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2016 will represent a landmark milestone as GITA celebrates its 25th year of providing an invaluable forum for oil and gas pipeline industry professionals to interact with each other on a personal basis. For the third time, the annual GITA Oil & Gas Pipeline Conference & Exhibition and the Pipeline Open Data Standard (PODS) User Conference will come together for Pipeline Week.

The 12th Annual PODS User Conference will include a robust program of Operator presentations, workshops, training, and round-table discussions focusing on leveraging the PODS Standard. Running simultaneously, GITA's Oil & Gas Pipeline Conference will host an operator forum, a number of dynamic panel discussions, and numerous networking functions. In conjunction with the conferences, an exhibition hall will showcase the most advanced technology, equipment, and services vital to the oil and gas community.

GENERAL CATEGORIES INCLUDE:

- NEW TRACK FOR 2016! Pipeline Integrity/Integrity Management (non-GIS)
- Pipeline Integrity/Integrity Management from a GIS Perspective
- Asset Management
- Mobility
- Analytical Planning
- Operational Awareness
- Integration/Interoperability
- Project Planning and Records Management
- Convergence of Information Technology and Operational Technology Systems
- Existing and Emerging Standards
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AUG. 22, 2016 | USD 20

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International Petroleum News and Technology | www.ogj.com

Aug. 22, 2016 | Volume 114.8c

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GENERAL INTEREST

COVER

Float-off operations for Shell Malaysia's Malikai tension-leg platform (TLP) were recently completed. InterMoor Pte., an Acteon company and part of its foundations and moorings business, was responsible for the float-off and tow of the TLP, which was loaded onto the Dockwise Ltd.'s White Marlin heavy-lift vessel at Malaysia Marine & Heavy Engineering shipyard in Pasir Gudang, Malaysia, and transported through the Johor Straits to a float-off location in the Singapore Straits. Ultimately, the TLP will be installed at Malikai field in 600 m of water. Photo from Dockwise.

The Arab Republic of Egypt

Ministry of Petroleum and Mineral Resources

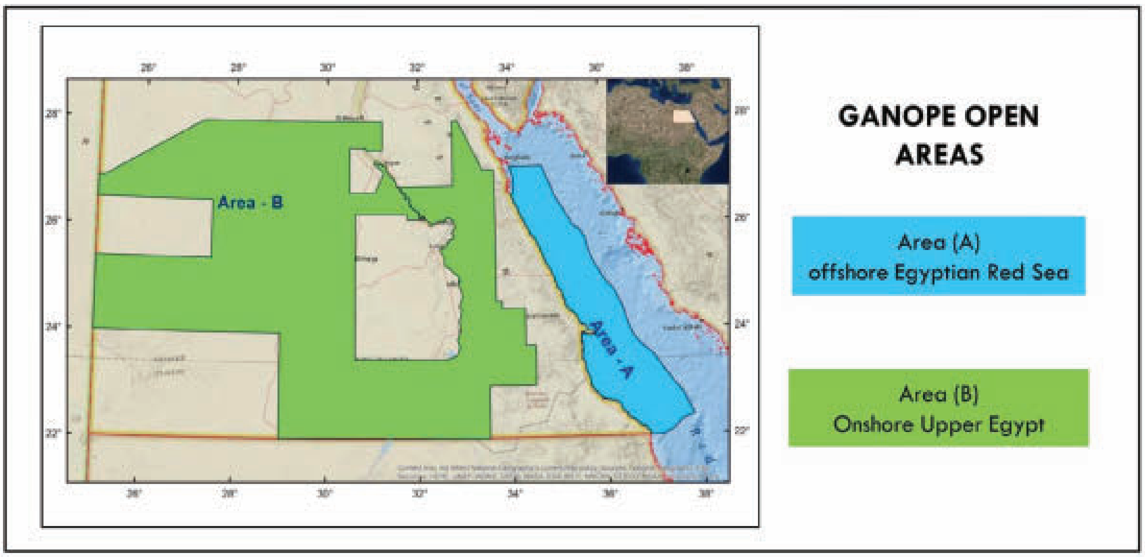
Ganoub El Wadi Petroleum Holding Company

Ministry of
Petroleum and
Mineral Resources

Announcement For

NON-EXCLUSIVE MULTI-CLIENT SEISMIC SURVEY PROJECT, IN GANOPE OPEN AREAS

Ganoub El Wadi Petroleum Holding Company requests Geophysical Service Companies and Service providers to propose program to collect new geophysical data and to reprocess and update the existing data. GANOPE OPEN AREAS based on Request for Proposal process (RFP) are divided into two separate regions as follows: Area (A) Offshore Egyptian Red Sea and Area (B) Onshore Upper Egypt as shown in the map and according to Non-Exclusive Multi-Client basis.



Interested Companies can review the technical data. The cost of the RFP documents is Two Thousands (2,000) US$ and is Non-Refundable, starting from Tuesday, August 9th, 2016 at Ganope Premises:

El Nour Street from El Nozha Street, Nasr City, Cairo, Egypt P.O.B.: 3011 El Horria.

More Information of Ganope Multi-client Project, Ganope Open Area Coordinates and Available Data can be obtained through Ganope website: www.ganope.com

The closing date will be on Thursday, December 15th , 2016 at 12:00 noon, Cairo local time

For more information, please contact:

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OGJ

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Aug. 22, 2016

GENERAL INTEREST QUICK TAKES

Petrobras reports 30% drop in net profits for 2Q

Petroleo Brasileiro SA (Petrobras) reported a second-quarter net profit of $118 million, down 30% from last year's net profit in the same period, largely attributed to impairment charges related to its Comperj refinery project outside Rio de Janeiro (OGJ Online, July 25, 2016).

Offsetting the impairment, the Brazilian state-owned firm recorded 7% growth in total oil and natural gas output to 2.8 million boe/d, a 14% increase in oil and oil product exports, lower costs related to natural gas imports, and a 30% reduction in net financial expenses. It also posted a 15% decrease in net debt during the period.

As part of the firm's $15-billion divestment plan, Petrobras this year has agreed to sell its 67.19% interest in Petrobras Argentina to Pampa Energia for $897 million, Petrobras Chile Distribucion Ltda. to Southern Cross Group for $490 million, and its 66% interest in the BM-S-8 offshore license in the Santos basin to Statoil ASA for $2.5 billion (OGJ Online, July 29, 2016).

The firm last month said it entered discussions for the sale of its petrochemical unit Petroquimica Suape e Citepe with Mexican petrochemical firm Alpek.

Santos' earnings take hit on Gladstone LNG project

Santos Ltd., Adelaide, has taken a $1.5-billion write-down on the value of its Gladstone LNG (GLNG) project that sources gas from coal seam gas fields in the Surat-Bowen basins to supply an LNG plant on Curtis Island near Gladstone.

The company said the hit followed a review of key production assets and the decision to make the impairment charge was attributed to lower oil prices, a slower-than-anticipated ramp-up in coal seam gas production from its fields, and higher gas purchase prices from other companies on Australia's east coast.

The impairment charge on the $18.5-billion GLNG project is on top of the $565 million pretax write-down on the project last February.

Santos Chairman Peter Coates said the impairment charge was "clearly disappointing, but it is a consequence of the challenging environment which we now face."

He said, "We have decided to adjust our long-term operating assumptions for GLNG to reflect the reality of the current oil-price environment."

Santos said the noncash charge will result in an aftertax impact of $1.05 billion on the company's half-year profits, but it will not affect the debt facilities.

Production began at GLNG in September 2015 from Train 1. Train 2 came on stream this past May.

Santos is operator of the project with 30%. Other stakeholders are Malaysia's Petronas, France's Total SA, and South Korea's Korea Gas Corp.

Alberta GHG cap seen costing $250 billion

A proposed cap on emissions of greenhouse gases (GHGs) will limit production growth from Alberta's oil sands and cost the provincial economy as much as $254.74 billion (Can.) during 2025-40, according to a study by the Fraser Institute.

The Alberta government's proposed 100-megatonne cap on GHG emissions could reduce cumulative production by 3.34 billion bbl of oil during that period, the study estimates, based on production forecasts of the National Energy Board and current emission-intensity levels.

Lower emission intensity of oil sands production would delay the production cap to 2027 and trim cumulative losses to 2.03 billion bbl of oil and $153.41 billion (2015 dollars).

The policy will lower global GHG emissions by 0.035% by 2040, the study says.

Cumulative emission abatement could be 236 megatonnes of carbon dioxide-equivalent, at an average cost of $1,035/tonne of GHG emissions under current emission intensity, the study estimates.

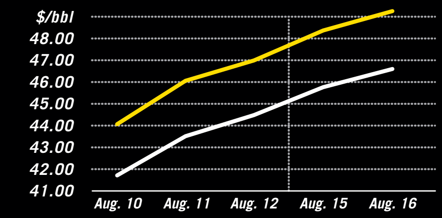
Emission-intensity reductions would lower the cumulative emission abatement and raise the cost. OGJ

EXPLORATION & DEVELOPMENT QUICK TAKES

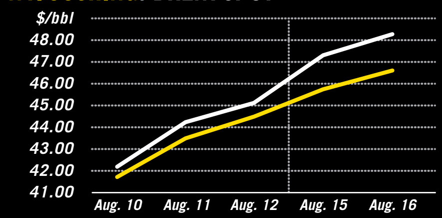
Murkowski: Keep Alaska sales in 5-year OCS plan

US Sen. Lisa Murkowski, (R-Alas.), strongly urged US Bureau of Ocean Energy Management Director Abigail Ross Hopper to preserve all three oil and gas lease sales proposed for Alaska when BOEM finalizes its 2017-22 US Outer Continental Shelf program. The senator's request came during an Aug. 12 face-to-face meeting in downtown Anchorage, as Hopper neared the end of a week-long Alaska tour.

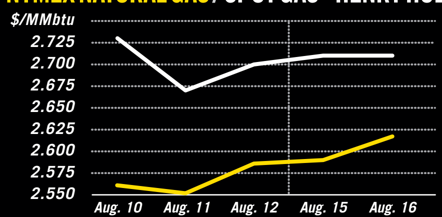
ICE BRENT / NYMEX LIGHT SWEET CRUDE



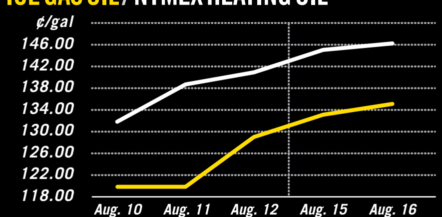
WTI CUSHING / BRENT SPOT



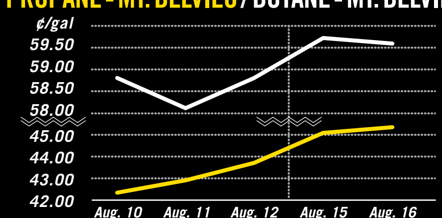
NYMEX NATURAL GAS / SPOT GAS - HENRY HUB



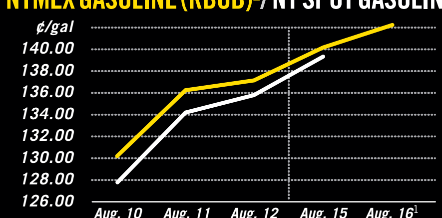
ICE GAS OIL / NYMEX HEATING OIL



PROPANE - MT. BELVIEU / BUTANE - MT. BELVIEU



NYMEX GASOLINE (RBOB)[2] / NY SPOT GASOLINE[3]



[1]Not available [2]Reformulated gasoline blendstock for oxygen blending
[3]Nonoxygenated regular unleaded

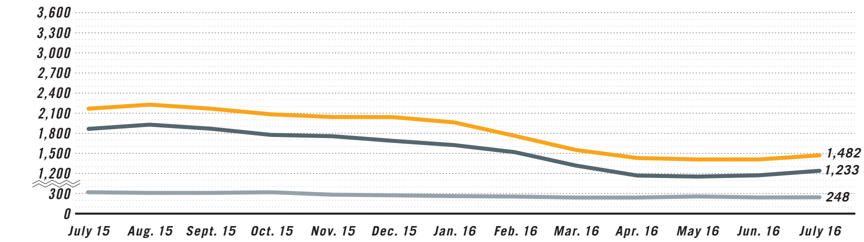
US INDUSTRY SCOREBOARD — 8/22

Latest week 8/5	4 wk. average	4 wk. avg. year ago[1]	Change, %	YTD average[1]	YTD avg. year ago[1]	Change, %
Product supplied, 1,000 b/d						
Motor gasoline	9,776	9,615	1.7	9,440	9,121	3.5
Distillate	3,830	3,739	2.4	3,754	3,956	(5.1)
Jet fuel	1,740	1,660	4.8	1,613	1,557	3.6
Residual	368	250	47.2	303	207	46.4
Other products	5,063	5,132	(1.3)	4,936	4,834	2.1
TOTAL PRODUCT SUPPLIED	20,777	20,396	1.9	20,046	19,675	1.9
Supply, 1,000 b/d						
Crude production	8,479	9,458	(10.4)	8,871	9,404	(5.7)
NGL production[2]	3,526	3,297	6.9	3,428	3,132	9.5
Crude imports	8,428	7,560	11.5	7,908	7,280	8.6
Product imports	2,297	2,174	5.7	2,171	2,101	3.3
Other supply[2 3]	2,732	2,405	13.6	2,175	2,326	(6.5)
TOTAL SUPPLY	25,462	24,894	2.3	24,553	24,243	1.3
Net product imports	(1,602)	(1,639)	—	(1,723)	(1,555)	—
Refining, 1,000 b/d						
Crude runs to stills	16,725	16,944	(1.3)	16,211	16,200	0.1
Input to crude stills	16,994	17,140	(0.9)	16,431	16,443	(0.1)
% utilization	92.8	94.9	—	90.1	91.5	—

Latest week 8/5	Latest week	Previous week[1]	Change	Same week year ago[1]	Change	Change, %
Stocks, 1,000 bbl						
Crude oil	523,601	522,546	1,055	453,593	70,008	15.4
Motor gasoline	235,383	238,190	(2,807)	215,482	19,901	9.2
Distillate	151,196	153,155	(1,959)	147,806	3,390	2.3
Jet fuel–kerosine	41,611	41,078	533	43,288	(1,677)	(3.9)
Residual	38,498	38,292	206	39,776	(1,278)	(3.2)
Stock cover (days)[4]			Change, %		Change, %	
Crude	31.3	31.3	—	26.8	16.8	
Motor gasoline	24.1	24.4	(1.2)	22.4	7.6	
Distillate	39.5	42.0	(6.0)	39.5	0.0	
Propane	93.3	94.0	(0.7)	95.9	(2.7)	
Futures prices[5] **8/12**			Change		Change	Change,%
Light sweet crude ($/bbl)	43.10	40.83	2.27	44.92	(1.82)	(4.1)
Natural gas, $/MMbtu	2.61	2.79	(0.18)	2.79	(0.18)	(6.5)

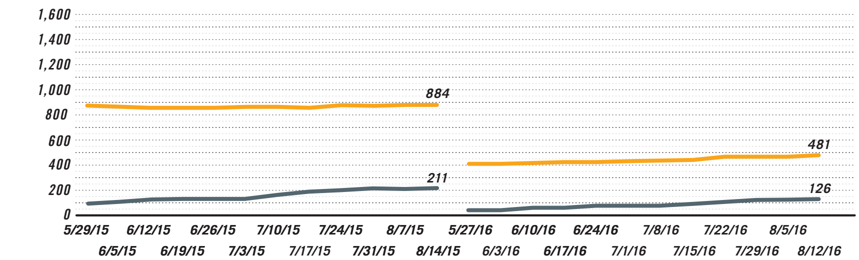
[1]Based on revised figures. [2]OGJ estimates. [3]Includes other liquids, refinery processing gain, and unaccounted for crude oil. [4]Stocks divided by average daily product supplied for the prior 4 weeks. [5]Weekly average of daily closing futures prices.
Source: Energy Information Administration, Wall Street Journal

BAKER HUGHES INTERNATIONAL RIG COUNT: TOTAL WORLD / TOTAL ONSHORE / TOTAL OFFSHORE



Note: Monthly average count

BAKER HUGHES RIG COUNT: US / CANADA



Note: End of week average count

"I stressed to Director Hopper that Alaska must be allowed to develop its resources, especially in the Arctic," Murkowski said. "Offshore development is one of the best ways we can create jobs, generate revenues for our state treasury, refill our Trans-Alaska Pipeline, and protect our nation's long-term energy security."

She said, "From our vast resource potential, to our long history of safe production, to overwhelming support from Alaskans, this administration has every reason to make the right decision and keep our lease sales in the offshore program." Murkowski chairs the Energy and Natural Resources Committee.

BOEM is expected this fall to release a proposed final program, which can be made final after a 60-day congressional review period. BOEM included three Alaska sales in its 2017-22 proposed program: one in the Beaufort Sea in 2020, one in Cook Inlet in 2021, and one in the Chukchi Sea in 2022.

While the sales are not area-wide or as frequent as Alaska's congressional delegation requested, BOEM cannot expand the scope of its offshore program as the planning process goes on. Murkowski convened an oversight hearing in May to examine DOI's proposed federal offshore leasing program.

Rosneft lifts seismic inventory

In the first half, OJSC Rosneft acquired more than 2,400 km of onshore 2D seismic surveys, a 17% increase from a year earlier, and more than 4,800 sq km of onshore 3D surveys, a 7.7% increase.

The company said it started seismic acquisitions at the Albanovsky and Vostochno-Pribrezhny license blocks in the Barents Sea and the Sea of Okhotsk.

Rosneft also started drilling two exploration wells in the Magadan-1 and Lisyanskiy areas in the Okhotsk with partner Statoil ASA.

In the first half, development drilling length totals increased 48% to 4,499 km from 3,039 km a year earlier.

In the second quarter, six new horizontal wells were commissioned at Samotlor field.

The company said its natural gas production of 33.23 billion cu m in the first half of 2016 was 6.9% higher than a year ago, but hydrocarbon liquids declined 0.1%.

In its operational report for the second quarter and first half, Rosneft said gas growth was driven by development in the Northern Chaivo area on the Sakhalin shelf and the 2015 launches of a gas treatment unit at Barsukovskoe field and the second stage of the Novo-Urengoy gas and condensate treatment facility.

Bill Barrett to pick up DJ basin development program

Bill Barrett Corp., Denver, will resume its extended reach lateral (XRL) development program in the Denver-Julesburg basin during the third quarter.

The firm expects to spud as many as 12 gross XRL wells before yearend that will then be placed on initial production in first-quarter 2017. Bill Barrett's capital expenditures for 2016 will now be at the high end of its previously disclosed guidance range of $75-100 million to account for the additional drilling activity.

"We believe that lower demonstrated well costs and operating expenses, combined with a narrowing DJ basin oil-price differential, will generate a competitive rate-of-return in the current commodity price environment," commented Scot Woodall, Bill Barrett chief executive officer.

The firm in the DJ basin during the second quarter produced 14,176 boe/d, up 21% from its first-quarter average. The increase is attributed to the startup of production from a 16-well drilling and spacing unit, which included 15 XRL wells, in Section 5-62-22 of northeast Wattenberg, which initiated production earlier than forecast. OGJ

DRILLING & PRODUCTION QUICK TAKES

EIA: US crude output averaged 8.6 million b/d in July

The US Energy Information Administration estimated US crude oil production for July averaged 8.6 million b/d, down almost 200,000 b/d from June, said a Short-Term Energy Outlook released Aug. 9.

Although the agency's oil production forecasts for 2016-17 still calls for a decline, EIA revised its forecasts upward slightly in the August STEO from its previous forecasts.

As of Aug. 9, EIA forecast US production will average 8.7 million b/d in 2016 and 8.3 million b/d in 2017. In both June and July, EIA forecast US oil production would average 8.6 million b/d in 2016 and 8.2 million b/d in 2017. Crude oil production averaged 9.4 million b/d in 2015.

"The forecast reflects declining Lower 48 onshore production that is partly offset by growing production in the federal Gulf of Mexico," EIA said.

EIA said production is expected to fall most rapidly during April through September this year, declining by an average of 150,000 b/d each month, EIA said.

"Production is then expected to be relatively flat from October 2016 through July 2017, averaging 8.4 million b/d," the STEO said.

NPD: Norway's July oil output highest in 5 years

The Norwegian Petroleum Directorate reported that Norway's oil production in July reached its highest level in 5 years because many fields were "producing above prognosis."

Oil output of 1.728 million b/d was 10% above July 2015 and about 18% above this past June, which had 1.449 million b/d.

The July liquids total averaged 2.136 million b/d after combining the oil number with 375,000 b/d of natural gas liquids and 33,000 b/d of condensate.

Total gas sales in July were 9.1 billion cu m, up from 8.2 billion cu m in June.

Statoil to drill Barents Sea injection well

Statoil ASA has started drilling a carbon dioxide injection well in Snohvit field in the Barents Sea, and will follow with a natural gas production well.

Drilling is taking place 143 km offshore Hammerfest with Songa Rig AS's Cat D Songa Enabler semisubmersible drilling rig. The rig came from South Korea and is on its first assignment on the Norwegian Continental Shelf.

The CO_2 is separated from the well stream and stored in a dedicated seabed formation. Statoil said it captures 650,000 tonnes/year of CO_2 from the feed gas. The stored CO_2 is monitored to ensure that it does not mix with the main producing reservoir.

The production well will be for replenishment of gas for the onshore Hammerfest LNG plant, which has been online since 2007. Statoil said it will be the first new production well at Snohvit since the field came on stream in 2007.

The next major step for Hammerfest LNG will be development of Askeladd field, which is part of the plan for development and operation of the Snohvit license. It is expected to come on stream in 2020-21.

Gazprom Neft adds more wells at Prirazlomnoye field

PJSC Gazprom Neft brought on production two more wells in Prirazlomnoye field in the Pechora Sea, bringing crude oil output to more than 6,000 tonnes/day (OGJ Online, Mar. 17, 2016).

The company now has four production wells at its ice-resistant rig, located 60 km offshore, and envisions the commissioning of 32 wells. The first well was commissioned in December 2013. All wellheads are within the platform.

Gazprom Neft also added a second and a third injection well. Waste is either reinjected or transported onshore for further recycling.

Eni restarts Val d'Agri oil output in southern Italy

Eni SPA is gradually restarting oil production connected with the Val d'Agri Oil Centre in Viggiano, Italy, which is the subject of a continuing investigation, the company said.

The resumption of production follows notification from a judge that the court lifted a seizure order on the plant in the southern part of the country. The National Mining Office for Hydrocarbons and Earth Resources of the Ministry of Economic Development also authorized the plant's operation (OGJ Online, Aug. 1, 2016).

The field was closed in late March following the arrest of some Eni employees. The probe continues, but Eni said Aug. 12 it was "confident that it will be able to confirm the correctness of its actions."

Eni reiterated that it will cooperate fully with the Court of Review while waiting on the outcome.

Executives said Eni used the downtime to carry out maintenance work at the oil field. Before the shutdown, the site produced 75,000 b/d, with most of that going to Eni. Royal Dutch Shell PLC also owns a stake in the field. OGJ

Gunvor plans upgrades for Rotterdam refinery

Gunvor Petroleum Rotterdam BV (GPR), a subsidiary of Gunvor Group Ltd., Geneva, has secured project financing for a series of planned development and system upgrades at its 88,000-b/d refinery and supporting product distribution network in Rotterdam, the Netherlands.

The facility launched at $200 million, and as a result of strong support, was oversubscribed by nearly 40%, Gunvor said.

The financing will enable execution of improvement plans developed for the Rotterdam operations over the coming years as part of a program to further increase its value within the Gunvor portfolio, said Erwin Goosen, GPR's refinery manager.

Without disclosing specific details regarding the nature or scope of upgrades to be supported by the financing, the company said Rotterdam's upgrading program would integrate the refinery with Gunvor's existing European refinery network, which includes the 110,000-b/d refinery in Antwerp, Belgium, and the 107,500-b/d refinery in Ingolstadt, Germany.

The company did not reveal a timeline for when it would complete the upgrades at Rotterdam.

Gunvor completed its purchase of the Rotterdam refinery and distribution network from Kuwait Petroleum International Ltd. earlier this year as part of an ongoing strategy to integrate and optimize its refining assets (OGJ Online, Feb. 2, 2016).

Located at the Port of Rotterdam, the GPR refinery includes several crude oil processing units, a gasoline production plant, a lube oil plant, and extensive distribution center and tank terminal, which provide direct access to international waterways for transport of finished and intermediate products to markets within and beyond Europe.

Fire shuts hydrocracker at Motiva's Convent refinery

Houston-based Motiva Enterprises LLC is investigating a fire that broke out in a processing unit at its 227,000-b/cd Convent refinery in St. James Parish, La.

The fire, which occurred at about 10:50 a.m. on Aug. 11 in the refinery's resid hydrocracker, or H-Oil unit, was contained and extinguished by emergency response teams, with no injuries or off-site impacts occurring as a result of the incident, Motiva said.

No other units at the refinery were impacted by the fire, and save for the H-Oil unit, all units continue to operate.

A cause of the fire remains under investigation, the company said.

Motiva, the soon-to-be-dissolved refining and marketing joint venture of Saudi Aramco and Royal Dutch Shell PLC, did not disclose details regarding the extent of damage to the H-Oil unit, or a possible timeframe for its repair (OGJ Online, Mar. 16, 2016).

Installed to enable the 227,000-b/cd refinery to process increased volumes of vacuum residuum available in its feedstock of Arab crudes, Convent's H-Oil unit has a processing capacity of 45,000 b/cd, according to Shell's latest investor's handbook, which reports operating data as of Mar. 31.

Released in June, the US Energy Information Administration's annual Refinery Capacity Report, however, shows the Convent refinery operating as of Jan. 1 with an overall crude processing capacity of 235,000 b/cd and a residual hydrocracking capacity of 52,000 b/sd (about 46,800 b/cd).

Shell, which will own and operate Motiva's Convent refinery as well as the 229,000-b/cd Norco refinery in St. Charles Parish, La., following the split with Aramco, has yet to confirm an official timeline for the partners' previously announced plan to integrate the two manufacturing sites into a single refining system (OGJ Online, Mar. 26, 2015).

Alberta regulator approves plan for sour gas plant

The Alberta Energy Regulator (AER) has approved Calgary-based SemCAMS ULC, a subsidiary of SemGroup Corp., Tulsa, to build its proposed Wapiti sour gas processing plant, which would serve Montney producers in the Wapiti region of the Western Canadian Sedimentary Basin.

SemCAMS received AER's engineering and license approval for the project on Aug. 17, SemGroup said.

Designed to process as much as 200 MMcfd of raw sour gas and 20,000 b/d condensate, the Wapiti plant would be able to process acid gas via both acid-gas injection and by transport via SemCAMS's existing pipeline systems to its Kaybob South No. 3 (K3) and Kaybob Amalgamated (KA) sour gas plants, which have a combined processing capacity of 1.5 bcfd.

Currently in negotiations with multiple producers in the region to secure long-term processing commitments, SemCAMS plans to take final investment decision on the proposed plant upon executing one or more of those agreements, SemGroup said.

While a firm timeline for the project has yet to be confirmed, SemGroup told investors in an Oct. 6, 2014, release that it expected to commission the Wapiti plant in fourth-quarter 2017.

Keyera doubles ownership stake in Alberta gas plant

Keyera Corp., Calgary, has closed on its previously announced deal to acquire additional ownership interest from partner Bellatrix Exploration Ltd., also of Calgary, in the O'Chiese Nees-Ohpawganu'ck (Alder Flats) deep-cut natural gas processing plant and related pipelines in west-central Alberta (OGJ Online, July 8, 2016).

Finalized on Aug. 9, the transaction includes Keyera's acquisition of an additional 35% interest in the gas plant and associated pipelines from Bellatrix for a total cash payment of $112.5 million, as well as prepayment of 35% of future construction costs for a second phase of the plant Bellatrix currently is building, said Keyera.

As part of deal, the companies also have entered a midstream services and governance agreement under which Bellatrix will have exclusive access to the purchased capacity—about 80.5 MMcfd post-commissioning of Phase 2—for a term of 10 years.

With its purchase completed, Keyera now holds 70% ownership interest in the Alder Flats project.

Alongside retaining a 25% ownership interest and continuing on as acting operator, Bellatrix also maintains an option to reacquire 5% interest in the gas plant at a cost of $8 million near expiry of the Alder Flats construction, ownership, and operating agreement.

Due to be on stream during first-half 2018, Phase 2 will add a design inlet capacity of 120 MMcfd to the project's Phase-1 capacity of 110 MMcfd, which came on stream in mid-2015. OGJ

TRANSPORTATION QUICK TAKES

Court backs Iran vs. Israel in pipeline case

The Swiss Federal Tribunal has rejected an arbitration appeal and left intact an order that Israel pay Iran about $1.1 billion plus interest in a longstanding dispute over a crude-oil pipeline the countries built cooperatively before the Islamic Revolution of 1979.

The 158-mile, 42-in. pipeline connects the Israeli ports of Eilat on the Gulf of Aqaba with Ashkelon on the Mediterranean. An Israeli-Iranian joint venture built it to bypass the Suez Canal, which was blockaded during the 1967 Middle East War (OGJ Online, Nov. 6, 2003). Iran's revolution ended relations with Israel.

Eliat-Ashkelon Pipeline Co. operates the now-bidirectional pipeline, as well as a 16-in. products pipeline between Eliat and Ashkelon and crude lines between Ashkelon and refineries at Haifa and Ashdod.

The Swiss order covers Iranian claims to its share of revenue from pipeline operations during the decade before the revolution. It also awarded Iran $461,000 in court costs and lawyer fees.

Shell Australia lets contract for Prelude FLNG facility

Shell Australia Pty. Ltd. has let a contract to Norwegian firm DOF Subsea for underwater services and supply of a multipurpose supply vessel to the Prelude floating LNG facility soon to be stationed in the Browse basin 475 km offshore northwestern Western Australia.

The 5-year contract entails inspection, maintenance, and repair (IMR) work for the vessel and contains two 2-year extension options.

DOF will provide project management, engineering, and integrated services for IMR programs as well as the Prelude facility and options for other vessels.

The 488 m by 74 m Prelude vessel is currently under construction at Samsung Heavy Industries' shipyard in South Korea.

The FLNG facility is scheduled to remain on station at the Prelude gas field for 25 years. It will produce 3.6 million tonnes/year of LNG along with 1.3 million tpy of condensate and 400,000 tpy of LPG. OGJ

■ *Denotes new listing or a change in previously published information.*

AUGUST 2016

SPE/AAPG/SEG Unconventional Resources Technology Conference (URTeC), San Antonio, web site: www.urtec.org/ **1-3.**

Society of Petroleum Engineers (SPE) Nigeria Annual International Conference & Exhibition, Lagos, web site: connect.spe.org/spenc/naice/naice2016/ **2-4.**

International Conference on Oil Reserves & Estimation Techniques, Seattle, web site: waset.org/conference/2016/08/seattle/ICORET **8-9.**

NAPE Expo, Houston, web site: napeexpo.com/shows/about-the-show/houston/ **10-11.**

EnerCom's The Oil & Gas Conference-2016, Denver, web site: www.theoilandgasconference.com/ **14-18.**

4th International Conference on Petroleum Engineering, London, web site: www.petroleumengineering.conferenceseries.com/ **15-17.**

IADC/SPE Asia Pacific Drilling Technology Conference & Exhibition, Singapore, web site: www.spe.org/events/apdt/2016/ **22-24.**

Rocky Mountain Energy Summit, Denver, web site: rmesummit.org/con/ **22-25.**

GeoBaikal 2016: Expand Horizons, Irkutsk, Russia, web site: www.eage.org/event/index.php?eventid=1433&Opendivs=s3 **22-26.**

SPE Asia Pacific Hydraulic Fracturing Conference, Beijing, web site: www.spe.org/events/aphf/2016/pages/general/call_for_papers.php **24-26.**

■ International Conference on Energy & Environment, London, web site: www.waset.org/conference/2016/08/london/ICEE **25-26.**

■ International Conference on Energy Systems Engineering & Technology, London, web site: www.waset.org/conference/2016/08/london/ICESET **25-26.**

2nd International Congress & Expo on Biofuels & Bioenergy, Sao Paulo, web site: biofuels-bioenergy.conferenceseries.com/ **29-31.**

15th European Conference on the Mathematics of Oil Recovery (ECMOR XV), Amsterdam, web site: www.eage.org/event/index.php?eventid=1416&Opendivs=s3 **Aug. 29-Sept. 1.**

Offshore Northern Seas, Stavanger, web site: www.tofairs.com/expo.php?fair=103366 **Aug. 29-Sept. 1.**

2nd International Congress & Expo on Biofuels & Bioenergy, Sao Paulo, web site: biofuels-bioenergy.conferenceseries.com/ **29-31.**

IADC Asset Integrity & Reliability Conference & Exhibition, Houston, web site: www.iadc.org/event/2016-iadc-asset-integrity-reliability-conference-exhibition/ **30-31.**

Ultradeepwater & Onshore Technology Conference, Galveston, Tex., web site: www.rpsea.org/events/503 **30-31.**

SEPTEMBER 2016

Second Applied Shallow Marine Geophysics Conference, Barcelona, web site: www.Eage.org/event/index.php?eventid=1421&Opendivs=s3 **4-8.**

EAGE First Conference on Geophysics for Mineral Exploration and Mining, Barcelona, web site: www.eage.org/event/?eventid=1420 **4-8.**

European Association of Geoscientists & Engineers (EAGE) First Conference on Geophysics for Mineral Exploration & Mining, Barcelona, web site: www.eage.org/event/index.php?eventid=1420&Opendivs=s3 **4-8.**

22nd European Meeting of Environmental and Engineering Geophysics, Barcelona, web site: www.eage.org/event/index.php?eventid=1419&Opendivs=s3 **4-8.**

SPE Offshore Europe, Aberdeen, web site: www.offshore-europe.co.uk/ **5-8.**

SPE Intelligent Energy Conference, Aberdeen, web site: www.intelligentenergyevent.com/ **6-8.**

NACE Egypt Corrosion Conference, Cairo, web site: egyptcorrosion.nace.org/ **6-8.**

AAPG SEG International Conference & Exhibition 2016, Cancun, web site: www.aapg.org/publications/blogs/events/article/articleid/23667/increase-your-exposure-exhibition-and-sponsorship-opportunities-available/ **6-9.**

AAPG SEG 2016 International Conference & Exhibition, Cancun, web site: www.aapg.org/events/conferences/ice/announcement/articleid/20311/aapg-seg-2016-international-conference-exhibition-cancun **6-9.**

23rd Annual India Oil & Gas Review Summit & International Exhibition, Mumbai, web site: www.oilgas-events.com/india-oil-gas **9-10.**

International Conference on Chemical Engineering, Phoenix, web site: chemicalengineering.conferenceseries.com/ **12-14**.

Geomodel 2016, Gelendzhik, Russia, web site: www.eage.org/event/index.php?eventid=1448&Opendivs=s3 **12-15.**

IADC Advanced Rig Technology Conference & Exhibition, Galveston, Tex., web site: www.iadc.org/event/2016-iadc-advanced-rig-technology-conference-exhibition/ **13-14.**

ESOPE International Exhibition & Symposium for the Pressure Equipment Industry, Paris, web site: www.esope-paris.com/ **13-15.**

SPE Deepwater Drilling & Completions Conference, Galveston, Tex., web site: www.spe.org/events/ddc/2016/ **14-15.**

2nd Annual IoT in Oil & Gas, Houston, web site: energyconferencenetwork.com/iot-in-oil-and-gas-2016/**14-15.**

Rio Oil & Gas Expo & Conference, Rio de Janeiro, web site: www.whereinfair.com/rio-oil-gas-expo/rio-de-janeiro/2016-Sep/ **14-16.**

Society of Petroleum Resources Economists Meeting, Houston, web site: www.spreconomists.org/events.htm **15.**

International Conference on Oil & Gas Transportation, Zurich, web site: waset.org/conference/2016/09/zurich/ICOGT **15-16.**

Turbomachinery & Pump Users Symposium, Houston, web site: tps.tamu.edu/event-info **15-17.**

Iran International Petroleum Congress (IIPC), Tehran, web site: www.iranpetroleumcongress.com/ **19-21.**

Center for Offshore Safety Forum, Houston, web site: www.centerforoffshoresafety.org/Events/2016%20COS%20Forum **20-21.**

The CWC World LNG & Gas Series: Asia Pacific Summit, Singapore, web site: asiapacific.cwclng.com/ **20-23**.

2016 Deloitte Oil & Gas Conference, Houston, web site: www2.deloitte.com/us/en/pages/energy-and-resources/events/oil-and-gas-conference.html **21**.

IADC Drilling HSE&T Europe Conference & Exhibition, Amsterdam, web site: www.iadc.org/event/euro-hset-2016/ **21-22.**

SPE Liquids-Rich Basins Conference—North America, Midland, Tex., web site: www.spe.org/events/lrbc/2016/ **21-22.**

International Conference on Petroleum Industry & Energy, Los Angeles, web site: www.waset.org/conference/2016/09/los-angeles/ICPIE **22-23**.

Eastern Section, American Association of Petroleum Geologists 2016 Annual Meeting, Lexington, Ky., web site: www.esaapgmtg.org/ **25-27.**

Corrosion Technology Week 2016, Houston, web site: ctw.nace.org/ **25-29**.

Operational Excellence in Refining & Petrochemicals, Houston, web site: www.opexin-refiningandpetrochem.com **26-28.**

SPE Annual Technical Conference & Exhibition (ATCE), Dubai, web site: www.spe.org/atce/2016/ **26-28.**

SPE Annual Technical Conference & Exhibition, Dubai, web site: www.spe.org/events/calendar/ **26-28.**

US-China Oil & Gas Industry Forum (OGIF), Tysons Corner, Va., web site: www.cvent.com/d/hfqw6c **27-29.**

Flexible & Cost Effective Well Site Facilities Onshore 2016, Houston, web site: www.facilities-design-onshore.com **28-29.**

3rd Annual Unconventional Production & Well Site Facilities Design, Onshore 2016, Houston, web site: www.facilities-design-onshore.com/program/ **28-29.**

Global Oil & Gas South East Europe & Mediterranean Conference, Athens, web site: www.oilgas-events.com/Global-Oil-Gas-Black-Sea-Mediterranean-Conference/ **28-29.**

International Conference on Petroleum & Petrochemical Engineering, London, web site: www.waset.org/conference/2016/09/london/ICPPE **29-30.**

International Conference on Geophysics, Vancouver, web site: geophysics.conferenceseries.com/ **29-30.**

OCTOBER 2016

ICOGPE 2016: 18th International Conference on Oil, Gas & Petrochemical Engineering, Barcelona, web site: www.waset.org/conference/2016/10/barcelona/ICOGPE **3-4.**

SPE African Health, Safety, Security, Environment & Social Responsibility Conference & Exhibition, Accra, Ghana, web site: www.spe.org/events/en/2016/conference/16hsea/homepage.html **4-6.**

Kazakhstan International Oil & Gas Conference (KIOGE) 2016, Almaty, Kazakhstan, web site: kioge.kz/en/conference/about-conference **5-6.**

USEA 9th Annual Energy Supply Forum, Washington, DC, web site: https://www.usea.org/event/usea-9th-annual-energy-supply-forum **6.**

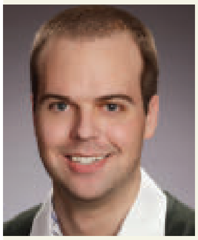
International Conference on Geosciences, Orlando, web site: geosciences.conferenceseries.com/ **6-7.**

Cyber Security for Critical Assets LATAM, Rio de Janeiro, web site: www.criticalcybersecurity.com/latam/ **6-7.**

23rd World Energy Conference, Istanbul, web site: www.wec2016istanbul.org.tr/ **9-13.**

International Conference on Oil Reserves & Energy Management, New York, web Site: www.waset.org/conference/2016/10/new-york/ICOREM **10-11.**

Stable instability



MATT ZBOROWSKI
Staff Writer

Largely undercutting a true lower-for-longer oil-price scenario, wherein the sub-$30/bbl touched in February becomes the norm as it was pre-2003, has been persistent oil production outages in nations that double as the world's biggest producers and biggest hotbeds of political instability.

In the wake of last year's FIFA scandal, UK-based risk consultancy Verisk Maplecroft updated its ranking of countries it believed at the time posed an "extreme risk" to businesses due to corruption. High on the list were energy powerhouses Venezuela, Mexico, Russia, Nigeria, Iran, and Iraq.

More recently, the firm updated a similar list called the Civil Unrest Index, which covers 198 countries and "measures triggers for unrest, the frequency and severity of mass demonstrations and protests, the effects on business, and the mechanisms in place to avert disruption."

Missing MENA output

Current and former major oil-producing nations abound the top of that list as well, with, of course, Syria ranking first amid its half-decade-long civil war that erupted from antigovernment demonstrations. Hundreds of thousands of Syrians are estimated to have lost their lives since it all began, with millions more attempting to flee the country in search of a safer existence.

Once the eastern Mediterranean's leading oil and gas producer, Syria's average oil production plunged from a stable 400,000 b/d during 2008-10 to a mere 25,000 b/d by 2014, according to estimates from the US Energy Information Administration. Islamic State has targeted oil installations in an effort to fund its military operations, and in turn those installations have become targets of opposition airstrikes.

It's a similar story in No. 3 Libya, where oil output plunged from 1.6 million b/d before Muammar Gaddafi was killed in 2011 to just more than 300,000 b/d last month, data from the Organization of Petroleum Exporting Countries indicate. Much of the recent declines are attributed to blockades and installations damaged by ISIS. However, positive strides for its oil sector were made this month as three oil terminals reopened under a deal between the presidency council brokered by the United Nations and Ibrahim Jidran, branch leader of the Petroleum Facilities Guard (PFG).

Nigerian, Brazilian accountability

Also appearing in the top 10 are India at No. 4, Mexico at No. 7, and Nigeria at No. 10. While both India and Mexico have recently taken measures to encourage foreign investment and involvement in their oil and gas sectors, Nigeria remains a dicey proposition for operators such as Royal Dutch Shell PLC and Eni SPA. OPEC estimates production from its most populous country fell from nearly 2 million b/d in 2014 to 1.5 million b/d last month.

A large part of that drop is attributed to militants, namely the Niger Delta Avengers, sabotaging critical oil systems. Incidentally, the disruptions have shifted part of the nation's military focus away from Islamist group Boko Haram. The government several years ago essentially paid off militants in the Delta, and has recently offered to negotiate. But, with oil prices low, the government now lacks cash to dole out.

Charlotte Ingham, Verisk Maplecroft principal political risk analyst, noted "poor economic performance is also a critical bellwether for the likelihood of civil unrest," citing Nigeria as an example. "In addition, widespread political and ethnic discrimination or corruption can inflame popular discontent and trigger significant events," she said.

Placing 15th is Brazil, where former board member of state-owned Petroleo Brasileiro SA and currently suspended President Dilma Rousseff awaits her impeachment trial just as South America's first Olympic Games draw to a close. "In 2016, corruption has been the catalyst for the biggest protests seen so far," the consultancy said. "Brazil's Lava Jato bribery probe brought the public out into the streets in their millions, causing major disruption to business in the country's commercial centers." Petrobras has lost billions of dollars amid the two-fold blow of the scandal and low oil prices.

When the cycle of corruption and civil unrest is inflamed by the presence of oil, the resulting chaos is often reflected in the oil market. Recent events in major producing nations such as Syria, Libya, Nigeria, and Brazil, along with the hundreds of thousands of jobs lost globally amid the downturn of the last 2 years, leave one to wonder: What is the price of stability? OGJ

Too much science

While science has a rightful place in policy-making, too much science can do more harm than good.

A scientific panel of the US Environmental Protection Agency wants the agency to revisit a preliminary finding of June 2015 that hydraulic fracturing doesn't systemically threaten drinking-water supplies. On Aug. 11, the 30-member Hydraulic Fracturing Research Panel of EPA's Science Advisory Board (SAB) issued a report expressing "particular concern" about an assessment welcomed by the oil and gas industry and disparaged by environmental interest groups. The new report will strengthen attacks against well-completion technology responsible for extending the horizons of oil and gas supply.

Delay or reversal

If nothing else, the report will delay EPA's final determination on hydraulic fracturing's effect on drinking water. It fills 180 pages with suggestions for rewriting, further analysis, and more gathering of data. The agency will need time if it follows the advice. Meanwhile, fracing opponents will tout the SAB report, which addresses procedure more than science, as a rejection of EPA's initial determination. For them, the only better outcome would be outright reversal of the preliminary finding.

With the salient point of its report, the SAB betrays a disposition toward the more conclusive of those alternatives. It challenges this statement from EPA's preliminary finding: "We did not find evidence that these mechanisms have led to widespread, systemic impacts on drinking water resources in the United States." The problem? "The SAB finds that the EPA did not support quantitatively its conclusion about lack of evidence for widespread, systemic impacts of hydraulic fracturing on drinking water resources and did not clearly describe the system(s) of interest (e.g., groundwater, surface water), the scale of impacts (i.e., local or regional), nor the definitions of 'systemic' and 'widespread.'"

So EPA didn't measure what it couldn't find. The rest is the nitpicking of a group straining to find points for objection. Who needs definitions for "systemic" and "widespread?" In the rarefied world of postgraduate science, experts argue over such things. In politics, subtleties don't matter. The SAB shows it's concerned with politics as much as science when it writes, "The SAB observes that the statement has been interpreted by readers and members of the public in many different ways." Translation: Environmentalists don't like the preliminary finding.

To make things right, all EPA must do is the impossible. "The SAB concludes that if the EPA retains this conclusion, the EPA should provide quantitative analysis that supports its conclusion that hydraulic fracturing has not led to widespread, systemic impacts on drinking water resources." This amounts to proving a negative. It can't be done.

Four members of the advisory panel dissented. In an appendix to the SAB report they argue that the EPA's original finding "is accurate, clear, concise, unambiguous, and supportable with the facts EPA has reviewed." They're right. EPA should stand by the conclusion it clearly expressed last year.

Extremists want to stop hydraulic fracturing. They know the operation expands supplies of hydrocarbon energy and undermines economics of the renewable energy they promote. So they invented the systemic threat to drinking water.

Does frac fluid sometimes spill? Of course. Do spills occur more frequently than before? Probably. Operators frac wells more frequently and massively than they did before the method joined horizontal drilling to allow development of tight reservoirs. In any mechanical process, accidents, unfortunately, happen.

But if a systemic threat loomed, water resources would have succumbed widely to the hydraulic fracturing that has occurred for decades. That they have not done so is experience not requiring validation from experts wondering what "systemic" means.

No threat

It was the Obama administration's EPA that found no systemic threat to drinking water. The agency is closer to environmental groups and more eager to regulate fossil energy than ever. If it says it didn't find a threat from hydraulic fracturing, it didn't find a threat.

Sometimes, indeed, science obscures more than enlightens. When that happens, the important question is why. OGJ

EPA Science Advisory Board raises fresh questions about fracing study

Nick Snow
Washington Editor

The US Environmental Protection Agency's Science Advisory Board (SAB) raised fresh questions on Aug. 11 as it completed its peer review of the agency's June 2015 draft of the its study on potential impacts from hydraulic fracturing for oil and gas on drinking water supplies.

It generally found that the agency's approach of focusing on individual stages of hydraulic fracturing water cycle (HFWC) processes for oil and gas's potential impacts on drinking water sources "to be comprehensive but lacking in several critical areas," the board said in its 180-page report to EPA Administrator Gina McCarthy.

It also found that EPA "provided a generally comprehensive overview of the available literature that describes the factors affecting the relationship of hydraulic fracturing and drinking water, and adequately described the findings of such published data in the June 2015 draft assessment report."

The board expressed concerns, however, about various aspects of the draft, including one about several major findings that sought to draw national-level conclusions regarding fracing impacts on drinking water sources.

It found that EPA did not quantitatively support its conclusion about lack of evidence for widespread, systemic impacts of fracing on drinking water resources, and did not clearly describe the system(s) of interest (e.g., groundwater, surface water), the scale of impacts (i.e., local or regional), nor the definitions of "systemic" and "widespread."

It said, "The SAB observes that the statement has been interpreted by readers and members of the public in many different ways. The SAB concludes that if EPA retains this conclusion, [it] should provide quantitative analysis that supports its conclusion that [fracing] has not led to widespread, systemic impacts on drinking water resources."

It recommended that EPA revise major statements of findings in the final report's executive summary and elsewhere in the report to clearly link these statements to evidence provided in the final report's body. It also said EPA should consider prioritizing major findings in Chapters 4-9 according to expectations regarding the magnitude of the potential impacts of fracing-related activities on drinking water resources.

Discuss data limitations

The board also recommended that EPA discuss significant data limitations, as documented in the draft report's body, when presenting the major findings.

"Regarding findings of gaps and uncertainties in publicly available data that the agency relied upon to develop conclusions within the draft assessment report, EPA should clarify and describe the different databases that contain such data and challenges of accessing them, and make recommendations on how these databases could be improved to facilitate more efficient investigation of the data they contain," it said.

"The final assessment report should make clear that while the [fracing] industry is rapidly evolving, with changes in the processes being employed, the assessment necessarily was developed with the data available at a point in time," the board said in its letter.

It also raised questions about recognition of local impacts, prospective case studies, probability and risk of failure scenarios, chemical toxicity and hazards, fracing fluid characteristics, baseline water quality data, water quality and quantity impact assessment approaches, the definition of proximity, fracing wastewater treatment, and best management practices and the applied regulatory framework.

SAB Chairman Peter S. Thorne and SAB Hydraulic Fracturing Research Panel Chairman David A. Dzombak signed the report. Four panel members—Stephen Almond, Shari Dunn-Norman, John Fontana, and Walt Hufford—wrote a dissenting opinion.

Industry groups respond

The American Petroleum Institute and the Petroleum Equipment & Services Association separately responded to SAB's report on Aug. 12.

"The science is clear and the studies are completed," API Upstream and Industry Operations Director Erik Milito said. "Study after study shows that hydraulic fracturing is safe." Its benefits have made the US the world's top oil and gas producer, "and largely due to affordable and abundant supplies of natural gas, we are also leading the world in reducing carbon and other emissions," he said.

EPA's draft assessment report affirms scientific data—including more than 950 sources of information, published papers, numerous technical reports, information from stakeholders, and peer-reviewed EPA scientific reports—showing no widespread, systemic impact from fracing on drinking water quality, Milito said.

He said, "Instead of denying the scientific evidence proving the environmental benefits of [fracing], the US should be celebrating the overwhelming data demonstrating that hydraulic fracturing is helping reduce GHG emissions and other emissions, and has helped lower energy costs for consumers."

PESA Pres. Leslie Beyer, meanwhile, said, "The safe use of [fracing], backed by sound science and bolstered by continuous technology improvements, has provided our nation with significant reductions in [greenhouse gas] emissions and lower energy costs."

EPA's extensive research on tens of thousands of wells across the country concluded that there is no evidence that the process has led to widespread, systemic impacts on US drinking water resources, Beyer said, adding, "Focus on actual science and proven research must drive conclusions."

PESA member companies led the process's development 2 decades ago, and the process has been used on more than 2 million oil and gas wells nationwide, Beyer noted. "The oil field service, supply, and manufacturing sector sees [fracing] as an environmental, economic, and energy security success story that should be embraced as a win for our nation," Beyer said. OGJ

API, other groups ask PHMSA to clarify rail tank car safety roles

Nick Snow
Washington Editor

The American Petroleum Institute and nine other oil and gas industry and other business trade associations asked the US Pipeline & Hazardous Material Safety Administration to clarify its role as a rail tank car safety regulator and the industry's role in recommending and developing new standards.

The groups want to establish unequivocally that the US Department of Transportation, and not the American Association of Railroads (AAR), has exclusive authority to determine which tank car standards are in the public interest, and that AAR has no power to require compliance with different standards, they said in their Aug. 12 petition for a PHMSA rulemaking.

"The proposed rules are desirable to remove any doubt that PHMSA has fully exercised its statutory authority to determine what tank car standards are in the public interest to the exclusion of [AAR], which has in the past and may in the future attempt to impose standards that may deviate from PHMSA's regulations," it said. AAR is continuing to review the groups' rulemaking petition, a spokesman told OGJ via e-mail.

The American Chemistry Council (ACC), American Fuel & Petrochemical Manufacturers, Chlorine Institute, Fertilizer Institute, National Association of Chemical Distributors, National Industrial Transportation League, Society of Chemical Manufacturers & Affiliates, Sulphur Institute, and US Clay Producers Traffic Association Inc. joined API in the petition.

"PHMSA's role as the regulator for tank car safety ensures tank car safety designs are in the public interest. Attempts by third-party groups to deviate from PHMSA's tank car requirements could compromise safety and jeopardize the strides industry has made to ensure the safe transport of products by rail," API Midstream and Industry Operations Director Robin Rorick said.

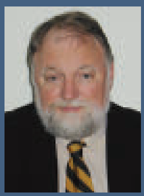
"While industry voices from the railroads, shippers, and builders are critical to advancing safety by developing and recommending new and innovative safety measures, it needs to be clear that PHMSA is the sole authority for deciding what the tank car design requirements should be," Rorick said.

ACC said the 10 groups filed the petition because AAR, through its majority control of the Tank Car Committee (TCC), continues to try to impose tank car requirements that are at odds with federal regulations and, in some cases, have been specifically considered and rejected by DOT.

While TCC plays an important role in developing consensus recommendations for improving tank car safety, it is DOT's role to establish safety standards, ACC said. "If adopted, the petition would prevent the AAR or any party from imposing industry-wide requirements that are different from federal regulations, while allowing industry stakeholders to continue to work collaboratively on enhancing tank car safety through the TCC," it said.

DOT standards reflect the minimum level of safety required by law, the AAR spokesman noted. "Through the [TCC] with its shipper representatives, as well as input from tank car manufacturers and suppliers, in addition to participation from the DOT, [National Transportation Safety Board], and other stakeholders, the entire focus is on identifying the safest way to transport goods, even if that goes beyond DOT regulations," he said.

The committee's overarching mission historically has been to make tank cars even safer by working with key stakeholders, he emphasized. "The fact is, through this shared responsibility, there have been dramatic improvements in rail safety in our country over the past several decades." OGJ



NICK
SNOW
Washington Editor | Blog at www.**ogj**.com

Icahn blasts EPA's RIN system

Never mind what the Republican presidential nominee said about November's election. It may matter more that investor Carl C. Icahn thinks the US Environmental Protect Agency's biofuel credits system under the Renewable Fuels Standard is what's rigged.

Markets have been rigged throughout history so certain speculators and companies can profit at others' expense, he said in an Aug. 9 letter to EPA Administrator Gina McCarthy and Acting Assistant Administrator Janet McCabe.

"Innocent people and companies are badly damaged and go bankrupt from 'rigged' markets. Most crashes and panics have been the result of these types of 'rigged' markets, such as the 1929 crash and the 2008 housing bubble," Icahn explained. EPA's Renewable Identification Number (RIN) system is a rigged market which, if not stopped immediately, might cause disastrous consequences, he warned.

It's a rigged market "where large gas station chains, big oil companies, and large speculators are assured to make windfall profits at the expense of small and midsized independent refineries which have been designated the 'obligated parties' to deliver RINs," Icahn asserted.

He said EPA has designated refiners as obligated parties to deliver a certain amount of RINs each year or be severely penalized. "But to make refineries obligated to prove their gasoline was blended is irrational. These refineries will almost certainly go bankrupt unless this obligation is changed almost immediately."

Since biofuels can't be blended at refineries and the fuel mixture shipped by pipeline, blending actually occurs farther downstream at the rack, Icahn said. This also is where excise taxes are collected, the American Fuel & Petrochemical Manufacturers said on Aug. 4 when it asked EPA to move the RIN point of obligation there.

"Independent merchant refiners, who provide almost half of our nation's transportation fuels, do not control the vast majority biofuels blending of their hydrocarbon product. They have to buy credits from blenders who are exempt from compliance," Icahn said.

'Wealth transfer program'

RIN prices have jumped more than 5,000% since the system's inception, and blenders are using the loophole "to siphon off billions of dollars in windfall profits selling blending credits to refiners," Icahn said, adding, "[The] RFS was intended to promote renewable fuels and provide energy security but under EPA's leadership it has turned into a wealth transfer program that works against renewables and hurts national security."

The Federal Trade Commission and EPA's Inspector General's office should investigate why EPA is letting a loophole distort the system, which isn't serving its purported regulatory purpose, he urged.

"Time is of the essence. I implore you to immediately change the 'obligated' party in the RINs program before it is too late," Icahn told McCarthy and McCabe. **OGJ**

Western governors reiterate concerns over EPA's lower ozone limits

Nick Snow
Washington Editor

The Western Governors Association reiterated concerns that the US Environmental Protection Agency's plan to reduce ground-level ozone limits under the National Ambient Air Quality Standard (NAAQS) will likely push parts of the West into nonattainment based on high levels of uncontrollable background ozone.

Oil and gas trade associations and other business organizations have raised concerns about background ozone problems under EPA's new ozone limits.

"Tightening ozone standards could increase costs to the American public, reduce America's ability to compete internationally, and threaten American jobs," according to American Petroleum Institute's web site. "The recent study by NERA Economic Consulting found that a stricter ozone regulation could reduce US [gross domestic product] by $270 billion/year and $3.4 trillion from 2017 to 2040 and result in 2.9 million fewer jobs or job equivalents/year on average through 2040."

In an Aug. 11 letter to EPA and White House officials, WGA's chairman, Gov. Steve Bullock (D-Mont.), and vice-chairman, Dennis Daugaard (R-SD), said, "We strongly urge EPA to adjust criteria to properly account for events that contribute to background ozone concentrations, which are impossible for states to control."

EPA's October 2015 plan to invoke the Exceptional Events Rule and reduce allowable ground level ozone limits from 75 ppb to 70 ppb is undergoing White House review. The US House approved a bill by 234 to 177 votes in early June, largely along party lines, which Republicans said would give the states more time to implement new federal limits, and Democrats said would gut the Clean Air Act (OGJ Online, June 9, 2016).

The CAA obligates all states to develop state implementation plans (SIP) to attain and maintain the NAAQS, the letter noted. SIPs are intended to reduce pollution from sources over which states can exert control, but not natural or international sources that can increase background ozone levels, it said.

"Such events and conditions include wildfire, lightning, biogenic emissions, stratospheric ozone intrusion, and transported ozone from international and interstate sources," the letter said. "These events may be discrete (such as a wildfire or stratospheric intrusion) or may present as a periodic or ongoing condition (such as transported ozone). All result in emissions over which states have no control."

The letter said that Western governors believe the states—and, in turn, EPA—would benefit from a more holistic approach under which states could aggregate multiple ozone-contributing factors to prove a single exceptional event exceedance demonstration.

"Under such an approach, there would be no onerous requirement to differentiate and quantify contributions of various background sources or to utilize multiple CAA provisions to account for various background ozone contributors," the letter said. "The focus would be on showing that these sources, rather than controllable manmade emissions, are the principal contributing factor in a monitored NAAQS exceedance." OGJ

WEA sues BLM for not holding quarterly oil, gas lease sales

Nick Snow
Washington Editor

The Western Energy Alliance has sued the US Bureau of Land Management for discontinuing quarterly onshore oil and gas lease sales. The Aug. 11 action in US District Court for New Mexico asks that the US Department of the Interior agency be directed to abandon its current leasing schedule immediately, rescind guidance documents and instruction documents that implement it, and promptly adopt one that complies with the 1920 Mineral Leasing Act's terms.

"Through protests and petitions, the Keep-It-in-the-Ground movement is trying to coerce BLM into violating the law by stopping all leasing on federal lands," said Kathleen Sgamma, vice-president, government and public affairs, at the Denver-based regional association of independent producers. "Yet without doing anything, activists could achieve the same goal just by leaving BLM to its own devices. [WEA] is simply asking the courts to compel BLM to follow decades-old law and hold quarterly lease sales in every oil and gas state.

"For example, today's lease sale in Colorado was cancelled because BLM can't get through the bureaucratic process in time," Sgamma said. "Likewise, in New Mexico, only two lease sales were held in 2015 and one planned in 2016, despite the requirement to hold four every year. Who needs loud protests when bureaucrats are doing the same thing by simply not doing their job?"

Environment organizations and other leasing opponents began to protest outside BLM's lease sales in 2015 in efforts to stop them. The agency's Utah office abruptly postponed one in November the day before it was to have been held "to allow the time needed to better accommodate the high level of public interest in attending the sale," it said (OGJ Online, Nov. 17, 2015).

BLM's Eastern States office postponed one it was scheduled to hold in Washington, DC, the following month with 3 days' notice, and said the nine parcels that would have been offered would be included in the next scheduled sale on Mar. 17 (OGJ Online, Dec. 7, 2015). The office announced on July 17 that it would inaugurate an internet-based auction system on Sept. 20 with an online-only lease sale.

WEA said Mark S. Barron and Alexander K. Obrecht of Baker & Hostetler LLP in Denver—who delivered a victory for the oil and gas industry when a federal judge in Wyoming set BLM's final hydraulic fracturing rule aside—are representing the organization in the latest action (OGJ Online, June 22, 2016). OGJ

CEA launches Pipelines for America public education campaign

Nick Snow
Washington Editor

The Consumer Energy Alliance launched a multistate public education campaign emphasizing the importance of new pipelines and other energy systems in keeping future retail prices low and protecting the environment. Pipelines for America reflects the more than 400,000-member group's concern that despite its abundant natural resources, the nation lacks the pipelines and transmission lines required to transport energy safely to where it's needed, CEA said.

"Given the nation's critical energy infrastructure needs, CEA is increasingly concerned about the small-but-vocal minority which backs the 'Keep It in The Ground' movement," CEA Pres. David Holt said as the organization began the campaign on Aug. 11. "This notion is unrealistic and threatens to harm American consumers, jobs, and families, as well as the economic progress made possible by America's energy revolution."

John Eichberger, National Association of Convenience Stores vice-president of government relations and a CEA board member, said, "We need to make sure that Americas abundant energy resources can be delivered to consumers safely and efficiently. As families across America look to us for their fill-ups for business and summer vacations, convenience fuel retailers understand the critical importance of affordable transportation fuel supplies. CEA's campaign will help ensure that American consumers directly benefit from the country's natural resources."

Jennifer Diggins, CEA's immediate past chairwoman and Nucor Corp's public affairs director, said, "Energy is a critical ingredient that powers every American industry—everything from agriculture and automotive to chemicals and steel. As the largest steel producer in the US, we're pleased that CEA is taking this important step to educate consumers on the important role energy plays in our everyday lives and the pillars that support lower energy costs and job and economic growth."

The campaign will try to engage consumers with advertising, events, and grassroots activities across several states, CEA said. Efforts will begin in the northeastern and southeastern US, along the Atlantic coast, and throughout the Mid-Continent and Midwest, it said. OGJ

Chesapeake leaves Barnett, transfers interest to First Reserve unit

Matt Zborowski
Staff Writer

Chesapeake Energy Corp., Oklahoma City, has agreed to pay its way out of the Barnett shale in an effort to eliminate future financial commitments in a region it deems uneconomic. The series of deals, expected to close in the third quarter, could ultimately save Chesapeake $1.9 billion.

Saddle Barnett Resources LLC, a Dallas-based firm backed by First Reserve Corp., has agreed to take Chesapeake's 215,000 net developed and undeveloped acres and 2,800 operated wells in the North Texas shale gas play. In return, Saddle Barnett Resources will help Chesapeake terminate midstream commitments to Williams Partners LP associated with the acreage.

Second-quarter production from the acreage averaged 65,000 boe/d, of which 96% was natural gas and 4% natural gas liquids. The expected net production impact to Chesapeake from the deal is 62,000 boe/d. Proved oil and natural gas reserves on the acreage as of Dec. 31 were 81 million boe/d, of which 96% was natural gas and 4% natural gas liquids.

Chesapeake expects to pay $334 million in cash to Williams relating to a current gathering agreement and associated fees, with Saddle Barnett Resources expected to pay an additional amount. Separately, Chesapeake has agreed to sell a long-term natural gas supply contract with a $4/MMbtu floor pricing mechanism to a third party for $146 million in cash.

In total, the Barnett agreements provide accelerated upfront cash payments to Williams of $754 million, as well as new terms and conditions under which Williams will provide gas gathering services to Saddle Barnett Resources through 2029.

Chesapeake and Williams also have agreed to a revised contract in the Midcontinent region, subject to payment of $66 million by Chesapeake. As a result, Chesapeake's Midcontinent gas gathering costs are expected to be reduced 36%, effective July 1. The additional sum increases overall upfront cash payments to Williams, relating both to the Barnett and Midcontinent, to $820 million.

For Chesapeake, the deals reduce its remaining 2016 gathering, processing, and transportation expenses by $250 million, and increase the firm's operating income by $200-300 million/year during 2016-19. The firm last week reported a second-quarter net loss of $1.79 billion, compared with a $4.15-billion net loss a year earlier.

"We believe that our…1.5 million net acreage position in the Midcontinent area represents a tremendous resource," said Doug Lawler, Chesapeake chief executive officer. "The new gas gathering agreement makes our operations more competitive and enhances the operating income from this asset."

The firm is currently operating 3 of its 10 active rigs companywide in the Midcontinent region (OGJ Online, Aug. 5, 2016). OGJ

Concho to expand Midland basin acreage in $1.6-billion deal

Concho Resources Inc. has agreed to acquire 40,000 net acres with an average 99% working interest in the core of the Midland basin of West Texas from Reliance Energy Inc. for $1.625 billion.

Expected to close in October, the deal between the Midland, Tex.-based firms encompasses production of 10,000 boe/d from 326 vertical wells and 44 horizontal wells, only one of which was completed in 2016. Estimated proved reserves on the acreage totals 43 million boe. Proved developed reserves represent 69% of the total proved reserves, based on Concho's internal estimates as of June 30.

The acquired acreage is in Andrews, Martin, and Ector counties with minimal leasehold obligations. The deal covers more than 530 long-lateral drilling locations. Due to the contiguous nature of the acquired assets, two thirds of the locations are 2-mile laterals, and the remaining locations are 1.5-mile laterals.

The engineered locations are based on eight locations per zone in the Middle Spraberry, Lower Spraberry, or Wolfcamp B, with two to three of the zones targeted per drilling spacing unit. Concho believes there is development upside from applying optimal drilling and completion methods, testing closer well spacing, and delineating other zones.

Concho sharpens Permian focus

The deal expands Concho's core Midland basin position to more than 150,000 net acres with production of 30,000 boe/d. Tim Leach, Concho chairman, chief executive officer, and president, noted the move "demonstrates Concho's commitment to the Midland basin as a core operating area and highlights our continued efforts to consolidate complementary leasehold."

Leach said, "In line with the objectives of our southern Delaware basin acquisition in the first quarter of 2016, these assets not only build scale, but more importantly high-grade our inventory with additional long-lateral locations that compete with the best projects in the Permian basin."

Concho in January made three separate deals—an agreed upon acquisition, a completed acreage exchange, and an agreed upon sale—in an effort to improve its position in the southern Delaware basin (OGJ Online, Jan. 19, 2016).

In its second-quarter earnings report published earlier this month, Concho said its active horizontal units in the Delaware have reached a tally of eight, split evenly between the northern and southern portions of the play (OGJ Online, Aug. 5, 2016). In the Midland, the firm has six horizontal rigs working.

The firm has updated its full-year 2016 production outlook to a range of 1-3% annual growth to reflect fourth-quarter production from the acquired Midland basin assets. The company maintains its capital expenditure guidance of $1.1 billion-1.3 billion, excluding acquisitions.

Based on the current commodity price outlook, Concho expects to implement a 2017 capital program within cash flow while recording 20% annual production growth, with oil volume growth of more than 20%. OGJ

Parsley Energy to buy Midland basin assets for $400 million

Parsley Energy Inc., Austin, has agreed to acquire undeveloped acreage and producing oil and gas properties in Glasscock County, Tex., along with associated mineral and overriding royalty interests, for $400 million in cash. Expected to close on or before Oct. 4, the deal will be financed through debt and equity issuances.

The assets cover 11,672 gross (9,140 net) acres near existing Parsley leasehold, with estimated current net production of 270 boe/d from 67 gross (60 net) vertical wells. Preexisting facilities and infrastructure on the acreage include five saltwater disposal wells.

The acreage features 240 gross (215 net) horizontal drilling locations in the Lower Spraberry, Wolfcamp A, and Wolfcamp B formations, based on 660-ft between-well spacing, with an estimated average lateral length of 7,500 ft. Parsley notes the presence of additional horizontal drilling locations on those formations. Average working interest from the identified drilling locations is 92%.

Separately, the firm says its first producing horizontal well on its Glasscock County acreage acquired in May has shown encouraging results. The Dwight Gooden 6-7-01AH well, 2.5 miles west of the acreage to be acquired, completed in the Wolfcamp A interval with a 5,890-ft stimulated lateral, registering a peak 30-day initial production rate of 1,161 boe/d, or 197 boe/d/1,000 stimulated ft.

Normalized to 7,000 lateral ft, the well is outperforming the firm's 1 million boe EUR type curve for Midland basin Wolfcamp A/B wells by 10% after almost 90 days of production, generating 82% oil during that timeframe.

"Offset well performance and initial results on our first horizontal well in the area suggest that the properties to be acquired may compete with the best of our existing horizontal drilling inventory, and the acquisition of associated royalty interests boosts the return profile of these properties," commented Bryan Sheffield, Parsley chief executive officer.

"We continue to build a high-quality acreage footprint consisting of favorably distributed development areas that can accommodate significant rig count additions, and we believe this acquisition represents an important step toward a large-scale, basin-wide development program that can generate sustainably strong production and cash flow growth," Sheffield said.

Parsley's previous deal for Midland basin acreage, first reported in April and completed in May, covered 8,711 net acres in Midland, Upton, Reagan, and Glasscock counties, Tex., with estimated net production of 1,100 boe/d from two horizontal wells and 77 vertical wells. It added 257 net horizontal drilling locations, and cost $215 million.

The firm in April also expanded its presence in the southern Delaware basin by agreeing to acquire 14,197 net acres in Reeves and Ward counties, Tex., for $144 million. That deal covered estimated net production of 1,200 boe/d from seven horizontal wells and 20 vertical wells. The following month, Parsley agreed to take another 29,813 acres in the basin with 17.5% average royalty interest for $280.5 million (OGJ Online, May 24, 2016). OGJ

Canada launches EIS for Kitimat Clean refinery project

Robert Brelsford
Downstream Technology Editor

The Canadian Environmental Assessment Agency (CEAA) has concluded a public comment period on guidelines for its preparation of a federal environmental impact statement (EIS) for Kitimat Clean Ltd.'s long-planned Kitimat Clean Refinery Project (KCRP), a proposed refinery project to be built about 13 km north of Kitimat, BC (OGJ Online, Mar. 28, 2013).

The public comment period, which invited public input on which aspects of the environment could be affected by KCRP and what should be examined during the federal environmental assessment of the project, closed on Aug. 12, CEAA said.

CEAA will consider all comments received to help determine final guidelines Kitimat Clean will use in its preparation of an EIS for the project, the agency said.

The public comment period, which began in July, follows CEAA's June 30 decision that the project required a federal environmental assessment, CEAA said.

According to documents released in May, Kitimat Clean would build and subsequently decommission the following KCRP components upon conclusion of the project's 50-year lifespan:

- A grassroots refinery capable of processing 400,000 b/d of pure bitumen from Alberta oil sands to produce 460,000 b/d of finished fuels. The refinery will have two 200,000-b/d processing trains equipped to produce diesel, ultralow-sulfur diesel (ULSD), gasoline, and jet fuel mostly for export to destinations in Asia Pacific. The complex also would produce propane and butane products for domestic and export markets.
- A bitumen-receiving facility, including a rail yard and bitumen offloading site. The rail yard will include storage for up to four unit trains that each contain up to 120 railcars to be delivered to yard via the Canadian National Railway (CNR) mainline. The rail unloading rack will consist of four tracks to enable simultaneous unloading of up to 240 railcars.
- A tank farm containing 54 tanks of various capacity, ranging in size from 265,000 bbl/tank to 450,000 bbl/tank for aboveground storage of bitumen, feedstock, processed hydrocarbons, and intermediate products.
- A 23-km fuel-delivery pipeline corridor consisting of three 18-in. pipelines in a 45-m wide right-of-way to transport processed fuel products to the marine terminal site.
- A marine terminal facility for loading refined products on very large crude carrier (VLCC) tankers for export. Alongside a single-tanker berth equipped to load fuel onto VLCCs, the marine terminal will also include a material offloading facility (MOF) as well as a utility berth with installations for accommodating the harbor tugs and utility work boats.

At a proposed cost of $22 billion, KCRP would be able to produce the following:

- 320,000 b/d of diesel and jet fuels, of which 50,000 b/d will be ULSD.
- 119,000 b/d of gasoline.
- 11,000 b/d of butane.
- 9,000 b/d of propane.

Slated to come on stream in 2024 pending preliminary project timelines and all necessary regulatory approvals, KPCR would be decommissioned over a 5-year period during 2073-78, Kitimat Clean said. OGJ

CEQ releases final climate-change guidance for agencies' NEPA reviews

Nick Snow
Washington Editor

The US White House Council on Environmental Quality (CEQ) issued its final guidance to federal agencies on how to consider climate-change impacts of their decisions during National Environmental Policy Act re-views. The US Chamber of Commerce and Center for LNG (CLNG) separately responded with warnings that CEQ's Aug. 2 action could create more regulatory hurdles for new transportation and other projects.

CEQ said the final guidance makes proposed project reviews more certain and predictable by outlining how federal agencies can describe climate impacts by quantifying potential greenhouse gas (GHG) emissions during NEPA reviews.

"This increased predictability and certainty will allow decision makers and the public to more fully understand the potential climate impacts of all proposed federal actions, and in turn, assist agencies in comparing alternatives and considering measures to mitigate the impacts of climate change," it said.

CEQ said that the guidance also:

• Advises agencies to quantify proposed federal actions' projected GHG emissions whenever the necessary tools, methodologies, and data inputs are available.

• Encourages agencies to draw on their experience to determine the appropriate level—broad, programmatic or project- or site-specific—and the extent of quantitative or qualitative analysis required to comply with NEPA.

• Counsels agencies to consider alternatives that would make the action and affected communities more resilient to the effects of a changing climate.

• Reminds agencies to use existing information and science when assessing proposed actions.

The final guidance builds off of 2010 draft guidance and 2014 revised draft guidance, and reflects consideration of comments and feedback received on both documents, CEQ said. Finalization of the 2014 revised draft guidance was specifically called for by the State, Local and Tribal Leaders Task Force on Climate Preparedness and Resilience's recommendations to the US President Barack Obama, it said.

In an Aug. 2 response, Bruce Josten, the US Chamber's executive vice-president for government affairs, said the country's largest business organization supports NEPA's fundamental goal of making sure environmental impacts are considered in federal actions. But the Chamber also is concerned that the expansion of authority goes beyond environmental protection and hands special interests another tool to stop infrastructure activities and land management activities in their tracks, he continued.

"We are still reviewing the final guidance, but under the new requirements getting approval for projects and land decisions will almost certainly be more challenging," Josten said. "This will obstruct our ability to build badly needed infrastructure of all kinds and render the investments that are being talked about on the campaign trail meaningless. From railroads, bridges, and highways, to energy, forests, and land management—permits will be more difficult to obtain."

CLNG Executive Director Charlie Reidel also warned that CEQ's final guidance will increase, instead of reduce, regulatory uncertainty and hold the domestic LNG industry back at a time when it faces heavy competition from projects in other countries that are coming online rapidly.

"In the interest of lowering global [GHG] emissions, the US government should support American LNG exports. There is considerable evidence demonstrating that natural gas is poised to reduce global greenhouse gas emissions significantly," Reidel said. "American LNG has an important role to play in the ongoing discussion about reducing global emissions and being a supplier of this strategic fuel is an opportunity that the US should embrace."

An American Petroleum Institute spokesman said on Aug. 3 that while the nation's largest oil and gas trade association is reviewing CEQ's new final guidance, "it's important to note that the US is leading the world in reduction of carbon emissions, which are near 20-year lows, while leading the world in the production of oil and gas." OGJ

THE EDITOR'S PERSPECTIVE

Media chasing their own tails on issue of climate change

by **Bob Tippee**, Editor

Self-assessment loses much when self-assessors set the framework of analysis.

Because the popular news media perpetually chase their own tails inside this trap, coverage of complex, intensely political issues like climate change tends to be abominable.

A rich illustration of the problem emerged during the highbrow Diane Rehm radio program on Aug. 11.

The call-in show featuring thought leaders discussing provocative topics airs daily in the US on National Public Radio.

During the show in question, a group of Washington news stars discussed how the media have handled and should be handling the intemperate utterances gushing from Republican presidential candidate Donald Trump.

How can a reporter call attention to evident falsehood and still treat the candidate fairly?

The conversation was interesting.

Then an astute caller introduced the subject of false equivalency: the dilemma of having to cover both sides of an issue in service to fairness when the reporter thinks one side preposterous.

The guest host offered an analogy: "This was something the media was criticized for in the debate over climate change, that you'd quote somebody that said it was real and then quote somebody who said it wasn't real when in fact the preponderance of scientific evidence is that it's real," she said, unchallenged.

The off-hand statement accurately reflects how the media treat climate change-—in great measure because pressure groups push the issue as a conflict between belief and apostasy.

Yet it doesn't frame the issue accurately at all.

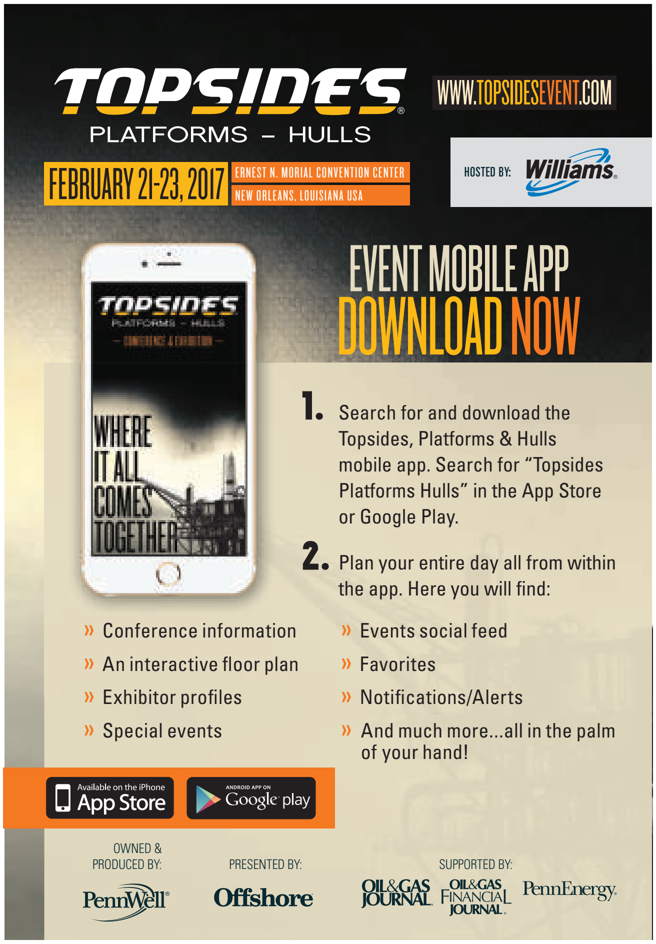
Of course climate change is "real." Yes, science supports that view, and most scientists believe it.

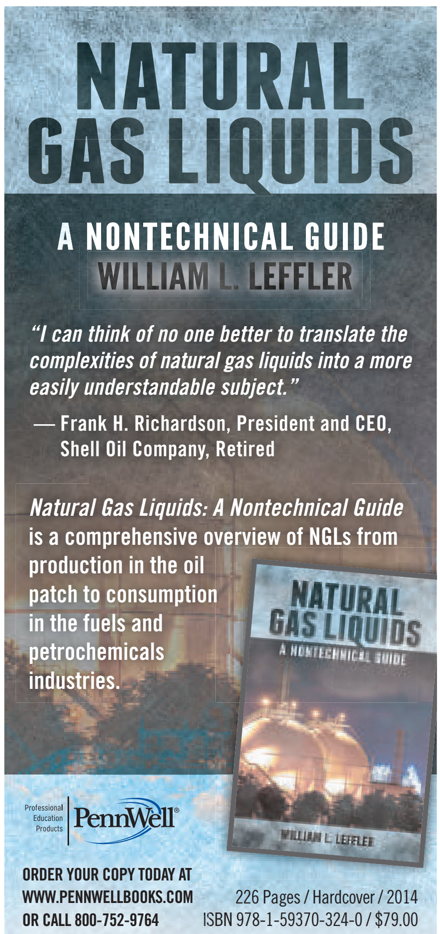
The real question is the extent of human involvement in atmospheric warming. About that, science is very uncertain.

In fact, the "scientific evidence"—observed temperature—increasingly weakens politically popular assumptions that the human contribution is menacingly strong.

But most general media ignore that part of the story. They've defaulted to simplistic certitude about the wrong questions—a sure way to miss the truth news people claim to seek.

(From the subscription area of www.ogj.com, posted Aug. 12, 2016; author's e-mail: bobt@ogjonline.com)





ADVERTISERS INDEX

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IMPORTS OF CRUDE AND PRODUCTS

	Districts 1-4		District 5		Total US		
	8-5 2016	7-29 2016	8-5 2016	7-29 2016	8-5 2016	7-29 2016	8-7* 2015
	1,000 b/d						
Total motor gasoline	907	618	23	19	930	637	682
Mo. gas. blending comp.	817	564	22	19	839	583	642
Distillate	171	89	14	7	185	96	119
Residual	209	181	7	131	216	312	302
Jet fuel-kerosine	46	49	32	49	78	98	27
Propane-propylene	67	62	16	12	83	74	98
Other	617	769	95	194	711	963	1,116
Total products	**2,017**	**1,768**	**187**	**412**	**2,203**	**2,180**	**2,344**
Total crude	**6,891**	**7,410**	**1,514**	**1,328**	**8,405**	**8,738**	**7,572**
Total imports	**8,908**	**9,178**	**1,701**	**1,740**	**10,609**	**10,918**	**9,916**

*Revised.
Source: US Energy Information Administration
Data available at PennEnergy Research Center.

EXPORTS OF CRUDE AND PRODUCTS

	Total US		
	8-5-16	7-29-16	*8-7-15
	1,000 b/d		
Finished motor gasoline	454	454	444
Jet fuel-kerosine	156	156	149
Distillate	1,266	1,266	1,293
Residual	362	362	398
Propane/propylene	668	668	547
Other oils	995	995	1,053
Total products	**3,901**	**3,901**	**3,884**
Total crude	**677**	**677**	**576**
Total exports	**4,578**	**4,578**	**4,460**
NET IMPORTS			
Total	6,029	6,340	5,457
Products	(1,698)	(1,721)	(1,540)
Crude	7,727	8,061	6,997

*Revised.
Source: Oil & Gas Journal
Data available at PennEnergy Research Center.

OGJ CRACK SPREAD

	8-12-16*	8-14-15*	Change	Change, %
	$/bbl			
SPOT PRICES				
Product value	54.23	67.37	(13.14)	(19.50)
Brent crude	43.63	47.94	(4.31)	(8.99)
Crack spread	10.60	19.43	(8.83)	(45.43)
FUTURES MARKET PRICES				
One month				
Product value	56.66	69.54	(12.88)	(18.53)
Light sweet crude	42.90	43.21	(0.31)	(0.73)
Crack spread	13.76	26.33	(12.57)	(47.73)
Six month				
Product value	56.60	63.25	(6.64)	(10.50)
Light sweet crude	46.44	47.48	(1.04)	(2.18)
Crack spread	10.16	15.77	(5.61)	(35.57)

*Average for week ending.
Source: Oil & Gas Journal
Data available at PennEnergy Research Center.

CRUDE AND PRODUCT STOCKS

District	Crude oil	Motor gasoline Total	Motor gasoline Blending comp.	Jet fuel, kerosine	Fuel oils Distillate	Fuel oils Residual	Propane-propylene
	1,000 bbl						
PADD 1	17,800	70,915	66,152	9,868	60,720	9,792	5,686
PADD 2	153,097	50,969	44,602	6,144	30,058	1,208	28,701
PADD 3	272,342	77,267	67,936	16,098	43,491	22,167	54,223
PADD 4	25,564	7,481	5,626	671	3,565	198	[1] 3,293
PADD 5	54,798	28,751	26,782	8,831	13,362	5,133	—
Aug. 5, 2016	**523,601**	**235,383**	**211,098**	**41,612**	**151,196**	**38,498**	**91,903**
July 29, 2016	**522,545**	**238,190**	**213,664**	**41,077**	**153,154**	**38,292**	**89,866**
Aug. 7, 2015[2]	**453,593**	**215,482**	**191,262**	**43,289**	**147,805**	**39,777**	**92,791**

[1]Includes PADD 5. [2]Revised.
Source: US Energy Information Administration
Data available at PennEnergy Research Center.

REFINERY REPORT—AUG. 5, 2016

District	REFINERY OPERATIONS Gross inputs	REFINERY OPERATIONS Crude oil inputs	REFINERY OUTPUT Total motor gasoline	Jet fuel, kerosine	Fuel oils Distillate	Fuel oils Residual	Propane-propylene
	1,000 b/d		1,000 b/d				
PADD 1	1,031	1,039	3,321	82	301	48	154
PADD 2	3,666	3,663	2,762	282	988	80	408
PADD 3	8,976	8,855	2,162	918	2,741	190	957
PADD 4	577	575	338	39	176	11	[1] 211
PADD 5	2,633	2,466	1,678	521	533	125	—
Aug. 5, 2016	**16,883**	**16,598**	**10,261**	**1,842**	**4,739**	**454**	**1,730**
July 29, 2016	**17,096**	**16,852**	**10,276**	**1,759**	**4,942**	**354**	**1,697**
Aug. 7, 2015[2]	**17,262**	**17,028**	**10,106**	**1,593**	**5,147**	**428**	**1,651**
	18,320	**Operable capacity**	**92.2**	**utilization rate**			

[1]Includes PADD 5. [2]Revised.
Source: US Energy Information Administration
Data available at PennEnergy Research Center.

OGJ GASOLINE PRICES

	Price ex tax 8-10-16	Pump price* 8-10-16	Pump price 8-12-15
	¢/gal		
(Approx. prices for self-service unleaded gasoline)			
Atlanta	149.7	199.1	246.3
Baltimore	156.3	207.3	249.3
Boston	153.4	198.3	252.3
Buffalo	147.3	208.3	263.3
Miami	142.3	197.3	256.3
Newark	162.4	195.3	243.2
New York	170.3	231.3	275.4
Norfolk	187.6	228.3	228.8
Philadelphia	137.5	206.3	271.3
Pittsburgh	155.5	224.3	268.3
Wash., DC	179.4	221.3	258.3
PAD I avg	158.3	210.6	255.7
Chicago	211.8	260.4	285.2
Cleveland	162.5	208.9	240.9
Des Moines	158.6	209.0	240.9
Detroit	159.0	207.9	247.5
Indianapolis	162.1	210.4	250.2
Kansas City	153.5	189.2	226.1
Louisville	161.0	205.4	260.9
Memphis	167.6	207.4	240.2
Milwaukee	147.1	198.4	265.1
Minn.-St. Paul	154.4	201.4	253.3
Oklahoma City	146.0	181.4	214.1
Omaha	151.8	197.9	229.8
St. Louis	155.7	191.4	255.0
Tulsa	154.9	190.3	214.5
Wichita	153.9	196.4	239.0
PAD II avg	160.0	203.7	244.2
Albuquerque	153.7	190.9	244.9
Birmingham	165.7	204.9	236.8
Dallas-Fort Worth	160.5	198.9	227.2
Houston	161.6	200.0	228.2
Little Rock	160.7	200.9	238.0
New Orleans	161.5	199.9	238.9
San Antonio	160.5	198.9	239.9
PAD III avg	160.6	199.2	236.3
Cheyenne	175.0	217.4	269.7
Denver	187.5	227.9	282.8
Salt Lake City	181.5	229.4	287.4
PAD IV avg	181.3	224.9	280.0
Los Angeles	246.0	305.0	383.0
Phoenix	182.6	220.0	275.9
Portland	179.5	229.0	301.5
San Diego	220.0	279.0	376.3
San Francisco	226.0	285.0	347.3
Seattle	199.1	262.0	313.7
PAD V avg	208.9	263.3	333.0
Week's avg.	**168.2**	**214.8**	**261.1**
July avg.	**178.7**	**225.4**	**278.7**
June avg.	**188.3**	**234.9**	**276.9**
2016 to date	**160.9**	**207.6**	—
2015 to date	**203.4**	**250.7**	—

*Includes state and federal motor fuel taxes and state sales tax. Local governments may impose additional taxes.
Source: Oil & Gas Journal.
Data available at PennEnergy Research Center.

BAKER HUGHES RIG COUNT

	8-12-16	8-14-15
Alabama	3	1
Alaska	4	12
Arkansas	—	4
California	5	12
Land	5	12
Offshore	—	—
Colorado	21	38
Florida	—	—
Illinois	2	1
Indiana	—	—
Kansas	—	12
Kentucky	1	2
Louisiana	42	78
N. Land	15	28
S. Inland waters	3	6
S. Land	8	11
Offshore	16	33
Maryland	—	—
Michigan	—	—
Mississippi	3	4
Montana	—	1
Nebraska	—	3
New Mexico	31	52
New York	—	—
North Dakota	29	69
Ohio	14	19
Oklahoma	61	103
Pennsylvania	15	38
South Dakota	—	—
Texas	230	389
Offshore	1	1
Inland waters	—	—
Dist. 1	17	47
Dist. 2	15	48
Dist. 3	6	18
Dist. 4	11	15
Dist. 5	2	5
Dist. 6	9	22
Dist. 7B	4	4
Dist. 7C	23	33
Dist. 8	125	156
Dist. 8A	9	17
Dist. 9	1	6
Dist. 10	7	17
Utah	3	4
West Virginia	7	18
Wyoming	8	24
Others ID-INV-1	2	—
Total US	**481**	**884**
Total Canada	**126**	**211**
Grand total	**607**	**1,095**
US oil rigs	396	672
US gas rigs	83	211
Total US offshore	17	35
Total US cum. avg. YTD	**484**	**1,095**

Rotary rigs from spudding in to total depth.
Definitions, see OGJ Sept. 18, 2006, p. 46.
Source: Baker Hughes Inc.
Data available at PennEnergy Research Center.

OGJ PRODUCTION REPORT

	[1]8-12-16	[2]8-14-15
	1,000 b/d	
(Crude oil and lease condensate)		
Alabama	17	26
Alaska	427	429
California	541	568
Colorado	304	340
Florida	6	6
Illinois	20	26
Kansas	94	122
Louisiana	1,288	1,460
Michigan	14	17
Mississippi	51	67
Montana	58	77
New Mexico	358	417
North Dakota	1,059	1,189
Ohio	64	76
Oklahoma	253	422
Pennsylvania	16	20
Texas	3,547	3,756
Utah	80	100
West Virginia	20	21
Wyoming	186	237
Other states	50	47
Total	**8,453**	**9,423**

[1]OGJ estimate. [2]Revised. Source: Oil & Gas Journal.
Data available at PennEnergy Research Center.

US CRUDE PRICES

	8-12-16 $/bbl*
Alaska-North Slope 27°	30.62
Light Louisiana Sweet	39.86
California-Midway Sunset 13°	35.10
California Buena Vista Hills 26°	42.83
Wyoming Sweet	38.05
East Texas Sweet	36.75
West Texas Sour 34°	34.25
West Texas Intermediate	39.25
Oklahoma Sweet	39.25
Texas Upper Gulf Coast	33.00
Michigan Sour	31.25
Kansas Common	40.00
North Dakota Sweet	33.25

*Current major refiner's posted prices except N. Slope lags 2 months. 40° gravity crude unless differing gravity is shown. Source: Oil & Gas Journal. Data available at PennEnergy Research Center.

WORLD CRUDE PRICES

OPEC reference basket Wkly. avg. 8-12-16		$/bbl 41.19
	— Mo. avg., $/bbl —	
	May-16	June-16
OPEC reference basket	43.21	45.84
Arab light-Saudi Arabia	43.48	46.28
Basrah light-Iraq	42.05	44.63
Bonny light 37°-Nigeria	46.85	48.48
Es Sider-Libya	45.83	47.28
Girassol-Angola	46.58	48.30
Iran heavy-Iran	41.67	44.68
Kuwait export-Kuwait	41.60	44.50
Marine-Qatar	44.13	46.37
Merey-Venezuela	34.28	38.22
Minas 34°-Indonesia	48.64	51.56
Murban-UAE	47.12	49.28
Oriente-Ecuador	41.96	44.03
Saharan blend 44°-Algeria	47.73	48.98
Other crudes		
Fateh 32°-Dubai	44.29	46.25
Isthmus 33°-Mexico	44.76	47.51
Brent 38°-UK	46.83	48.28
Urals-Russia	45.08	46.60
Differentials		
WTI/Brent	0.01	0.46
Brent/Dubai	2.54	2.03

Source: OPEC Monthly Oil Market Report.
Data available at PennEnergy Research Center.

REFINED PRODUCT PRICES

Spot market product prices

	8-6-16 ¢/gal
Motor gasoline (Conventional-regular)	
New York Harbor	135.90
Gulf Coast	137.70
Motor gasoline (RBOB-regular)	
New York Harbor	129.00
No. 2 heating oil	
New York Harbor	120.10
No. 2 Distillate Low sulfur diesel fuel	
New York Harbor	130.60
Gulf Coast	127.40
Los Angeles	128.60
Kerosine jet fuel	
Gulf Coast	119.30
Propane	
Mont Belvieu	43.30

Source: EIA Weekly Petroleum Status Report.
Data available at PennEnergy Research Center.

IHS PETRODATA RIG COUNT

AUG. 12, 2016

	Total supply of rigs	Marketed supply of rigs	Marketed contracted	Marketed utilization rate (%)
US Gulf of Mexico	104	52	39	75.0
South America	52	48	40	83.3
Northwest Europe	108	87	66	75.9
West Africa	70	53	29	54.7
Middle East	168	157	124	79.0
Southeast Asia	95	80	40	50.0
Worldwide	830	690	495	71.7

Source: IHS Petrodata
Data available in PennEnergy Research Center

US NATURAL GAS STORAGE[1]

	8-5-16	7-29-16	8-5-15	Change, %
	bcf			
East	746	729	674	10.7
Midwest	845	825	704	20.0
Mountain	215	213	175	22.9
Pacific	314	314	343	(8.5)
South Central	1,197	1,207	1,059	13.0
Salt	313	320	291	7.6
Nonsalt	884	886	767	15.3
Total US	**3,317**	**3,288**	**2,955**	**12.3**
	May-16	**May-15**	**Change, %**	
Total US[2]	**2,976**	**2,296**	**29.6**	

[1]Working gas. [2]At end of period.
Source: Energy Information Administration
Data available at PennEnergy Research Center.

WORLD OIL BALANCE

	EIA						IEA						OPEC					
	2016		2015				2016		2015				2016		2015			
	2nd qtr.	1st qtr.	4th qtr.	3rd qtr.	2nd qtr.	1st qtr.	2nd qtr.	1st qtr.	4th qtr.	3rd qtr.	2nd qtr.	1st qtr.	2nd qtr.	1st qtr.	4th qtr.	3rd qtr.	2nd qtr.	1st qtr.
	Million b/d						Million b/d						Million b/d					
DEMAND																		
OECD	45.5	46.7	46.4	46.7	45.4	46.5	45.9	46.6	46.3	46.7	45.3	46.5	45.9	46.6	46.3	46.5	45.4	46.4
Non-OECD	49.3	47.7	47.8	48.3	48.0	46.4	49.7	48.7	49.2	49.0	48.8	47.1	47.5	46.6	47.7	47.4	46.6	45.5
TOTAL DEMAND	**94.8**	**94.4**	**94.1**	**95.0**	**93.4**	**92.9**	**95.6**	**95.3**	**95.5**	**95.7**	**94.1**	**93.6**	**93.4**	**93.2**	**94.0**	**93.9**	**92.0**	**91.9**
SUPPLY																		
Non-OPEC																		
OECD	26.0	27.0	27.1	26.8	26.4	26.6	22.8	24.0	24.2	23.9	23.5	23.8	24.3	25.3	25.5	25.3	24.9	25.2
Non-OECD	30.6	30.2	30.8	30.8	30.7	30.4	28.6	28.9	29.1	28.9	29.0	29.2	31.2	31.7	32.0	31.8	31.9	32.0
OPEC																		
Crude Oil	32.4	31.8	32.0	32.2	31.7	31.1	33.0	32.8	32.6	32.7	32.4	31.4	32.8	32.5	32.2	32.2	31.9	31.0
NGLs	6.9	6.7	6.6	6.6	6.6	6.5	6.8	6.8	6.7	6.7	6.7	6.6	6.3	6.2	6.2	6.2	6.2	6.0
TOTAL SUPPLY	**95.8**	**95.6**	**96.5**	**96.4**	**95.4**	**94.6**	**95.8**	**96.5**	**97.2**	**97.0**	**96.3**	**95.5**	**94.6**	**95.7**	**95.9**	**95.5**	**94.9**	**94.2**
Stock change	**0.9**	**1.2**	**2.4**	**1.4**	**2.0**	**1.7**	**0.2**	**1.2**	**1.7**	**1.3**	**2.2**	**1.9**	**1.2**	**2.5**	**1.9**	**1.6**	**2.9**	**2.3**

[1]IEA total supply includes processing gains and global biofuels.
Source: US Energy Information Administration, International Energy Agency, OPEC
Data available in PennEnergy Research Center.

OECD TOTAL NET OIL IMPORTS

	Sept. 2015	Aug. 2015	July 2015	Sept. 2014	Chg. vs. previous year Volume	%
	Million b/d					
Canada	(2,775)	(3,002)	(2,664)	(2,508)	(156)	6.2
US	4,451	5,205	4,544	5,234	(690)	(13.2)
Mexico	(604)	(725)	(542)	(810)	268	(33.1)
France	1,787	1,423	1,612	1,633	(21)	(1.3)
Germany	2,247	2,258	2,063	2,190	(127)	(5.8)
Italy	1,082	1,221	1,106	947	159	16.8
Netherlands	898	1,064	823	838	(15)	(1.8)
Spain	1,354	1,153	1,177	1,152	25	2.2
Other importers	4,442	4,257	4,369	4,097	272	6.6
Norway	(1,544)	(1,277)	(1,712)	(1,525)	(187)	12.3
United Kingdom	613	694	371	574	(203)	(35.4)
Total OECD Europe	**10,879**	**10,793**	**9,809**	**9,906**	**(97)**	**(1.0)**
Japan	3,806	4,095	4,191	3,901	290	7.4
South Korea	2,241	2,403	2,207	2,189	18	0.8
Other OECD	1,620	1,411	1,546	1,558	(12)	(0.8)
Total OECD	**19,618**	**20,180**	**19,091**	**19,470**	**(379)**	**(1.9)**

Source: US Energy Information Administration
Data available at PennEnergy Research Center. **NOTE: No new data at press time**

OECD* TOTAL GROSS IMPORTS FROM OPEC

	Apr. 2016	Mar. 2016	Feb. 2016	Apr. 2015	Chg. vs. previous year Volume	%
	Million b/d					
Canada	326	260	107	171	155	90.6
US	3,308	3,538	3,176	3,272	36	1.1
Mexico	--	--	--	20	(20)	(100.0)
France	677	709	797	638	39	6.1
Germany	190	296	313	448	(258)	(57.6)
Italy	725	652	654	550	175	31.8
Netherlands	377	473	506	401	(24)	(6.0)
Spain	724	588	752	790	(66)	(8.4)
Other importers	1,252	1,305	1,597	1,360	(108)	(7.9)
United Kingdom	261	327	361	575	(314)	(54.6)
Total OECD Europe	**4,206**	**4,350**	**4,980**	**4,762**	**(556)**	**(11.7)**
Japan	3,461	3,540	3,507	3,502	(41)	(1.2)
South Korea	2,730	2,789	3,248	2,650	80	3.0
Other OECD	175	65	87	235	(60)	(25.5)
Total OECD	**14,206**	**14,542**	**15,105**	**14,612**	**(406)**	**(2.8)**

*Organization for Economic Cooperation and Development.
Source: US Energy Information Administration
Data available at PennEnergy Research Center.

US PETROLEUM IMPORTS FROM SOURCE COUNTRY

	Apr. 2016	Mar. 2016	Average YTD 2016	Average YTD 2015	Chg. vs. previous year Volume	%
	1,000 b/d					
Algeria	137	147	146	94	52	55.3
Angola	242	172	178	105	73	69.5
Kuwait	199	123	203	243	(40)	(16.5)
Nigeria	243	290	234	63	171	271.4
Saudi Arabia	1,154	1,309	1,134	1,004	130	12.9
Venezuela	788	846	777	789	(12)	(1.5)
Other OPEC	588	689	626	432	194	44.9
Total OPEC	**3,351**	**3,576**	**3,298**	**2,730**	**568**	**20.8**
Canada	3,558	3,882	3,937	3,900	37	0.9
Mexico	788	657	675	802	(127)	(15.8)
Norway	89	143	88	39	49	125.6
United Kingdom	149	141	120	102	18	17.6
Virgin Islands	—	—	—	—	—	—
Other non-OPEC	1,894	1,603	1,777	1,805	(28)	(1.6)
Total non-OPEC	**6,478**	**6,426**	**6,597**	**6,648**	**(51)**	**(0.8)**
TOTAL IMPORTS	**9,829**	**10,002**	**9,895**	**9,378**	**517**	**5.5**

Source: US Energy Information Administration
Data available at PennEnergy Research Center.

OIL STOCKS IN OECD COUNTRIES*

	Apr. 2016	Mar. 2016	Feb. 2016	Apr. 2015	Chg. vs. previous year Volume	%
	Million bbl					
France	171	166	169	170	1	0.6
Germany	286	289	289	284	2	0.7
Italy	126	120	123	124	2	1.6
United Kingdom	80	80	81	85	(5)	(5.9)
Other OECD Europe	820	825	830	1,364	(544)	(39.9)
Total OECD Europe	**1,483**	**1,480**	**1,492**	**1,411**	**72**	**5.1**
Canada	179	183	183	185	(6)	(3.2)
US	2,063	2,052	2,045	1,935	128	6.6
Japan	567	560	564	558	9	1.6
South Korea	230	236	233	210	20	9.5
Other OECD	110	112	106	110	—	—
Total OECD	**4,632**	**4,623**	**4,623**	**4,409**	**223**	**5.1**

*End of period.
Source: US Energy Information Administration
Data available at PennEnergy Research Center.

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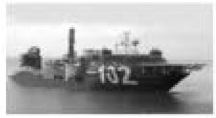

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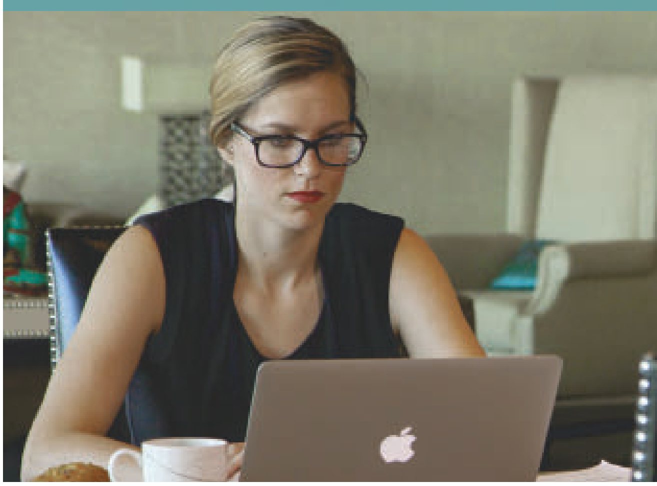

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