are striving to keep winter heating bills affordable."

Though current market prices for gas have increased, PSE&G said it purchased gas from the nearby Marcellus Shale formation during the past several months at below-market prices because of surplus of supply. In November and December, PSE&G provided a similar credit to gas customers, that one cutting the two-month bill by about a third.

[http://www.nj.com/business/index.ssf/2014/01/pseg\\_gas\\_lower\\_bills\\_credit\\_customers\\_nj.html](http://www.nj.com/business/index.ssf/2014/01/pseg_gas_lower_bills_credit_customers_nj.html)

Alexi Friedman (The Star-Ledger) 1/24/14



## **EU Readies for Shale Gas Breakthrough**

Ukraine in May hosts a summit to explore the potential for shale oil and natural gas in Europe. Ukraine and its Eastern European neighbors may host some of the more promising shale basins in the region. Now Spain and Germany are looking to explore their potential. With the European Union outlining recommendations for shale exploration, the region looks ripe for a breakthrough. Ukrainian company Nadra Ukrayny, along with co-sponsor International Gas Union, hosts a summit May 20-22 to discuss maximizing the benefits of shale exploration in the European community. Organizers say the event will have a pan-European focus, with strategy sessions focused on the shale potential from Eastern Europe to Great Britain.

<http://oilprice.com/Energy/Natural-Gas/EU-Readies-for-Shale-Gas-Breakthrough.html>

By Daniel J. Graeber (OilPrice.com) 1/26/14

## **Linde Process Plants, Inc. to introduce integrated NGL and LNG technology (LNGL™) and LNG standard plants at the Marcellus-Utica Midstream Conference**

Linde Process Plants, Inc. (LPP) will introduce their new integrated Natural Gas Liquids (NGL) and Liquefied Natural Gas (LNG) technology (LNGL™) and standard LNG plant concept at the Marcellus-Utica Midstream Conference and Exposition. Marcellus-Utica Midstream is part of a conference series produced by Hart Energy that is focused on developing unconventional oil and gas resources. LPP is a Bronze sponsor for the 2014 conference, which will be held in the David L. Lawrence Convention Center in Pittsburgh, Pennsylvania, January 28-30.

(PR Newswire) 1/27/14

## **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](mailto: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](http://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.

William J. Hall, CPG  
Director  
Shale Gas Innovation and Commercialization Center  
Ben Franklin Technology PArtners  
115 Technology Center Building, University Park, PA 16802  
Office: 814 863 4881 Cell: 814 933 8203  
[billhall@rtto.psu.edu](mailto:billhall@rtto.psu.edu)

Mike Chmela, Editor  
Shale Gas Innovation and Commercialization Center  
Ben Franklin Technology PArtners  
115 Technology Center Building, University Park, PA 16802  
Office: 814.865.6878  
[mjc33@psu.edu](mailto:mjc33@psu.edu)