

Natural gas futures - weekly outlook: November 25 - 29

Investing.com - Natural gas futures rallied nearly 2% to hit a five-week high on Friday, as updated weather forecasting models continued to point to colder than average temperatures in key gas-consuming regions in the U.S. Bullish speculators are betting that colder weather will increase demand for the heating fuel. The heating season from November through March is the peak demand period for U.S. gas consumption.

On the New York Mercantile Exchange, natural gas futures for delivery in January jumped 1.9% on Friday to settle the week at USD3.811 per million British thermal units. Nymex gas prices rallied to a session high of USD3.830 earlier, the strongest level since October 16. The January contract settled 0.73% higher on Thursday to end at USD3.740 per million British thermal units.

Natural gas futures were likely to find support at USD3.722 per million BTU, the low from November 22 and resistance at USD3.868, the high from October 16. On the week, December natural gas prices rose 3.96%, the third consecutive weekly gain.

<http://www.investing.com/news/commodities-news/natural-gas-futures---weekly-outlook:-november-25---29-255520>

(Investing.com) 11/24/13

Ford Enters New Fuel Dimension With CNG F-150



As the domestic natural gas boom continues to support the case for energy independence, automakers are pushing alternatives to gasoline. Both Ford (NYSE:F) and General Motors (NYSE:GM) are on track to launch influential CNG (compressed natural gas) vehicles next year. Ford announced Thursday that it had produced its first CNG-capable F-150 as it proposes ways to offer fleet owners a way to save on fueling.

The first 2014 Ford F-150 that is CNG and LPG (liquefied petroleum gas) capable was completed at a Kansas City factory line this week, according to a statement by the automaker. In the all-important pickup segment, Ford will have the only half-ton truck that can handle both CNG and LPG. The 3.7-liter V6 F-150 will come with an optional gaseous fuel-prep package that costs between \$6,000 and \$9,000.

The cost hike can be offset in several ways. Ford quoted gas prices near \$3.30 per gallon across the U.S., while CNG sells for \$2.10 per gallon. The automaker also notes that 20 different states will offer incentives for vehicle fleet owners in 2014. When switching to natural gas vehicles, fleet owners would have access to as much as \$25,000 in rebates.

While Ford sees an opening for CNG in the pickup market, General Motors will do the same for its award-winning Chevy Impala. GM announced in October that its 2015 Chevy Impala with CNG fuel capability will go on sale in summer 2014, giving the automaker the only full-size sedan with bi-fuel capacity on the market. The natural gas boom in the United States is helping the concept build steam, and the potential for lower emissions is drawing the attention of government agencies as well as environmental groups and the automakers' planning departments.

On the topic of sustainability, General Motors quoted the California Air Resources Board saying CNG vehicles can deliver the same performance as gasoline-powered automobiles with 20 percent fewer greenhouse emissions. Ford says the U.S. Environmental Protection Agency puts the number around 30 percent better than gasoline automobiles.

In either case, the top U.S. automakers see an opportunity in flagship vehicles powered by alternative fuels. Critics who say electric vehicles remain inadequate due to range concerns won't be able to play that card with CNG. The bi-fuel Impala will cover 500 miles, while the outfitted F-150 will be able to cover more than 750 miles before refueling.

<http://wallstcheatsheet.com/stocks/ford-enters-new-fuel-dimension-with-cng-f-150.html/?a=viewall>

Eric Schaal (wallstcheatsheet.com) 11/23/13

Cleveland switching to natural gas for buses

Cleveland's mass transit agency plans to replace most of its fleet of diesel-powered buses over the next four years with buses using natural gas. The board of the Greater Cleveland Regional Transit Authority has authorized spending more than \$28 million to purchase 60 natural gas-powered buses in 2015.

The agency expects to buy at least 240 buses that use natural gas, staggering the purchases over four years.

The fleet currently has 415 buses, all running on diesel fuel. The higher cost of natural gas-powered buses — \$472,000 versus \$426,000 — will be offset in less than two years. Natural gas is cheaper and more efficient.

According to The (Cleveland) Plain Dealer, fuel is the agency's second biggest expense after wages and has led in the past to fare increases.

<http://www.ohio.com/news/cleveland-switching-to-natural-gas-for-buses-1.447315>

(Ohio.com) (Associated Press) 11/24/13

Republic Services Builds Texas CNG-Powered Refuse Fleet



Republic Services, Inc. has deployed an additional 49 Compressed Natural Gas (CNG) solid waste and recycling trucks to serve customers throughout greater Houston. The Company has introduced a total of 104 new CNG trucks in greater Houston within the past year, replacing older diesel powered trucks.

According to the U.S. Environmental Protection Agency, each new CNG solid waste and recycling truck reduces ozone-forming emissions by as much as 80 percent when compared to older diesel powered trucks. In addition, each new CNG truck deployed is equivalent to removing five passenger vehicles from local roads for one year, or to adding 600 mature trees into the local environment. Republic operates a fleet of more than 1,400 CNG vehicles and 26 natural gas fueling stations nationwide, including two new stations installed to support the Texas fleet. Approximately 50 percent of all Republic vehicles purchased in 2013 are powered by the domestic fuel source.

<http://www.ngvglobal.com/republic-services-builds-texas-cng-powered-refuse-fleet-1123>

(NGV Global news) 11/23/13

Movers, shakers of shale: Seismic testing adapts to Western Pa.

Observer Jeff Sampsell watches as seismic testing data from the three trucks in the field is sent to his location along Route 30 in Findlay Wednesday, Nov. 7, 2013. The trucks vibrate the ground for about 1 minute 45 seconds and then travel 220-feet down the road and repeat the process until all of the data is mapped on their run.

Three white trucks roll head-to-tail along Route 30 at about 1 mile per hour. Every 250 feet, they stop and slowly lower wood and metal pads to the road. Then they shake. Some in the gas industry call this "getting elephants to jump at the same time."

These are seismic testing trucks, sending vibrations 20,000 feet deep to get a picture of the Marcellus shale just as a sonogram pictures an unborn baby. And it's the first step for gas companies after they commit to drilling a new region.

The trucks working Route 30 in Findlay are on assignment for Consol Energy Inc. as it gets ready to drill for gas on 10,000 acres around Pittsburgh International Airport. These vibration trucks may become a familiar sight for analyzing prospective gas fields as drillers encroach the urban core or more densely populated areas.

<http://triblive.com/business/headlines/5063407-74/seismic-gas-testing#axzz2lg1HSeen>

By Timothy Puko (Pittsburgh Tribune-Review) 11/23/13



PENNSYLVANIA AWARDS \$3 MILLION FOR 33 ALT FUEL VEHICLE PROJECTS

On Thursday, Pennsylvania's Governor Tom Corbett announced the awarding of more than \$3 million in Alternative Fuel Incentive Grants (AFIG) to 33 companies, counties and organizations across Pennsylvania that are making the switch to CNG, LNG or propane for light and medium duty fleet vehicles. The awarded AFIG grants will help pay for the conversion or purchase of 351 NGVs weighing less than 14,000 pounds. The vehicles will be supported by an estimated 15 new fueling stations and 30 existing stations. AFIG grants are an annual solicitation, providing financial incentive for a variety of transportation projects with the goal of reducing air emissions in Pennsylvania. The Pennsylvania DEP will announce the focus of the next round of grants when the round opens, which is expected in early 2014.

In addition, the second round of Act 13 Natural Gas Vehicle grants will open on November 9, providing an estimated \$11 million to help pay for the incremental purchase and conversion costs of heavy duty natural gas fleet vehicles (weighing more than 14,000 pounds). Grant requests can be for no more than 50 percent of the incremental purchase or retrofit cost per vehicle, with a maximum of \$25,000 per vehicle. Applications are due by 4:00 p.m., Friday, January 10, 2014, and will be awarded in the spring. Applicants are encouraged to participate in a related webinar, scheduled for Wednesday, November 20 from 2:00 to 3:00 p.m. To register for the webinar, or to learn more about the Act 13 and AFIG grant programs, visit www.dep.state.pa.us and click on the "Natural Gas Vehicle Grant Program" button.

See the 23 natural gas projects awarded AFIG grants by county (in link). [Also, see workshop below]

<http://ngv.com/pennsylvania-awards-3-million-for-33-alt-fuel-vehicle-projects/>

by Paul Speraw (NGV Forum) 11/11/13

Natural Gas Vehicle Grant Workshop In Clinton County Dec. 19

The Department of Environmental Protection invites fleet managers to a [Natural Gas Vehicle Grant](#) workshop from 10 a.m. until noon on December 19, at the Clinton County Conservation District office, 45 Cooperation Lane, Mill Hall, Pa. An estimated \$11 million is available to help pay for the incremental purchase or conversion costs of heavy-duty natural gas fleet vehicles with gross vehicle weight ratings of 14,000 pounds or greater. Pennsylvania's Act 13 Natural Gas Vehicle Grants are financed by impact fees paid by natural gas operators. Fifty percent of this funding is allocated exclusively for local transportation organizations, including non-profit agencies providing public transportation services and public transportation, port and redevelopment authorities, and school bus projects. Others eligible to apply include incorporated non-profit organizations, for-profit companies, state-owned or state-related universities, commonwealth or municipal authorities, and the Pennsylvania Turnpike Commission.

The department is hosting the workshop to assist potential applicants. The workshop will consist of a review of the Act 13 grant program requirements, followed by a live demonstration and walkthrough of the online application. Department staff will then be available to provide one-on-one assistance to applicants and answer questions about the application process.

http://www.northcentralpa.com/feeditem/2013-11-22_natural-gas-vehicle-grant-workshop-clinton-county-dec-19

(NorthCentralPa.com) (PA Environment Digest in Gas Industry) November 22, 2013

Natural Gas Plan Gains Final Approval

State regulators Friday gave final approval to the Malloy administration's ambitious plan to expand Connecticut's natural gas infrastructure, adding 280,000 new customers over 10 years. It targets those who are on or relatively near gas mains, as well as those farther from pipelines who can cost-effectively convert.

But despite the resistance, the plan — passing the legislature months ago and utility regulators on Friday — is moving forward, with the goal of putting Connecticut's rate of natural gas usage on par with neighboring states.

In Connecticut, about 31 percent of homes heat with natural gas, while New England averages 40 percent and the country averages 50 percent.

http://www.courant.com/business/hc-natural-gas-plan-pura-20131122_0,2738826.story

By BRIAN DOWLING, bdowling@courant.com (The Hartford Courant) 11/22/13



Strong demand stokes the LNG flame

The prospect that sanctions on Iran might be lifted and that it might be able to resume oil exports is being seen as another potential threat to the economics of the LNG sector. This adds to the threat posed by the possible rebuilding of Iraq's oil industry and the expected build-up in North American LNG exports.

A sharp decline in the oil price, or the prospect of a flood of LNG out of North America, might impact LNG projects still on the drawing boards and give their promoters pause for thought. However, none of the promoters of the projects currently under construction in offshore Western Australia or at Gladstone in Queensland are publicly or privately displaying any real concern.

That's partly because the economics of their projects are stronger than they've been given credit for and partly because the fundamental supply-demand backdrop appears so favourable. The cost blowouts experienced by many of the new projects and the potential for increasing oil supply and lower prices could adversely impact profitability. However, LNG prices would have to be decimated before the projects came under real pressure.

Between now and 2025, demand for LNG driven out of Asia is forecast to rise at a compound annual rate of about 5 per cent a year, reaching about 450 million tonnes a year. According to a presentation given last year by Santos' vice-president for strategy and development, Peter Cleary, it would require about 45 new LNG trains producing about 4 million tonnes of LNG a year to meet that demand.

At present, the pricing of most LNG contracts is linked to the oil price. But even if oil prices fell, or that linkage broke down in new contracts, the underlying demand picture is very supportive.

Origin Energy's Grant King has also said in the past that the three big projects being built at Gladstone would recover their costs at an oil price of about \$US40 a barrel and their cost of capital at \$US50 a barrel. This provides an insight into the extent to which they could absorb changes to the market and oil prices.

A lower oil price and/or greater competition from North American exports into Asia based on US domestic Henry Hub pricing might reduce the profitability of the projects. But unless there is a very significant change to the projected outlook for demand, their economics ought to be quite robust – at least for the next decade or so.

Cheniere's conversion of an import terminal in Louisiana is the most advanced of the US facilities. It has signed contracts based on a gas price set at about 115 per cent of the Henry Hub price. At today's price of around \$US4 per MBtu, that would equate to about \$US4.60, although the forward curve shows the Henry Hub price rising over time to more than \$US6. Add liquefaction and re-gasification and transport costs of between about \$US7 and \$US8, and the price 'advantage' the US might have is not as significant as one might have thought.

The best guesstimate about the amount of US gas that could be sold into the international market by 2025 is around 30 to 40 million tonnes a year – less than 10 per cent of the projected demand at that point.

Projects that have been built to service 20-year contracts, however, were never going to be based on expectations that the status quo of pricing and supply will simply be maintained for the next several decades.

Whether it is increased supply from the Middle East and North America (and consequently lower oil and gas prices), changes to the pricing mechanism in new gas contracts, or even their own cost inflation, the economics of projects with such massive up-front capital commitments and such long-term time horizons ought to be robust enough to cope

<http://www.businessspectator.com.au/article/2013/11/25/resources-and-energy/strong-demand-stokes-lng-flame>

Stephen Bartholomeusz (businessspectator.com) 11/25/13

Here's the Next Revolution for the Train Industry

Natural gas as a transportation fuel is a hard sell to the general population. However, fleet vehicles have been happily making the switch. Starting next year, railroad CSX will be testing out new gear from General Electric that will allow trains to run on either natural gas or diesel—big news for an industry that last made a fuel switch over 50 years ago.

Clean Energy's focus is to get natural gas deeper into the transportation industry. It's concentrated on fleet vehicles since the gasoline infrastructure is too deeply ingrained in the individual market. Although it's been slow going at times, this effort is starting to gain traction.

For example, the company estimates that 60% of all new garbage trucks sold this year will be powered by natural gas. That's up from less than 10% just five years ago. And the company has partnered with big industry players like Waste Management along the way. That trash hauler estimates that each natural gas powered truck reduces diesel use by 8,000 gallons a year, cutting both fuel and maintenance costs, and reducing emissions.

That's why both are happily pushing forward with natural gas—Waste Management, for example, has the largest gas powered fleet in the trash industry. And Clean Energy is working on a similar fuel switch in the long-haul truck space, which it believes is a \$25 billion market opportunity. It's working with GE on that, recently inking a deal with the conglomerate's finance arm to provide loans for natural gas truck purchases.

General Electric, however, has its sights on more than just the nation's highways. It has been building fueling solutions that could be installed at individuals' homes -- a long-shot idea -- and on shifting trains to natural gas. The latter is an idea that is ready to roll in a big way.

GE is partnering with CSX to test equipment that will allow a train to run on either diesel or natural gas as early as next year. Offering both fuels is a huge benefit for the train companies because it provides them with the ability to use the cheapest fuel now and in the future should natural gas prices rise. In fact "LNG technology has the potential to offer one of the most significant developments in railroading since the transition from steam to diesel in the 1950s," according to CSX.

<http://www.dailyfinance.com/2013/11/24/natural-gas-trains-are-here/>

by Reuben Brewer (Motley Fool) (DailyFinance) 11/24/13

Coal loses more ground to natural gas

As an economic summit in Eastern Kentucky approaches, two new reports illustrate the continued downward slide of coal in the state and across the southeastern United States. In Friday's Today in Energy briefing, the U.S Energy Information Agency said the nation's biggest shift from coal to natural gas for electricity generation was occurring in the Southeast.

"Lower natural gas prices, a concentration of highly efficient natural gas-fired generators, and the high cost of shipping coal from production regions (in the West) have all contributed to this shift," the agency said.

Coal accounts for less than 40 percent of the southeast's electricity generation, down from nearly 60 percent for much of the last decade.



<http://www.courier-journal.com/article/20131124/BUSINESS/311240045/Coal-loses-more-ground-natural-gas>

Reporter James Bruggers at (502) 582-4645 or on Twitter @jbruggers. (Courier-journal) 11/24/13



Shale boom to ram oil prices in long-term

JEDDAH – The effects of shale oil and gas production in North America could impact oil prices in the medium to long term, according to a report by Standard and Poor's, although the effects of the shale boom on the GCC's oil and gas producers are minimal at present.

"This (minimal effect on GCC oil production), in part, reflects GCC-based producers' ability to redirect their oil exports, as well as the fact that many of them export heavier crudes that are not currently being displaced by shale volumes," said Standard & Poor's credit analyst Karim Nassif.

"Ninety-two percent of Saudi Arabia's annual budget comes from oil. Definitely it is a worry and a concern," he said.

<http://www.saudigazette.com.sa/index.cfm?method=home.regcon&contentid=20131125187680>

(Saudi Gazette) 11/25/13

Natural gas remains good energy option, state's petroleum group leader says

CUMBERLAND — Natural gas continues to make good economic and environmental sense, said Drew P. Cobbs, executive director of the Maryland Petroleum Council. Whether drilling for natural gas in Marcellus Shale will occur in Maryland remains an open question, he said. The price of natural gas will always be a factor in that decision-making process.

Once the work of Gov. Martin O'Malley's Marcellus Shale Safe Drilling Initiative Advisory Commission is complete, Maryland will have the strongest and likely strictest fracking laws in the country, Cobbs said.

If drilling occurred in Maryland, it would likely be near the Pennsylvania border, where infrastructure for moving the gas already exists, Cobbs said. Drilling, if allowed, would likely not occur until 2017.

<http://www.times-news.com/local/x1267067140/Natural-gas-remains-good-energy-option-state-s-petroleum-group-leader-says>

Matthew Bieniek (Cumberland Times-News) 11/23/13

Greener Ways to 'Frack' for Natural Gas?

Fracking has been good for oil companies, the economy and even our carbon footprint, but it doesn't come without environmental cost. A typical fracking operation pumps some five million gallons of water and chemicals underground to break up the shale. About half the water is removed during the oil and gas recovery process, leaving the other half underground where it can contaminate aquifers and degrade soils.

Enterprising petroleum engineers have been hard at work trying to find ways to frack without water. One promising alternative involves using carbon dioxide (CO₂) to break up the underground shale instead of water. "Fracking with carbon dioxide has a number of potential advantages," reports Kevin Bullis in the *MIT Technology Review*. "Not only would it eliminate the need for millions of gallons of water per well, it would also eliminate the large amounts of wastewater produced in the process."

He adds that CO₂ may also yield more natural gas and oil than water, given the dynamics of how it works underground. Also, CO₂ used in fracking can be recovered and used repeatedly. And once a well is done producing, it can be sealed up, sequestering the CO₂ underground where it can't add to global warming.

Researchers at the University of Virginia estimate that fracked sections of the Marcellus shale in the eastern U.S. could store over half of all U.S. CO₂ emissions from power plants and other stationary sources over the next 20 years, with other shale formations providing significant additional storage.

Right now CO₂-based fracking is uncommon, given the abundance of water in our biggest fracking regions and the logistical challenges in transporting a compressible gas to well sites safely and cheaply. But as fracking expands into politically charged areas, or arid regions where water is scarce, waterless fracking could become more common. Already, nearly half of the fracked wells drilled across the U.S. in 2011-2012 are in water-stressed areas, according to the sustainability-oriented non-profit, CERES. And a recent study from the consulting firm Wood Mackenzie concluded that many of the countries with the greatest promise for developing shale oil and gas through fracking suffer from water shortages.

http://www.healthnewsdigest.com/news/Environment_380/Greener-Ways-to-Frack-for-Natural-Gas.shtml

(HealthNewsDigest.com) (EarthTalk) 11/23/13



City at center of Pa.'s natural gas boom keeps optimism as pace of drilling slows down

WILLIAMSPORT, Pennsylvania — The Marcellus Shale industry, which arrived in this northern Pennsylvania city five years ago and turned Williamsport into the seventh-fastest-growing area in the nation, appears to have lost some momentum. Economic activity in this city affectionately known as "Billtown" has subsided noticeably in the last year as the pace of drilling natural gas wells slowed in response to low gas prices.

Statewide, exploration companies drilled 30 percent fewer wells in 2012 and are on course to drill even fewer this year. About half as many drilling rigs are operating in Pennsylvania now as in early 2012, when the rigs began moving to more lucrative oil-producing regions.

But local civic and business leaders insist the shale-gas industry has not gone bust. They say that it has merely taken a breather, and that all signs point to a long-term boost for this region. "I think the hype is what changed," said Davie Jane Gilmour, president of the Pennsylvania College of Technology. The school has trained 3,400 students as welders, rig hands, commercial truck drivers, and office workers to serve the industry. She said demand for trained workers was still growing.

"The slowdown's over," said Daniel A. Klingerman, the developer whose 350-acre industrial park includes several service companies that maintain fleets of the huge engines and pumps used in the hydraulic fracturing process. "We're twice as busy now as we were a year ago." Klingerman's company, the Liberty Group, is a construction juggernaut. It is building a new motel along I-180, a \$35 million expansion of the regional medical center, and a new \$10 million YMCA center. Klingerman also plans a civic arena downtown and a 160-foot-tall office building overlooking the West Branch Susquehanna River. All he needs is an energy company as an anchor tenant.

Companies such as Anadarko Petroleum Corp., which has about 100 employees in a 30,000-square-foot downtown office, and Halliburton Co., which employs 500 people at its Williamsport field office, say most of their workforces now are local hires. Both companies say they have not shed staff during the downturn.

The Keystone Research Center and Pennsylvania Budget and Policy Center released a report last week that contends the Marcellus development has had little economic impact outside the drilling region.

The report also said the slowdown "raises questions about the stability and permanence of even the small number of jobs that have been created."

Despite the slowdown in drilling, production across the Marcellus continues to grow impressively as a backlog of previously drilled wells comes on line. At current production levels of 13 billion cubic feet per day, the Marcellus produces enough natural gas in 70 days to supply Pennsylvania's annual demand. Two years ago, Pennsylvania needed to import gas from the Gulf Coast to meet its needs.

Shale's economic impact is likely to be debated fiercely in next year's election. Gov. Corbett says the Marcellus development now supports more than 200,000 jobs in Pennsylvania, and can fuel new energy-intensive manufacturing and chemical production for generations to come.

<http://www.therepublic.com/view/story/a5b215a84f9c4f2692763c531725a3aa/PA--Member-Exchange-Gas-Drilling>

By ANDREW MAYKUTH

(The Philadelphia Inquirer)

11/24/13



NATURAL GAS POWER PLANT LOOKING TO THE SUN FOR HELP

How do you soup up a natural gas power plant? Add solar heat.

Solar-heated steam would help spin turbines at an existing natural-gas power plant in Northern California under a plan from the customer-owned Sacramento Municipal Utility District. The U.S. Department of Energy said this month that it would invest \$10 million in the project — about one-fifth of its estimated cost.

As an add-on to power plants, concentrating solar technology could someday provide an additional 11 to 21 gigawatts of clean energy to the U.S. grid, by the Energy Department's estimation. A traditional 2-gigawatt plant can power about 1.4 million homes.

Concentrating solar technology uses the heat of sunlight to produce steam and spin a turbine to produce electricity. Attaching concentrating solar to an existing power plant eliminates the need for new turbines, transmission lines and other pricey infrastructure.

<http://www.utsandiego.com/news/2013/nov/23/tp-natural-gas-power-plant-looking-to-the-sun-for/>

By Morgan Lee (U-T San Diego) 11/23/13

First Compressed Natural Gas Station in Area Celebrates Grand Opening

Palo CNG station celebrated their grand opening of the first CNG station in Clarion County (Compressed Natural Gas) off I-80 Exit 64. Mike Palo, owner described the process of setting up and running an alternative/multi-fuel station.

PALO CNG LLC provides multiple alternative fuels. By providing these alternative fuels to consumers, they hope to make a significant impact on the use of overseas oil. Their goal is to diversify the fuels that are used in the United States while also using more fuels that are manufactured here at home. In order to achieve this goal, they plan to open multiple stations that offer alternative fuels like, Compressed Natural Gas, Liquid Propane Auto Gas, Bio-Diesel, E-85 and more. It is their hope to impact the economy and the environment at the same time in a positive way. Palo says, "There is enough natural gas under our feet in Pennsylvania to power this entire country into the next generation." See <http://www.palocng.com> for more details.

<http://myprogressnews.com/content/first-compressed-natural-gas-station-area-celebrates-grand-opening>

(My Progress News) 7/29/13

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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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