

### Natural gas futures - weekly outlook: December 16 - 20

Investing.com - Natural gas futures fell more than 1% on Friday, as investors cashed out of the market to lock in gains from a recent rally that took prices to a seven-month high.

On the New York Mercantile Exchange, natural gas futures for delivery in January dropped 1.32% on Friday to settle the week at USD4.351 per million British thermal units. Nymex gas prices rallied to a session high of USD4.443 per million British thermal units earlier, the strongest level since May 1. The January contract climbed 1.66% on Thursday to settle at USD4.409 per million British thermal units.

Natural gas futures were likely to find support at USD4.307 per million British thermal units, the low from December 12 and near-term resistance at USD4.444, the high from May 1. On the week, January natural gas prices surged 5.44%, the sixth consecutive weekly gain, as weather forecasting models pointed to freezing temperatures in key gas-consuming regions in the U.S.

Colder than average winter temperatures increase the need for gas-fired electricity to heat homes, boosting demand for natural gas. The heating season from November through March is the peak demand period for U.S. gas consumption. But prices came under pressure on Friday as a break in the cold to milder weather prompted a correction in the market after the rapid price run up.

Thursday's natural gas storage report from the Energy Information Administration said that natural gas supplies fell by 81 billion cubic feet last week, compared to expectations for a withdrawal of 88 billion cubic feet.

<http://www.nasdaq.com/article/natural-gas-futures-weekly-outlook-december-16-20-cm311247>

(Investing.com) (Nasdaq.com) 12/15/13

### Transit authority has big plans for bill's expected funds



Keith Hodan / Tribune-Review

Buses line up last week at the Butler Transit Authority on Hollywood Drive in Butler. Passage of a transportation funding bill should free the authority to use another \$1.7 million from the state to pay for a natural gas fueling station for the public, a park-and-ride lot and other upgrades at the authority's facility. The money, which would be matched with millions in federal dollars, also would go to buy four natural-gas powered buses.

The landmark transportation bill that's expected to pump billions of dollars into repairing and maintaining Pennsylvania's roads and bridges likely will help transform the Butler Transit Authority, its executive director said.

"This is all part of the grand plan to help Butler County residents access employment in Pittsburgh," John Paul said.

Transit agencies — the biggest of which are SEPTA in Philadelphia and Port Authority of Allegheny County — stand to get millions in funding during the next five years. The Butler Transit Authority expects to receive \$1.2 million to replace two buses in 2015 and four others in 2019 with natural gas powered buses, resulting in significant fuel savings.

<http://triblive.com/news/butler/5214368-74/gas-authority-natural#axzz2neatVge0>

By Bill Vidonic Staff Reporter (Pittsburgh Tribune-Review) 12/14/13



### **Marcellus Shale drilling becomes more efficient**

TROUT RUN, Pa. - When David Dewberry landed in Pennsylvania in 2010, the veteran of the migratory worldwide oil-and-gas workforce said he required more than a month to drill a typical Marcellus Shale natural gas well.

On Dec. 4, a crew under Dewberry's direction dug into the mountaintop of a state forest near here with a diamond-studded drill bit.

Dewberry reckons it will require only 16 days to finish drilling the well's full length, more than 2 1/2 miles.

"Since I came up here three years ago, it's 200 percent better," said Dewberry, who manages this Lycoming County site in Loyalsock State Forest for Seneca Resources Corp.

The well not only will require half the time to drill, the bore will extend farther horizontally than older wells. And, if it performs like other wells in the area, it will produce a staggering amount of gas. When it's done, the towering rig will crawl 20 feet and begin drilling another well. Seneca plans to complete nine wells in an assembly-line fashion on this site, which is the size of five football fields. "We've become so much more efficient," Dewberry said. Marcellus Shale exploration companies are drilling bigger wells in less time at less cost, and they are producing more natural gas than ever in Pennsylvania.

Despite a reduction in the number of drill rigs operating in Pennsylvania in the last two years because of the low price of natural gas, each rig is accomplishing much more. The Marcellus, which includes wells in West Virginia, now produces nearly a fifth of the nation's natural gas.

[http://articles.philly.com/2013-12-15/business/45219455\\_1\\_marcellus-shale-gas-production-terry-engelder](http://articles.philly.com/2013-12-15/business/45219455_1_marcellus-shale-gas-production-terry-engelder)

By Andrew Maykuth, Inquirer Staff Writer (Philly.com) 12/15/13

### **Cabot Oil & Gas provides operations update**

Cabot Oil & Gas Corp. recently turned-in-line its first 10-well pad in the Marcellus, which included eight Lower Marcellus wells and two Upper Marcellus wells. The 10-well pad was completed with 170 fracture stimulation (frac) stages with a combined peak production rate of 201 MMcfd and a combined average 30-day production rate of 168 MMcfd. The production rates per 1,000 feet of lateral exceeded the company's 14 Bcf type curve, further reiterating the consistency of results across Cabot's Marcellus position.

As a result of the drilling and completion efficiency gains on its first 10-well pad, Cabot anticipates well costs for the company's typical 14-Bcf well will decrease from \$6.4 million on a two-well pad to \$5.8 million or less on a 10-well pad. Cabot anticipates that 60% of its 2014 program will be drilled on pads with five or more wells.

<http://www.ogfj.com/articles/2013/12/cabot-oil-gas-provides-operations-update.html>

(Oil & Gas Financial Journal) 12/14/13

### **This Year's Best News for U.S. Shale Gas**

The fate of U.S. natural gas production is increasingly tied to liquids. Commodities like ethane and propane produced alongside natural gas from shale wells.

Selling these co-products has allowed many gas producers to stay profitable, even at low natural gas prices. And now the rest of the world wants a piece of America's growing natural gas liquids supply. Especially European petrochemical giant Ineos. Who said this week it will build an ethane import terminal at its Grangemouth ethylene cracker complex in Scotland.

Ineos' Grangemouth facility formerly sourced feedstock ethane from nearby North Sea gas fields. But with natural gas liquids production falling here, the company is looking further afield for supply. The new import terminal will allow the company to bring in ethane from around the world. And especially from America. The company said it intends to target imports of low-cost ethane from U.S. shale plays.

At the moment, such shipments are hampered by one problem: a complete lack of ethane export facilities in America.

But that's changing. Export projects like the Mariner East pipeline from the Marcellus shale are scheduled to come on line in the next couple of years. Allowing ethane to be shipped from the U.S. east coast.

<http://www.dailyfinance.com/2013/12/15/this-years-best-news-for-us-shale-gas/>

Written by Dave Forest (Oilprice.com) (The Motley Fool) 12/15/13

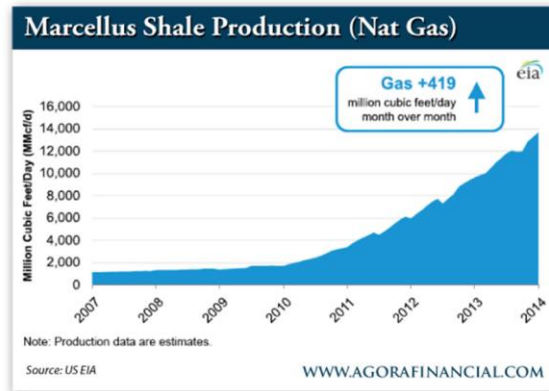
## The Shale Energy Revolution in North America is Changing the World

Good news keeps rolling in for America's booming shale plays.

This week, the US Energy Information Administration (EIA) released a report describing how the Marcellus Shale region is on track to supply 18% of total US natural gas production in December.

Let's take a look at two important charts – plus a few quick takeaways about how **North America** is changing the world...

Production in the Marcellus shale is booming. Here's the first chart.

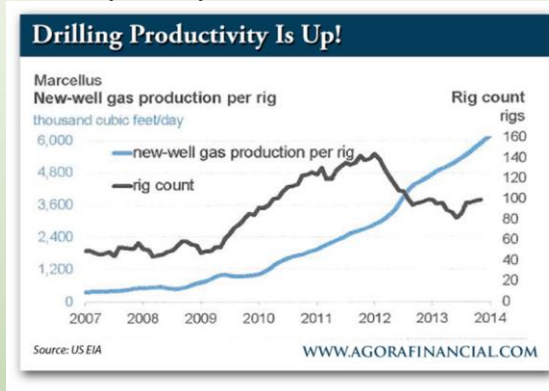


Basically, more and more 'takeaway capacity' has come online in the past year. This is despite a flat rig count, according to data from Baker Hughes. In other words, the same number of rigs are drilling more wells. That comes with improved learning curves and better efficiencies based on experience in the field.

As things stand, Marcellus gas output exceeded 13 billion cubic feet per day (bcf/d) in November and will top 14 bcf/d in December. Based on wells already drilled and ready to tie into the distribution grid, expect to see over 400 million cubic feet per day (mmcf/d) of additional 'new' gas coming online from December to January.

Now we're several years into the play. We've reached the point where output from new wells is growing fast. In terms of engineering and well building, operators are drilling longer wells – called 'laterals' – and adding more down-hole production sections, called 'frack stages'. This is delivering more output from more stages, in longer wells.

Data from EIA indicate that production per well in the Marcellus will pass a new milestone this month. Each well averages about 6 mmcf/d, on track to bump up toward 6.2 mmcf/d by January. Here's the chart:



Meanwhile, more pipelines and processing facilities are coming online – long-time readers of my newsletter *Outstanding Investments* know that I like MarkWest Energy (MWE) in this space. These new systems enable formerly shut-in wells to come online, while increasing overall production that feeds the marketplace.

<http://countingpips.com/forex-news/2013/12/the-shale-energy-revolution-in-north-america-is-changing-the-world/>

Byron W. King Contributing Editor, (MoneyMorning.com.au)

(Counting Pips)

12/15/ 13



### **Seaspan approved to bid on ferry contract**

A North Vancouver based shipyard is the only Canadian shipbuilder among five companies short-listed by B.C. Ferries to bid on construction of three new LNG-fuelled vessels.

Seaspan's Vancouver Shipyards is on a list of pre-qualified companies including shipyards in Norway, Germany, Poland and Turkey invited to put in a proposal to build three intermediate class ships.

The ships - capable of carrying between 125 and 145 cars and 600 passengers - will replace aging vessels on the southern Gulf Islands and Comox to Powell River routes.

<http://www.nsnews.com/news/seaspan-approved-to-bid-on-ferry-contract-1.759836>

Jane Seyd (North Shore News) 12/15/13

### **Bison reaches LNG milestone**

WINNIPEG, Man. -- Bison Transport says it has now accumulated a million miles with its liquefied natural gas (LNG)-powered trucks. Bison last year entered into a five-year fuel supply agreement with Shell Canada, and purchased 15 LNG Peterbilt trucks with 15-litre Westport engines.

Currently, one commercial LNG fuelling station is operational in Calgary, with another set to open in Edmonton in early February. "Bison is constantly searching for new ways to move freight more efficiently and to reduce costs for their customers," said Trevor Fridfinnson, senior vice-president. "We are very proud to be at the forefront of testing this new fuel technology."

See whitepaper here [https://img.bisontransport.com/public/resources/pdf/documents/bisontransportcom\\_news/356-1\\_year\\_and\\_1000000\\_lng\\_miles\\_later....pdf](https://img.bisontransport.com/public/resources/pdf/documents/bisontransportcom_news/356-1_year_and_1000000_lng_miles_later....pdf)

<http://www.ctl.ca/news/bison-reaches-lng-milestone/1002800613/?&er=NA>

(Transportation and Logistics) 12/15/13

### **HHI and JMU are jointly pioneering the first ever use of LNG fuel**

United Arab Shipping Company (UASC) will expand its fleet with new super-efficient container vessels, prepared for "dual fuel" through a later LNG Fuel Gas Supply System (FGSS) retrofit after the delivery of the vessels. Through a technical cooperation with Japan Marine United Corporation (JMU) and IHI Corporation (IHI), Hyundai Heavy Industries Co., Ltd. (HHI), the shipbuilder for UASC intends to obtain an Approval in Principle (AiP) from UASC's designated classification society, DNV-GL, for the FGSS and the LNG fuel tank. The AiP is intended to apply to UASC's current newbuilding order of five 14,000 TEU vessels with six options and five 18,000 TEU vessels with one option, the company said in its press release.

Dual fuel refers to ordinary fuel oil as well as Liquefied Natural Gas (LNG). LNG is a cleaner-burning, less expensive and real alternative to crude oil products. The use of LNG has the potential to reduce CO<sub>2</sub> by 30% and completely eliminate SO<sub>2</sub> particles. The newbuilding vessels are designed to be constructed in such a way that LNG fuel tanks and the FGSS can be installed in a matter of weeks once the infrastructure is in place to enable LNG supplies in major ports of call for container vessels. The capability of being retro-fitted for LNG ensures that UASC vessels continue to remain the most advanced and environmentally-friendly ultra-large container vessels globally for many years to come.

<http://en.portnews.ru/news/172529/>

(Port News) 12/16/13

### **LMT To Manufacture LNG Tank**

Aerospace and Defense major Lockheed Martin Corporation (LMT) has recently decided to manufacture Liquefied natural gas (LNG) tanks for storage and transportation. Lockheed entered into an agreement with Wartsila, a Finnish power solution provider and Harvey Gulf International Marine LLC, a marine transportation company to manufacture cryogenic LNG storage tanks.

Lockheed Martin has expertise in production of fuel storage tanks and has supplied external tanks for NASA's Space Shuttle program for the past four decades. The company intends to utilize its technical know how for the manufacture of the LNG storage tanks.

<http://www.nasdaq.com/article/lmt-to-manufacture-lng-tank-shares-up-analyst-blog-cm311160#ixzz2neqKTXHA>

(Zaks.com) (Nasdaq.com) 12/13/13



### **Are Natural Gas Exports Bad for America?**

Domestic consumption of oil has fallen off by more than 10% over the past decade, while U.S. production has increased more than 30%. Natural gas demand has increased 6%, largely as a result of displacing coal to produce electricity; however the 30% increase in gas production, combined with oil, has led to the U.S. becoming a net exporter of oil and oil-based products for the first time in more than a decade. This trend is expected to continue:

Texas-based Cheniere Energy and subsidiary Cheniere Energy Partners are leading the charge in developing export capability for natural gas, constructing a massive liquefaction facility at the company's Sabine Pass terminal.

This facility will be the first new large-scale liquefaction facility in America in 40 years, and every drop of the more than 27 million tonnes per year (mtpa) processed at this facility will leave American shores for foreign markets. **Sempra Energy** is also in the early stages of a large joint venture LNG export project, which is expected to produce more than 13.5 mtpa of LNG for export.

#### Is breaking the foreign oil addiction better?

According to Clean Energy Fuels CEO Andrew Littlefair, the North American diesel market for trucking is 25 billion gallons. Add in the 24,000 locomotives, and the diesel market is as large as 42 billion gallons, 30% of which could be shifted to cleaner-burning and less expensive natural gas with \$15 billion-\$20 billion in LNG infrastructure, according to a **General Electric** white paper. While a \$20 billion investment sounds like (and is) a massive spend, the potential impact on reducing foreign oil imports by another 12.6 billion gallons, or 300 million barrels, is significant. At \$100/bbl, that's \$30 billion *per year* that stays on U.S. soil -- a net \$60 billion swing in the trade balance.

#### Value of exports

On the other side of the coin, the two facilities being constructed by Cheniere and Sempra will produce 30.5 mtpa of LNG, which is equivalent to 273 million barrels of oil per year just at these two sites. What's that worth on the export market? When converted to million British Thermal Units (mmbtu), these two facilities will produce just under 1.5 billion mmbtu, with an approximate domestic annual value (based on current spot prices of \$3.50 per mmbtu) of \$5.2 billion. However, the export value could easily be between \$10 billion and \$15 billion annually just for these two facilities.

On the surface, this makes it look like the export value of natural gas is significantly less than using it domestically to further offset our dependence on oil, but it's not that simple. One barrel of oil produces much more than just diesel and gasoline, with the numerous byproducts serving a number of industrial purposes in addition to the value of oil in petrochemical applications. Importing some oil for these purposes, as well as its value as a fuel for transportation will remain important, if nothing more than as a hedge against depleting domestic supplies too rapidly.

#### Final thoughts: massive resources and massive opportunity

The simple fact remains: We are producing more natural gas than we are consuming, and with natural gas prices in international markets like Japan and the U.K. easily being double or more than domestic prices, it makes sense to continue expanding our export capabilities. These are viable markets, and our long-standing relationships with these international allies gives us access to commerce that adds value to American lives.

<http://www.dailyfinance.com/2013/12/15/are-natural-gas-exports-bad-for-america/>

By Jason Hall (The Motley Fool) (Daily Finance) 12/15/13

### **NJ officials back Pinelands natural gas pipeline plan, citing reduced pollution from plant**

PEMBERTON TOWNSHIP, New Jersey — New Jersey environmental officials spoke out Friday in favor of a proposed pipeline plan through the Pinelands, saying it would drastically reduce air pollution in the region by enabling an old coal-burning power plant to use cleaner natural gas.

Three air quality officials from the state Department of Environmental Protection spoke at a Pinelands Commission hearing in favor of a hotly debated plan to run a 22-mile natural gas plant through the environmentally sensitive and legally protected Pinelands region so that it can connect to the BL England power plant in Cape May County.

<http://www.dailyjournal.net/view/story/a5359c33d5714cf0ae88d2aba73fe535/NJ--Gas-Pipeline-Pinelands/#.Uq9TRSeo7GM>

By WAYNE PARRY (Daily Journal) (Associated Press) 12/13/13



### **Cheaper Natural Gas Lowering Carbon Dioxide Emissions**

Carbon dioxide emissions are lower than at any time since 1994, according to data recently released by the U.S. Energy Information Administration (EIA). But if you think that the rise of the hybrid car, our embrace of public transit, walking, biking and those new windows on the house are behind the trend, think again. According to the EIA, increased energy efficiency has played a role, as have recent warmer winters and the recession, but the key driver has been the swapping out of coal at power plants and industrial facilities across the country for cleaner-burning and now more abundant natural gas.

[http://www.healthnewsdigest.com/news/Environment\\_380/Cheaper-Natural-Gas-Lowering-Carbon-Dioxide-Emissions.shtml](http://www.healthnewsdigest.com/news/Environment_380/Cheaper-Natural-Gas-Lowering-Carbon-Dioxide-Emissions.shtml)

Written and edited by Roddy Scheer and Doug Moss (EarthTalk) (HealthNewsDigest.com) 12/13/13

### **Company proposed natural gas power plant in Greene Township**

A Bucks County company that develops and operates small natural gas-fired power plants has proposed building a plant in Greene County to take advantage of the abundance of Marcellus Shale gas.

Bayles Energy LLC, a subsidiary of IMG Midstream of Yardley, proposed constructing the plant at an existing industrial site in Greene Township.

The 20-megawatt plant, which will burn natural gas produced locally, will generate enough energy to serve about 13,000 homes, Kristi Gittins, spokeswoman for IMG Midstream, said in an email. The plant is estimated to cost between \$15 and \$20 million and will take about nine months to construct. "We are still in the development phase but are targeting 2015 for commercial operation," Gittins said.

<http://www.observer-reporter.com/article/20131213/NEWS02/131219669#.Uq9QMSeo7GM>

By Bob Niedbala Staff Writer niedbala@observer-reporter.com (Observer Reporter) 12/13/13

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### **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.**

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