forces which will impact energy markets over the next 20 years, Energy Outlook provides a framework for understanding the through to 2035, says that worldwide economic growth, cou-
demand grows while oil supplies dampen. energy demand and expects the oil market to rebalance, as annual Energy Outlook report, remains bullish on future world exploration wells in Smith Bay and is now drilling the second was presenting an overview of the cur-

On Feb. 22, ConocoPhillips announced yet another capital spending cut for its worldwide oil and gas exploration and production operations. In anticipation of continued low oil prices, the Houston-based major reduced its 2016 capital budget from the previously announced $7.7 billion to $6.4 bil-

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An expensive region
Hilcorp president comments on the high cost of doing business in Alaska
By ALAN BAILEY
Petroleum News
S
aying that statements made to the House and Senate Resources commit-
tee meeting in June by Hilcorp Alaska Senior Vice President John Barnes had been misinterpreted, Greg Lalicker, presi-
dent of Hilcorp Energy, told a lunch and learn session at the Alaska Legislature on Feb. 23 that the cost of doing business in Alaska is much higher than in the Lower 48.

Barnes had told House and Senate Resources that Hilcorp was very cost conscious, had made its Cook Inlet operating costs competitive with costs in the Lower 48, and was endeavoring to achieve the same

COP Alaska dodges cuts
Tax regime helps ConocoPhillips evade parent company’s latest capex reduction
By KAY CASHMAN
Petroleum News
O
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Fossil fuels to live on
Canada’s energy regulator forecasts continued rise on oil, natural gas production
By GARY PARK
For Petroleum News
F
or those who dream of an end to fossil fuel consumption, Canada’s National Energy Board has served up its version of reality in pro-
jecting energy production over the next 24 years.

Regardless of whether major pipeline projects go ahead and whether climate change measures are implemented, the federal regulator, using a “refer-
ence case” or base line projection, forecasts that oil output will increase by 56 percent to 6.1 million barrels per day and natural gas production will grow by 22 percent to 17.9 billion cubic feet per day, driven largely by LNG exports.

Even if the industry is able to lower greenhouse gas emissions per unit of production and renew-

The NEB repeatedly stressed that its forecast looks only at what is happening today and how that influences its projections.

able production of wind, solar and biomass doubles its share of total energy production from 9 percent, that translates into a 22 percent increase by GHG emissions.

That bolsters a United Nations report on the results of December’s climate change summit in Paris, when participants set a goal of limiting warming increases to 1.5 degrees Celsius.

Amid the back-slapping and laudatory assess-
ON THE COVER
An expensive region
Hilcorp president comments on the high cost of doing business in Alaska
COP Alaska dodges cuts
Tax regime helps ConocoPhillips evade parent company’s latest capex reduction
Fossil fuels to live on
Canada’s energy regulator forecasts continued rise on oil, natural gas production
Point Thomson startup in May; Caelus drills 2nd Smith Bay well
BP says energy demand to rise, market will rebalance on demand
SIDEBAR, Page 19: Carbon emissions and the energy future

EXPLORATION & PRODUCTION
4 Tyonek pool definition for Beaver Creek
Hilcorp wants Tyonek added to existing Sterling, Beluga gas pools in field rules; has also applied to BLM for participating area
5 New insights into the Lower Cook Inlet
DGGS-led team reports on results of 2015 field investigations of the underexplored Mesozoic rocks of the oil and gas bearing basin

FINANCE & ECONOMY
7 Keeping fossil fuel shares
17 Investors tap Canadian market
17 TransCanada hits headwinds
Company takes C$2.9 billion write-down for Keystone XL; more layoffs in store; proposal for Energy East faces stiff opposition

GOVERNMENT
3 Tarr: Scrutinizing oil tax credits vital
Anchorage Democrat, House Resources member says committee prides itself in thorough vetting, anxious for further updates on AKLNG
6 BP wants to file fewer Prudhoe logs
7 Launching ‘fantasy’ fund
BC government makes initial C$100M deposit from budget surplus into Prosperity Fund it hopes will grow to C$100B from LNG revenues
8 Administration wants to strengthen floor
Minimum 4% tax floor in state’s production tax law not absolute; companies can use carry-over operating loss credits to reach 0%
18 Scoping meetings set for Nanushuk EIS

PIPESLINES & DOWNSTREAM
6 Oil industry groups scrambling for support

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need to do the work in the committees, everyone else up to speed and on the same
week of the special session was getting much behind on that so that whole first
session and we would have this conversa-
tion the time the bill (SB 138) was devel-
that sat on the Resources Committee dur-

The House and Senate Democrats had
things come to the Finance Committee.
work done in a timely fashion so that all
members don't take the time or don't have

A lot of the work where they have been successful has been this new Alaska work. So if you want to look at the

Anchorage Democrat, House Resources member says committee prides itself in thorough vetting, anxious for further updates on AKLNG

In theory. But for example there
are several things happening there. You've got

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Hilcorp Alaska LLC has applied to the Alaska Oil and Gas Conservation Commission for definition of the Tyonek gas pool at the Beaver Creek unit. The commission has tentatively scheduled a public hearing on the application for 9 a.m. March 29 at its Anchorage offices, but said if there is no request for a hearing, the commission may consider issuing an order without a hearing. Written requests for a hearing are due March 8. The commission said it will accept written comments on the application through March 23, unless a hearing is held, in which case written comments will be accepted through the conclusion of the March 29 hearing.

Hilcorp said in its application that it has also submitted a proposal to the federal Bureau of Land Management to establish a new Tyonek gas participating area to accommodate production from the Tyonek gas pool.

The 3,600-acre Beaver Creek unit is in the Kenai National Wildlife Refuge some 11 miles northeast of Kenai, on land held by the federal government and Cook Inlet Region Inc. BLM is the unit manager of the four-lease unit. Hilcorp said in its application to the commission that there are no other affected owners, landowners or operators.

Unit formation at Beaver Creek was in 1967, with initial gas production from the Sterling and upper Tyonek and oil production from the lower Tyonek.

The commission established pool rules for the Sterling and Beluga gas sands in 1988, when Marathon Oil Co. was the Beaver Creek operator.

The commission authorized the vertical expansion of the Bevilaqua gas pool in 2014 and later that year removed intra-field well spacing requirements for the Sterling and Beluga gas pools.

Hilcorp is requesting the addition of a Tyonek gas pool definition as the accumulation common to and correlating with the Beaver Creek unit No. 4 well between measured depths of 8,886 feet and 14,518 feet. Hilcorp said the 8,886-foot marker in the No. 4 well is equivalent to a 9,650-foot measured depth in the No. 1A well.

Requested changes to well spacing rules include adding the Tyonek gas pool to the rule providing for no restrictions on well spacing in the field “except that all wells shall be opened in a well within 1,500 feet from the exterior boundary of the Beaver Creek unit where owners and landowners are not the same on both sides of the line.”

Well spacing for the Beaver Creek oil pool is set in the commission’s order as 40 acres, with no wellbore to be opened nearer than 660 feet from the nearest open wellbore in the same pool, and no wellbore opened nearer than 500 feet from the exterior boundary of the unit where owners and landowners are not the same on both sides of the line.

CORRECTION

Doyon 19 drilling at CD5

The article “Remote but Successful” in the Feb. 21 issue of Petroleum News incorrectly identified the drilling rig at the ConocoPhillips CD5 drill site as the Nahors No. 19 rig. The rig is in fact the Doyon No. 19 rig. Petroleum News apologizes for any confusion.
A new report detailing the findings from field work conducted during the summer of 2015 on the western coast of the lower Cook Inlet. A DGGS-led team is conducting a multiyear investigation into the petroleum geology of the Cook Inlet basin — the idea is to assemble publicly available data that can aid in the search for new hydrocarbon resources.

**Widely exposed rocks**

Field results described in the new report focus on strata of Mesozoic age that are widely exposed along the coast on the west side of the Inlet in the region of the Insik Peninsula. Although the producing oil and gas fields of the Cook Inlet basin have reservoirs in rocks of Tertiary age, the oil appears to have originated from older and deeper Mesozoic rocks that extend under the Tertiary strata. Over the years there has been much speculation about the potential for finding new oil and gas resources in the deep Mesozoic section of the upper Cook Inlet, or in the shallower Mesozoic of the lower Cook Inlet to the south. The Mesozoic rock exposures on the west side of the Inlet provide opportunities to evaluate the petroleum potential of the Mesozoic sequence.

Unlike the Tertiary strata, which were laid down from rivers and lakes in a terrestrial environment, much of the Mesozoic sequence appears to have formed in a marine setting. However, the DGGS team has found during their 2015 fieldwork that a part of the Talkeetna formation, the Horn Mountain tuff of lower Jurassic age, showed clear evidence of a terrestrial environment. In particular, conglomerates within this rock unit contain large fossilized tree trunks, while sandstones contain fossil leaves. The nature of the sediments indicates that they were formed from volcanic ash, with rivers forming small channels through the vegetated ash deposits, while periodic floods shifted material across the terrain.

**Oil source**

The team has also been investigating surface exposures of the Red Glacier formation, a rock unit towards the bottom of the middle Jurassic Tuxedni group and laid down in a marine setting. Much of the Cook Inlet oil is thought to have originated in the Tuxedni. And, of six rock formations within the Tuxedni, the Red Glacier formation is the only unit to have, in outcrop, a fine-grained layer of conglomerate formed from volcanic material in the Horn Mountain tuff member of the Talkeetna formation. This photo shows fossilized tree trunks in a more than 12-foot thick layer of conglomerate formed from volcanic material in the Horn Mountain tuff member of the Talkeetna formation.

The team has found significant variations in the nature of the rocks within this formation, depending, it appears, on whether the sediments that formed the rocks were deposited near an ancient river delta or farther offshore, in deeper water. These variations have implications for the distribution of oil-prone source rocks in the subsurface, the DGGS report says.

Sandstones in the Red Glacier formation consist of material eroded from an ancient volcanic arc. Given the chemical and mechanical instability of the volcanic material in these rocks, the rock formation is unlikely to operate as a conventional oil or gas reservoir, the DGGS report says. But, with some of the material having decomposed into clays, the formation could hold tight gas in a marine setting. The possibility that the formation could host continuous oil accumulations, analogous to those in the Bakken formation of North Dakota, has been suggested for the overlying Gakemna sandstone, the report says.

**Oil staining**

The DGGS team also investigated the middle Jurassic Chimina formation, above the Tuxedni group, in the Tuxedni Bay area. The team noted oil staining in this formation at one location in Chinitna Bay, demonstrating at least local migration of oil through the rock, although any role that the formation may have in Cook Inlet petroleum systems remains unclear. Sediments in this formation have formed sandstones and conglomerates suggestive of a high-energy deltaic environment.

It appears likely that when these sediments were laid down significant volumes of coarse detritus spread into areas beyond the current rock outcrop belt, leading to the possibility of prospective oil and gas reservoir rocks, deposited in a marine setting. Much of the sedimentary material within the Tuxedni, the Red Glacier formation at one location in Chinitna Bay, is unlikely to operate as a conventional oil reservoir rocks, deposited in a marine setting. Much of the sedimentary material is interpreted as having been predominantly laid down in the slope and floor of a marine basin. Ancient erosion channels cut through the sediments. And geologists have found evidence of the existence of deep-water canyons that existed at the time that the sediments were deposited. The study conducted by the DGGS team yields insights into the distribution of coarse-grained strata that might host oil and gas, the DGGS report says.

The DGGS team has also studied rock containing at the Chinitna and Naknek formations, finding that the fractures tend to be predominantly oriented northwest-southeast. With the modern-day principal stresses in the rocks being oriented roughly in the same direction, these fractures would seem likely to have acted as natural conduits for subsurface fluid migration, the DGGS report says.

**Cretaceous reservoir potential**

Moving higher in the geologic sequence, the DGGS-led team reports on results of 2015 field investigations of the underexplored Mesozoic rocks of the oil and gas bearing basin.
BP wants to file fewer Prudhoe logs

Prudhoe Bay operator BP Exploration (Alaska) Inc. has requested a waiver from the Alaska Oil and Gas Conservation Commission for filing mechanical logs. The request is for the commission to administratively waive the filing of a number of listed mechanical logs. BP said it runs some 600-800 of these mechanical logs on wells at Prudhoe each year, producing “a significant amount of both paper and electronic data.”

The company said the mechanical logs “do not significantly add to the geologic knowledge of the area in light of other logs and records” it is already filing with the commission for Prudhoe Bay wells.

BP said providing these mechanical logs benefits neither the commission nor the public, but “this filing requirement does impose a significant administrative burden on the Prudhoe Bay Unit operator and increases the cost of unit operations.”

The commission has tentatively scheduled a public hearing on the application at 9 a.m. March 22 at its Anchorage offices, but said if it receives no requests for a hearing, it may consider issuance of an order without a hearing.

The commission said it would take written comments on the application through March 17, or, if a hearing is held, through the conclusion of the hearing.

—PETROLEUM NEWS

Continued from page 5

COOK INLET BASIN

sion, rocks of Cretaceous age in the lower Cook Inlet region tend to contain more quartz grains, rather than volcanic detritus, and hence appear more promising as conventional oil and gas reservoirs than do the older and deeper rocks in the Mesozoic succession. The DGGS team has observed a wedge of conglomerate and sandstone with residual oil staining and silty coal in the subsurface of the Cook Inlet. Although relatively few wells have penetrated these rocks, three of the wells showed non-commercial quantities of oil

Although the producing oil and gas fields of the Cook Inlet basin have reservoirs in rocks of Tertiary age, the oil appears to have originated from older and deeper Mesozoic rocks that extend under the Tertiary strata.

— the broad distribution of these rocks suggests that the rocks may form conventional oil and gas reservoirs in the underexplored Mesozoic stratigraphy, the DGGS report says.

In 2015 the DGGS team also investigated the geometry and history of folding and faulting of the rocks along the Brun Bay fault, the major geologic fault that marks the northwestern side of the Cook Inlet basin.

Contact: Alan Bailey
abaiaty@geol.talkeetna.com

Oil industry groups scrambling for support

By GARY PARK
For Petroleum News

T

here’s a faint whiff of panic in campa-

igns by two of Canada’s leading petroleum industry organizations to turn the tide of political and public opposition to new pipelines.

The Canadian Association of Oilwell Drilling Contractors wants the 500,000 people — down from 600,000 a year ago — who are still directly or indirectly employed in the industry to make their case to federal and provincial governments.

Meanwhile, the Canadian Energy Pipeline Association has held a series of meetings with firefighters and other first responders to build grassroots support for TransCanada’s Energy East pipeline.

CAODC President Mark Scholz told reporters his association is “not asking for a government handout, but we are asking for an honest discussion and we are asking for respect for an industry that has done so much to make Canada the best country in the world.”

Bumper stickers carrying the words “Oil Respect” are being distributed across Canada as CAODC tries to rally support for new pipelines, while a website has been launched carrying stories of people who have lost oil and gas jobs and are now struggling to pay their living costs.

Scholz noted that annual revenues from the petroleum industry were C$90 billion in 2014, falling to C$90 billion last year, which he said would be equivalent to Canada losing its entire auto sector in one year.

CEPA Chief Operating Officer Jim Donihee told the Financial Post said his association has held safety presentations in British Columbia, Ontario and Quebec — the hotbeds of opposition to pipelines — to explain to firefighters and other first responders what emergency systems are in place to deal with rupture, explosions or other incidents.

In the event of an emergency, the National Energy Board would immediately send teams to the site to coordinate with fire departments, paramedics, police and local government officials.

“We are working to make sure first responders’ interests are well-served in terms of what they need to know in case of pipeline emergencies and to establish relationships, built trust and strengthen confidence,” he said.

Donihee said member companies of CEPA have a mutual emergency assistance agreement that would see the deployment of personnel and equipment from competing companies to deal with an incident.

“Here is an absolute commitment on the part of our members that when it comes to safety there is no competition,” he said. “We share everything openly and aggressively.”

CEPA’s 12 member companies include Kinder Morgan, TransCanada and Enbridge, Canada’s three largest pipelines.

But one fire director in a Montreal-area municipality said he is not yet convinced by the measures CEPA outlined, suggesting that the level of concern in Quebec “is far from being understood by members of CEPA.”

The meetings occurred a week after Montreal Mayor Denis Coderre said Energy East presents too many environmental and public safety risks and offers too little financial benefit, accusing TransCanada of treating its consultation “snobbishly.”

Contact: Alan Bailey
BC government makes initial C$100M deposit from budget surplus into Prosperity Fund it hopes will grow to C$100B from LNG revenues

By GARY PARK
For Petroleum News

E ven months away from its next election, the British Columbia government has resorted to sleight-of-hand to deliver on the biggest promise that kept Premier Christy Clark in power in 2013. At that time she held out the hope of a Prosperity Fund that, over 30 years, would grow to C$100 billion from the tax revenues of at least five LNG plants, with the LNG windfall also seen as British Columbia’s best chance to eliminate its debt, now nudging C$68 billion.

Instead, Finance Minister Mike de Jong, in releasing the 2016-17 budget, has created what critics have labeled the Fantasy Fund from an initial deposit of C$100 million.

And even that token amount needed a headache out of the LNG sector, which is years from generating its first dollar of revenues and, in the view of some, will never happen.

Carole James, the finance spokeswoman for the opposition New Democratic Party, noted the contribution just happens to match the amount of additional revenue the government will collect from its latest increase in medical service premiums.

“The premier is looking for a way out of her embarrassment of not having an LNG plant up and running,” James said.

“That’s C$100 million of taxpayers’ dollars the province should never be paying for this. This is the premier’s fantasy fund.”

No LNG income

De Jong conceded the initial transfer of C$100 million owes nothing to any LNG income beyond claiming that potential LNG investors have spent billions of dollars laying the groundwork for LNG projects, mostly by acquiring natural gas properties outside British Columbia’s borders.

Having introduced his fourth straight surplus budget, and at a time when British Columbia is leading Canada’s 10 provinces in economic growth, de Jong said it was proper to take “a small amount from the chequeing account, as it were, and transfer it into a savings account.”

That’s a big step down from October 2014 when he said the ability to establish a Prosperity Fund would be tied directly to the generation from an LNG industry of royalties, sales taxes and other tax measures collected from natural gas used for LNG, plus corporate income taxes.

De Jong remains confident LNG investments will eventually form the backbone of the Prosperity Fund even though most of the 20 project proposals on the table are stalled because of the downturn in global LNG demand and, in some cases, delays in the regulatory process.

Even the forecast budget surplus of C$264 million for the upcoming fiscal year can be credited to a bookkeeping change from 2005 when the government’s then-auditor general argued that the hundreds of millions (briefly the billions) of dollars collected from the annual auctioning of oil and gas exploration rights should be spread over the average 9-year term of those rights.

Projected drilling rights sales

Now, although the scramble to accu-

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Projected drilling rights sales

Now, although the scramble to accu-
Administration wants to strengthen floor

Minimum 4% tax floor in state’s production tax law not absolute; companies can use carry-over operating loss credits to reach 0%

By KRISTEN NELSON
Petroleum News

House Bill 247, the Walker administration’s proposed changes to credits in the Alaska production tax system, is complicated, so complicated that the administration has spent days in front of the House Resources Committee explaining changes proposed in the bill.

In testimony Feb. 22, Ken Alper, director of the Department of Revenue’s Tax Division, tackled the issue of strengthening the minimum floor — the 4 percent minimum tax on production.

This issue, Alper said, is not based on Senate Bill 21, the most recent change to the state’s production tax system.

“These are issues that have been embedded in Alaska statutes since we switched over to a net profit regime,” he said. “They happen to have come to the forefront now, not because of Senate Bill 21, but because oil prices have collapsed to such a degree that we’re starting to see operating losses in the industry.”

Only one limitation

Currently, Alper said, there is only one thing limited by the floor — the sliding scale per-barrel credits specifically on non-GVR (gross value reduction) — legacy oil.

“All other credits under current law can go below the floor,” Alper said, including smaller producer credits, GVR-eligible per-barrel credits, net operating loss credits and alternative credits for exploration.

“All of those can be and are being used to reduce tax payments below the minimum tax to in many instances zero.”

In the case of small producers, say a company holding a portion of a legacy field, they would pay at the 4 percent floor just as their larger partners would, he said. But, Alper said, that small producer has a credit based on up to $12 million off the top of their taxes, and if their tax was less than $12 million, they would be able to pay zero.

Small producers operating one of the North Slope’s newer fields would be eligible for the GVR which tends to reduce their tax liability, but their $5 per-barrel credit can offset their taxes to zero, “and if it doesn’t, they also could be eligible for the small producer credit.”

SB 21

Asked by Rep. Andy Josephson, D-Anchorage, if payment below the floor was considered in 2013 when the Legislature discussed SB 21 in committee, Alper said “this condition is not a byproduct of Senate Bill 21. This is a pre-existing condition that goes back really to ACES and PPT before that.”

He said SB 21 actually created a hardening of the floor for legacy producers because under SB 21 the sliding scale credit can’t be used to go below the minimum 4 percent floor. Prior to SB 21, he said, credits earned by legacy producers could be used to go below the 4 percent minimum tax floor.

Alper said that as far as the minimum tax goes, prior to 18 months ago it was “an academic conversation,” because in the period when the state has had a net profits tax the price of oil hadn’t gone low to the point “where this might have been relevant — where the minimum tax came into play in a material way.”

The minimum tax is suddenly relevant, he said, “because that’s where we’re getting our revenue from, whereas during the referendum debate (on SB 21), I don’t think that was part of the conversation in any material way.”

The policy questions

There are three policy questions involved in strengthening the floor for minimum payment of production taxes.

Alper said on the issue of small producer credits, the question is, “should everyone, not just the major producers, pay at the minimum tax level? Currently the way the law is written, only the large producers pay that floor.”

The second issue is on per-barrel credits for GVR “new” oil, the question being: “Should that tax on production from new fields be allowed to go to zero?”

Alper said that forgetting the numbers and who the players are, is it reasonable “to say that the oil we’re incentivizing through the new oil tax deduction, should it at least be required to pay at the new oil level?”

The third issue, he said, is currently the most pressing and is a major producer issue.

Should those companies with losses that they carry forward into a new calendar year be allowed to use that operating loss credit to reduce their payments below the floor or should those companies be forced to pay at the minimum tax level and then continue to carry that credit forward into a future year where they might have more tax liability.”

A second issue on the loss-carry-forward...
Hecla weathers challenging metals prices

Hecla Mining Company Feb. 23 reported US$443.6 million in sales and gross profit of US$38.5 million for 2015. The net loss applicable to common stockholders for the year was US$87.5 million, or US$2.6 cents per basic share, and the adjusted net loss applicable to common stock was US$34 million, or US$0.9 cents per basic share. Hecla’s average realized silver price for 2015 was US$15.57 per ounce, down 16 percent from 2014. The company’s average realized price for gold last year was US$1,150 per ounce, a drop of 9 percent from the previous year. The prices for the lead and zinc produced as a byproduct at its Greens Creek Mine in Alaska and Lucky Friday Mine in Idaho were also down. Recognizing the ongoing weakness in the price of silver, Hecla has enacted several measures to reduce costs and maintain its financial strength. The company expects to reduce non-payroll costs by approximately US$25 million in 2016. These cuts are expected to come from all areas of the business. In addition, senior management and board members have taken a 10 percent reduction in base salary and retainer fees and the Hecla President and CEO Phillips Baker Jr. has taken a 20 percent reduction in base salary. Despite the challenging metals markets, Hecla said it is well-positioned to take advantage of the recent rebound in precious metals prices. “We finished 2015 strongly, with robust performance at all our mines in the fourth quarter helping us set record silver and silver equivalent production for the year. And despite using probably the most conservative price assumptions in the industry, the company had its 10th consecutive year of growing silver reserves to the most in our history,” said Baker. “We believe we are one of few precious metals companies growing right now, not just in reserves but in production as well. Because our balance sheet allowed us to continue investing during the price decline of the last few years, we expect more than a 15 percent increase in silver production and about a 10 percent increase in gold production this year, positioning us to take advantage of the rally in prices we have seen in 2016.”

Teck consolidates management

Teck Resources Ltd. Feb. 23 reported the retirements of a number of its senior executives, providing the company an opportunity to consolidate and restructure its senior management in a way that will streamline reporting relationships and further align the organizational structure with the current business environment. Teck COO Ian Kilgour, who has been with the company for five years and worked more than 35 years in the mining industry, will retire on April 30. Rob Scott, senior vice president, zinc, who has been with Teck for more than 35 years, is also slated to retire at the end of April. After eight years with Teck and 37 years in the resource industry, Ray Reipas, senior vice president, energy, is slated to retire on June 30. Tim Watson, senior vice president, project development, who has been with Teck for nine years, will begin a phased retirement on July 1. “On behalf of Teck, I want to thank these individuals for their outstanding commitment to the company and the industry over the course of their careers,” said Teck President and CEO Don Lindsay. “As a result of these retirements, we have reorganized our management structure to ensure continued strong leadership across our business units, create a closer report-

Price run-up startles

Zinc, lead and silver follow gold’s lead, while copper lags other sectors

By CURT FREEMAN
For Mining News

Although there is plenty of Alaska mining industry news this month, the big dog in the photo is the dramatic and unexpected run-up in the price of gold, which moved from a low of $1,078 per ounce to a high of $1,246/oz., most of which occurred after Feb 1. Although profit-taking and other factors have caused the price to back off a bit, the move was both dramatic and unexpected. As you might guess, the other is full of talking heads telling us why it went up, why it either won’t stay up or will stay up, and what the price increase means for the mining industry, for bullion speculators and for gold end-users. But all of this explanatory noise came after the fact. What I want to know is who, if anyone, predicted the gold price run-up – that’s the Nostradamus I want to cozy up to! Zinc, lead and silver also tracked up with the gold increase, reversing multiyear declines and putting smiles on the faces of Alaska’s large metal mines. However, copper lagged behind, with only a few cents rise as it bounced around the $2 per pound mark. Over the past couple years, it has become clear that copper, once thought of as a reliable leading economic indicator, can no longer claim that title. It is clear that global economics are changing the dynamics of commodity supply and demand, whether we like it or not. One other item caught my eye: the European Space Agency announced Feb. 11 the detection, for the first time, of gravitational waves in space, some 100 years after Albert Einstein predicted their presence. And guess what they used to make this ground-breaking discovery? Gold and platinum! The LISA Pathfinder spacecraft, contains two identical gold and platinum cubes, measuring 1.96 kilograms each. The metals were chosen and combined in such a way that the magnetic susceptibility of the finished alloy was virtually zero, allowing the spacecraft to detect minute amounts of deformation by gravity waves. The news that gravitational waves really do exist had science nerds swooning, but it also had to bring a smile to the faces of gold and platinum producers worldwide!

Western Alaska

TECK RESOURCES LTD. and partner NANA REGIONAL CORP. announced fourth quarter and year-end 2015 results from its Red Dog mine. Mill throughput in the fourth quarter was 15 percent lower than a year ago, primarily due to an extended annual mill maintenance shutdown that resulted in zinc production slipping 12 percent from a year earlier. Lead production declined by 22 percent, primarily due to the lower throughput and reduced recoveries, which are partly offset by higher ore grades. In the fourth quarter the mine produced 136,200 metric tons of zinc in concentrate, and for the year, the mine produced 567,000 metric tons of zinc in concentrate. Zinc ore grade for the year was steady at 16.7 percent and mill recoveries were up slightly to 84.2 percent. The mine also produced 29,200 metric tons of lead in concentrate during the 4th quarter and 117,600 metric tons of lead in concentrate for the year. Lead ore grade for the year increased to 4.8 percent, while mill recoveries decreased to 60.7 percent. Gross operating profit for the fourth quarter was $149 million, compared with $202 million in 2014. Gross operating profit for the year was $537 million, compared with $574 million in 2014. Mill throughput for 2015 was down significantly to 4,026,000 metric tons due in part to the extended annual mill main- tenance shutdown. During 2015 the mine paid partner NANA DEVELOPMENT INC. and the State of Alaska royalties of $178 million versus royalties of $215 million in the year-earlier period. Zinc and lead sales volumes were 19 percent and 27 percent higher, respectively, than in the fourth quarter of 2014 due to timing of annual shipments. The mine’s expected production of contained metal in 2016 is expected to be in the range of 854,000 to 704,000 metric tons of zinc and 120,000 metric tons of lead. From 2017 to 2019, mine production is expected to be in the range of 500,000 to 550,000 metric tons of zinc and 100,000 to 110,000 metric tons of lead. Studies are in progress to increase mill throughput and thus zinc metal production as feed grade continues to decline.

NOVAGOLD RESOURCES INC. released its year-end financial results and project update for its flagship Donlin gold project, owned 50 percent by BARRECK GOLD CORP. Major milestones for 2015 include publication by U.S. Army Corps of Engineers of the draft environmental impact statement. A five-month public comment period is now in process and will include public meetings in 15 villages in the Yukon-Kuskokwim region and Anchorage. The company advanced multiple major permits, including Section 404, wetland compensation and water management permits, reclamation permits and air-quality permits. Over 100 permits will be required to reach production. The partners also continued evaluating alternatives to reduce initial capital costs through third-party operator agreements and a Request for Expression of Interest for third-party participation in the proposed natural gas pipeline to the project. The company indicated its share of expenses at Donlin for 2015 was $11,016,000, indicating the total expen- ditures for the project were about $22,032,000. For
10

continued from page 9

FREEMAN

2016 the partners have budgeted roughly $18 million to fund expenditures at Donlin and an additional $2 million for joint project technical studies.

Interior Alaska

KINROSS GOLD CORP. announced fourth quarter and year-end 2015 results from its Fort Knox mine. The mine produced 401,553 oz. of gold at a cost of $629/oz. versus 379,453 oz. of gold produced at a cost of $712/oz. in 2014. During the 4th quarter of 2015 the mill processed 3,407,000 metric tons of ore grading 0.66 grams per metric ton gold. Mill recoveries were 82 percent for the quarter. During the 4th quarter the mine placed 6,712,000 metric tons of ore grading 0.26 g/t gold on the valley leach facility. The mine also announced year-end revised resources, including proven and probable reserves at the mine were 147,318,000 metric tons grading 0.40 g/t gold (1,423,000 oz.). Inferred mineral resources were 14,822,000 metric tons grading 0.50 g/t gold (221,000 oz.).

CONTANGO ORE INC. announced year-end and near-term exploration plans for its Teltin gold project, operated by a subsidiary of joint venture partner ROYAL GOLD INC. During 2015 the joint venture expensed about $6.8 million for exploration, development and project management, focused primarily on its Peak gold deposit and other newly discovered gold bearing areas on the property. The joint venture recently approved phase 1 expenditures up to $4.4 million for a winter exploration program which commenced in mid-February. Depending on phase 1 results, a more extensive phase 2 drilling and reconnaissance program may be approved for the summer and fall of 2016. One objective of the 2016 exploration program will be to gather data sufficient to allow the joint venture to complete a new mineral resource estimate by the spring of 2017. Royal can earn up to 40 percent interest in the project by contributing up to $30 million by Oct. 31, 2018. Of this amount, Royal has contributed $6.8 million to work completed through 2015 and has committed an additional $4.4 million to the upcoming phase 1 winter exploration work.

Alaska Range

Alaska newcomer WHITE ROCK MINERALS LTD. announced acquisition of METALLOGENY INC.’s Red Mountain volcanogenic massive sulfide project in the Bonnifield District. Previous exploration has resulted in historical estimates of mineral resources at the two main prospects - Dry Creek and West Tundra Flats. Significant drill results from Red Mountain include 4.6 meters grading 23.5 percent zinc, 531 g/t silver, 8.5 percent lead, 1.5 g/t gold and 1.0 percent copper from 6.1 meters, 5.5 meters grading 25.9 percent zinc, 346 g/t silver, 11.7 percent lead, 2.5 g/t gold and 0.9 percent copper from 69.5 meters, and 7.1 meters grading 15.1 percent zinc, 334 g/t silver, 6.8 percent lead, 0.9 g/t gold and 0.3 percent copper from 39.1 meters. Significant drill results from West Tundra Flats include 1.3 meters grading 21.0 percent zinc, 796 g/t silver, 9.2 percent lead, 10.2 g/t gold and 0.6 percent copper from 58.6 meters, 3.0 meters grading 7.3 percent zinc, 796 g/t silver, 4.3 percent lead, 1.1 g/t gold and 0.2 percent copper from 160.9 meters and 1.7 meters grading 11.4 percent zinc, 372 g/t silver, 0.6 percent lead, 1.7 g/t gold and 0.2 percent copper from 104.3 meters. Mineralization is hosted in Lower Mississippian to Middle Devonian Totatlanika Schist, composed predominantly of metamorphosed volcanic and volcaniclastic rocks, and subordinately amounts of intercalated sedimentary rocks. The Dry Creek and WTF deposits have the volcanic, geochemical, alteration and sulfide assemblage characteristics of a very shallow water, boiling hydrothermal system with higher prospectivity for precious metal enrichment. Historical estimates for the combined resources at Red Mountain and West Tundra Flats are 5.7 million metric tons grading 5.0 percent zinc, 120 g/t silver, 2.1 percent lead, 0.7 g/t gold and 0.16 percent copper. Mineralization was discovered by a Phelps Dodge – Getty Oil joint venture at Red Mountain in 1976 and by Resource Associates of Alaska at West Tundra Flats in 1982. Significant core drilling and other work has been conducted on the prospects during the period 1975 through 1999, with other companies participating, including Houston Oil and Minerals, Grayd Resources and Atia Resources. White Rock currently is conducting data compolation and interpretation to help define future exploration targets. Welcome to Alaska White Rock Minerals Ltd!

MILLROCK RESOURCES INC. announced that First Quantum Minerals has elected not to renew its option to acquire a joint venture interest in the Alaska Peninsula property. No mineralization of significance was discovered in drilling at the Mallard Duck Bay project. Mineralization intersected at the Dry Creek prospect, while highly anomalous, was not strong enough to encourage further drilling. Millrock is discussing an extension of the option to lease agreement concerning the lands with the underlying subsurface land owner, Bristol Bay Native Corporation.

MILLROCK RESOURCES INC. also announced that the company and joint venture partner Teck American Inc. have elected to terminate the joint venture concerning the Estelle project in Alaska. The project has been inactive since 2014 and efforts to attract a third party to the project have been unsuccessful. The claims that comprise the project have been allowed to lapse.

DIAMOND GOLD CORP. has filed a plan of operations to expand Fire Brick mine, a gold-copper-silver prospect in the Yentna District. Gold and copper mineralization at the S15 zone occurs along a 5,000-foot-long, 1,500-foot-wide east-west trending fault. Mineralization is in quartz-carbonate altered zones of carbonatite and peridotite containing anomalous platinum and palladium in addition to copper and gold. Drilling and underground workings have tested the mineralization to at least 560 feet. Mineral resources are estimated at 300 million short tons grading 0.28 oz. per ton gold, 0.28 oz. 9. silver and 0.06% copper. The company spent $500,000 at the project in 2015, including exploration work, cyanidation and flotation tests as well as bulk sampling of the No. 3 vein from underground workings. Mill flow sheet work is ongoing.

Northern Alaska

NOVCOPPER INC. (soon to be renamed TRILOGY METALS INC.) announced year-end 2015 summary and its plans for this year at its Upper Kobuk Mineral Projects in the Ambler District. The project is a joint venture with NANA REGIONAL CORPORATION INC., a 50%-owned subsidiary of joint project technical studies.

PETROLEUM NEWS • WEEK OF FEBRUARY 28, 2016

see FREEMAN page 11
Continued from page 10

FREEMAN

During 2015 the company advanced the Arctic volcanogenic massive sulfide deposit towards pre-feasibility with 3,056 meters of drilling completed in the summer. The intent of the in-fill drill program is to re-classify the inferred resources to the measured and indicated categories for the potential of reporting additional resources in a future pre-feasibility study. The company spent $5.5 million during 2015, mainly on a successful field program comprised of 14 diamond drill holes, 12 of which were resource estimation holes and two of which were designed to test geotechnical and hydrogeology information within the proposed Arctic open-pit. The company also noted that the Alaska Industrial Development Authority Development Export Facility was given authorization by the State of Alaska to begin an environmental impact study on the Ambler Mining District Access Road; a process the company anticipates requiring 2-3 years to complete. The company plans to invest $5.5 million at the Upper Kobuk Valley Projects during 2016, mainly on drilling at the Arctic during the field season as well as to complete in-pit geotechnical, hydrological and metallurgical studies, and will also be utilized for environmental and engineering studies, as well as to complete the EAR survey initiated in 2015. The company plans to continue community engagement and its efforts on local hiring and education along with continuing to engage with the people of Alaska on the permitting of the Ambler access road. The company also announced that its president and CEO, Rick Van Nieuwenhuizen, a past vice president, exploration, Joseph Piekenbrock, received the prestigious 2015 Colin Spence Award for Excellence in Global Mineral Exploration from the AME-BC. As part of the team at NOVAGOLD RESOURCES INC; they received the Thayer Lindsley Award for the discovery of the Donlin Creek deposit on the Ninglick property. For its Kensington gold mine north of Juneau. The mine produced about 1.2 million carats of diamonds in 2014 and expects to continue over the next couple of years,” said Marie-Christine Bernard, associate director, provincial and territorial forecast, Conference Board of Canada. “On a more positive note, public investment in much-needed infrastructure will help the economies of Nunavut and Yukon return to growth this year.” Following three years of declines, the Conference Board expects Yukon’s gross domestic product to grow by 2.7 percent in 2016. Despite the commodity price slump and easing demand for base metals in the global market, Yukon’s mining industry is poised to increase output by 5.4 percent in 2016 as Capstone Mining Corp. processes higher grade ore at the Minto Mine. However, Capstone recently said that a significant open-pit mining in August in metal prices don’t improve. If this occurs, the board said there would be no production in 2016. The shutdown of De Beers Canada’s Snap Lake Mine in 2015 compared to 117,823 oz. of gold in 2014. For the year, the mine processed 2.4 million tons of ore at an average grade of 5.95 oz./ton. The board said that the mining sector will continue to face headwinds as most of the same conditions that prevailed last year are expected to continue over the next two years. Strong government spending is expected to offset some of the slowdown in mining. Yukon’s 2015–16 capital budget is the largest in the territory’s history and many investments in health facilities, schools, and other infrastructure are expected this year. Moreover, Yukon is becoming a tourist destination with overnight visits projected to increase by 2.5 percent in 2016. Nunavut can expect a more positive outlook as public sector projects and mineral exploration help turn the economy around over the medium term. With gold output at Agnico Eagle Mines Ltd.’s Meadowbank Mine continuing to taper, Nunavut’s mining output is expected to see 3.6 percent dip this year before picking up again in 2017. On a more positive note, exploration spending is on the rise in Nunavut, going from C$158 million in 2014 to C$203 million in 2015. Among the three territories, Nunavut is expected to see the most exploration spending this year, the bulk of which will be done by senior companies. The public sector will be investing in infrastructure in the next few years, including the construction of a $143-million Canadian High Arctic Research Station in Cambridge Bay and the $300-million upgrade to the airport at Iqaluit, the territory’s capital. Both projects are slated to continue until 2017. In all, Nunavut’s economy is forecast to expand by 1.2 percent in 2016 and grow at an even stronger pace in 2017. The shutdown of De Beers Canada’s Snap Lake Mine in December is expected to be a blow to the Northwest Territories’ economy. The mine produced about 1.2 million carats of diamonds in 2014 and accounted for about 13 percent of the territory’s diamond mining output. The start of production at the Galcho Kué mine—in the third quarter of 2016—should help offset some of the impact of closing Snap Lake and allow NWT’s economy to grow by 0.7 percent in 2016, according to the Conference Board of Canada. “All three territories faced difficult economic conditions in 2015, and the hard times are not over yet.”—Marie-Christine Bernard

North of 60 Mining News is a weekly supplement of the weekly newspaper, Petroleum News.
FREEMAN
continued from page 11

The partners currently are working to finalize plans and program scope for 2016. UCORE RARE METALS INC. provided an update on the preparations for utilizing their rare earth separation pilot plant using raw ore from their Bokan-Dotson rare earth element project. Roughly 40 metric tons of material from the property were processed in Germany utilizing the company's preferred ore-sorting technology, resulting in about 19 metric tons of sorted rare earth bearing material containing 96 percent of the rare earth metals. A three-metric-ton bulk sample was split from the sorted material and has been shipped to IBC ADVANCED TECHNOLOGIES, INC. in Ontario to process through the circuit developed for the company's preliminary economic assessment which includes crushing, grinding and magnetic separation, followed by a nitric acid leach, to yield about 500 gallons of pregnant leach solution. In addition to delivering a solution suitable for separation in the pilot facility, the SGS work will provide further independent confirmation of the process flowsheet proposed in the company's preliminary economic assessment. The company's SuperLig®-One pilot facility, currently being constructed by IBC ADVANCED TECHNOLOGIES, INC. near Salt Lake City is expected to be completed and ready for initial fluid testing in March. Upon receipt from SGS, the Bokan pregnant leach solution will undergo an initial test run followed by a production run commencing before the end of March. The initial output product from the SuperLig®-One pilot program, scheduled for delivery in the second quarter of 2016, will contain heavy rare earth elements in the form of metal carbones of dysprosium, terbium) and europium.

NORTHERN NEIGHBORS
continued from page 11

Victoria expects big upgrades at Eagle Gold in 2016

Victoria Gold Corp. Feb. 23 said 2016 will be a busy and transformative year at its Dublin Gulch gold project in the Yukon Territory. The work planned for this year includes a $3.6 million exploration program designed to result in a maiden resource estimate for the Olive-Shamrock zone, a near-surface mineralized target situated roughly 2,000 meters from the fully-permitted Eagle Gold project. Victoria said Olive-Shamrock has the potential to enrich Eagle project economics through the addition of higher-grade ore, increased flexibility in mine planning and lowering capital intensity from shared infrastructure. "Victoria will utilize the recently closed C$3.6 million flow-through financing to advance the Olive-Shamrock target, while preserving the hard dollars in the company treasury," explained Victoria President and CEO John McConnell. "Company management firmly believes that the near-surface, high-grade gold mineralization identified at the Olive-Shamrock target will enhance the now fully-permitted Eagle project." The definition and exploration program and is slated to begin in April and is expected to take four months to complete. Several large chargeability anomalies were defined during a three-dimensional induced polarization geophysical survey completed in 2014. This year’s work will include diamond drilling, surface trenching and geophysical surveys over the Olive-Shamrock zone. The program will concentrate on expanding the strike length of confirmed near-surface, high-grade gold mineralization within the Olive-Shamrock shear zone trend and target the previously un-tested 300-meter zone between the Olive and Shamrock targets. In addition to exploration, Victoria plans to update the feasibility study for the Eagle Gold Project. According to a feasibility study last updated in 2012, an open-pit mine and valley heap leach operation at Eagle would produce 192,000 ounces of gold annually for roughly nine years, based on probable reserves of 92 million metric tons averaging 0.78 grams per metric ton (2.3 million ounces) gold. A significant number of parameters have materially changed since. Most importantly, Eagle
now has all the major permits in hand to build and operate Eagle, making it a unique asset in Canada. Secondly, despite softening of the gold price, the project economics are poised to meaningfully improve due to a significant devaluation of the Canadian dollar. A number of input parameters also are believed to be materially improved in the current environment from fuel and mobile equipment prices to attracting top quality operations personnel. In addition to updates on capital and operating costs, Victoria said it will be undertaking trade-off studies aimed at reducing capital intensity, reducing operating costs, and optimizing annual throughput. The company expects to have the updated feasibility study finished this fall.

Western embraces more scrutiny of vast Casino copper-gold project

Western Copper and Gold Corp. Feb. 18 said the Yukon Environmental and Socio-Economic Assessment Board is requiring a panel review of its Casino copper-gold project for matters relating to tailings and waste management and potential effects to wildlife. A panel review is a higher level of Canada’s environmental assessment process that requires a group of experts to scrutinize the project. YESAB informed Casino Mining Corp., a subsidiary of Western, that it has notified the Federal Minister of Environment and Climate Change of the territory’s requirement for a panel review. Western says moving Casino to the highest level of assessment at this early stage removes the uncertainty that the world-class copper-gold project will be referred to panel later in the assessment process, potentially saving the company time and money. Western said the decision will provide it with an opportunity to engage the broader public in addition to federal, territorial and First Nation governments, and to demonstrate that the Casino mine can be built without significant adverse effects. Western Copper President and CEO Paul West-Sells said, “We appreciate that a mine of this significance requires all key aspects to be thoroughly evaluated. We look forward to working with Yukoners to ensure the project moves forward in an environmentally and socially responsible way.” The company said a feasibility study completed in 2013 shows favorable economics for a mine at Casino, even at today’s low commodity prices. A 2013 report indicates that the mine should be transformative for Yukon and Canada, delivering hundreds of jobs, contributing C$9.6 billion to the Canadian economy, and paying C$3.2 billion in taxes and royalties to federal, territorial, and First Nation governments over its expected mine life.

TerraX cuts more VG at Yellowknife

TerraX Minerals Inc. Feb. 23 reported assay results from the first two of four holes targeting quartz vein and replacement style mineralization at the Mispickel target of its Yellowknife City gold project, immediately north of the capital of Northwest Territories. Drilling at Mispickel totaled 384 meters in four holes on two parallel sections roughly 50 meters apart. TerraX reported that all four holes cut multiple zones of sulfide mineralized veins and replacement style sulfide mineralization, and three had visible gold. Hole TWL16-001 cut 8.6 meters of 12.87 grams per metric ton gold in the main zone at Mispickel and 11.32 meters of 2.14 g/t gold in the footwall of the zone. Hole TWL16-002 cut 7.3 meters of 23.6 g/t gold in the main zone. Following the drilling at Mispickel, which is situated in the Walsh property of the larger Yellowknife project, TerraX mobilized two drills to its Sam Otto target, 1,500 meters to the north.
**Mining Companies**

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Located 25 miles northeast of Fairbanks, Fort Knox is Alaska’s largest producing gold mine; during 2011, Fort Knox achieved 5 million ounces of gold produced, a record in Alaska mining.

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Usibelli Coal Mine is headquartered in Healy, Alaska and has 700 million tons of coal reserves. UCM produces an average of 2 million tons of sub-bituminous coal each year.

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Located 25 miles northeast of Fairbanks, Fort Knox is Alaska’s largest producing gold mine; during 2011, Fort Knox achieved 5 million ounces of gold produced, a record in Alaska mining.

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**Usibelli Coal Mine is headquartered in Healy, Alaska and has 750 million tons of coal reserves. UCM produces 1 to 2 million tons of sub-bituminous coal each year.**
NORTHERN NEIGHBORS

continued from page 13

NORTHERN NEIGHBORS

Dominion Diamond Corp. Feb. 22 reported positive results of a pre-feasibility study for mining the Sable kimberlite pipe located about 17 kilometers (10.5 miles) north-northwest of the existing Ekati mine infrastructure in Northwest Territories. The pre-feasibility study updates certain key economic and technical assumptions regarding the Sable project from the preliminary economic assessment published in September. The Sable pipe lies beneath Sable Lake within the Core Zone Joint Venture property in which the company holds an 88.9 percent interest. Development of Sable will require construction of an access road, site infrastructure, and sedimentation pond allowing Sable Lake to be dewatered ahead of the start of pre-stripping operations. The pre-feasibility study estimates US$142 million of capital expenditures to develop Sable, plus US$85 million of capital expenditures for pre-stripping. Production is scheduled to begin in 2019 and the Sable pipe is estimated to produce 10.1 million carats of diamonds from 12 million metric tons of kimberlite averaging roughly 0.8 carats per metric ton. Using a base case kimberlite price of US$140 per carat, the Sable pipe is estimated to produce a post-tax net present value of 7 percent discount rate of US$137 million and an internal rate of return of 16.2 percent. The Sable kimberlite deposit will keep the existing Ekati process plant at full capacity until 2033 – with Sable processing ending in 2027. Sable’s higher value ore will allow for optimal mine sequencing and operational flexibility to maximize the value of the Ekati operation. Dominion said it has entered into contracts for substantially the entire fiscal year 2017 Sable construction program, which is focused on the establishment of an all season access road to the project area. Construction of the rock dams and site infrastructure is expected to take place in fiscal year 2018; dewatering and pre-stripping in fiscal year 2019; and mining and processing of kimberlite by late that year. The company plans to re-evaluate and further optimize the Sable mining and processing schedule based on the results of a feasibility study for Jay, which is slated for completion in May. Kennady North drills high diamond grades at Faraday

Kennady Diamonds Inc. Feb. 18 reported additional high-grade diamond recovery results from the Faraday 1 kimberlite at the Kennady North project in Northwest Territories. During the winter of 2015, a 0.518-metric-ton sample of kimberlite was recovered by core drilling at Faraday 1. Caustic fusion processing of this sample at the Geological Laboratories Diamond Services of the Saskatchewan Research Council returned 4.65 carats per metric ton of commercial-grade diamonds. The three largest diamonds recovered from the Faraday 1 sample are described as: 1.43 carat off-white, transparent octahedron with no inclusions; 0.13 carat off-white, transparent tetra hexahedron with minor inclusions; and 0.12 carat off-white, transparent tetra hexahedron with minor inclusions. “We are very pleased with the excellent results,” said Kennady Diamonds President and CEO Patrick Evans. “The ice-based drilling currently underway at Faraday 1 is designed to continue defining the pipe-like body on strike to the northwest to the point where land-based drilling in the spring/summer will be possible. Following completion of the current series of holes being drilled 40 meters beyond the last major intersects, the core rig will be moved to the southwest, of the Faraday 1 kimberlite to test two areas where unexplained volcanoclastic kimberlite was intersected in 2015.” Kennady Diamonds is currently a 550-metric-ton bulk sampling program at the Kelvin North Lobe. The first two of 26 planned large-diameter holes have been completed and more than 34 metric tons of kimberlite has so far been recovered from this deposit. The company said it recovered a diamond in chip samples taken from the first RC hole. The diamond measures about 0.5 millimeters and is a high-quality octahedral.

Auryn refinest 2016 gold targets at Committee Bay, adds Peruvian prospects

Auryn Resources Inc. Feb. 21 said analysis of its 2015 summer work program along with a comprehensive review of historical data has led to the identification of a number of large-scale targets at its Committee Bay gold project in Nunavut that will provide the focus of the upcoming 2016 work program. The Anuri corridor, a more than 20-kilometer-(12.5 miles) long region of elevated gold-in-till values in the southwest part of the Committee Bay gold belt, is one such target. Within Anuri, Auryn has identified a north-south trending set of structures that provides clear drill targets. In the Three Bluffs region of the belt, a thorough review of the historical data within a 30-kilometer-by-20-kilometer area surrounding the deposit has identified four multi-kilometer-long trends of gold mineralization in rocks and tills. These trends will provide a clear focus in 2016 as Auryn begins work in the Three Bluffs region of the belt. The Three Bluffs deposit hosts 4.32 million metric tons of indicated resource averaging 4.91 grams per metric ton (683,000 ounces) gold, and 5.52 million metric tons of inferred resource averaging 5.43 g/t (965,000 oz.) gold. A re-inversion of the induced polarization and magnetic geophysical surveys has identified a previously unrecognized continuation of the structure that hosts the deposit 5,000 meters to the east. The identification of this structure has provided the potential to expand the deposit significantly. The 2016 program is currently being finalized and details will be released in the coming weeks. During the course of 2015, Auryn stacked 400,000 square meters of ground in the vicinity of some of the largest gold and copper mines in Peru. Auryn also advanced negotiations with certain Peruvian parties to option target licenses within this greater land position. Auryn said exploration costs in crown exploration will be less than C$1.5 million over the first year and funded from current working capital. “Auryn’s management team is compiling an impressive portfolio of exploration projects that will enable the company to pursue major gold discoveries for 12 months of the year,” explained Auryn CEO Shawn Wallace explained. “Committee Bay remains our primary focus, where our innovative discovery process will continue to roll out across the remainder of the 300-kilometer belt.”

continued from page 9

NEWS NUGGETS

Auryn refines 2016 gold targets at Committee Bay, adds Peruvian prospects

Auryn Resources Inc. Feb. 21 said analysis of its 2015 summer work pro-
Investors tap Canadian market

By GARY PARK
For Petroleum News

Mid-size Canadian oil and gas companies achieved a single-week bonanza in February, raising almost C$500 million from share sales. Proving that there is still interest in exploration and production stocks of those with an established pedigree, three companies — Seven Generations (62,000 barrels of oil equivalent per day), Advantage Oil & Gas (about 25,000 boe per day) and Raging River Exploration (14,000 boe per day) — led the way in bolstering their balance sheets and funding capital spending.

"Those are all companies that have a little bit of cachet," said Mason Granger, energy portfolio manager at Sentry Investments in Toronto. "They're companies that the equity markets are clearly open for." Thomas Matthews, an analyst with AltaCorp Capital, said it is the "higher-margin businesses that have the ability to mitigate losses in this environment" that attract investor attention. He added the names of even bigger producers, Peyton Exploration & Development (85,000 boe per day) and ARC Resources (120,000 boe per day), to the list of those with good prospects going forward.

Syndicate financing
Seven Generations raised C$380 million through a bought deal financing by a syndicate led by Peters & Co. and RBC Capital Markets, which paid CS14 a share, while Raging River sold 11 million shares for C$99.5 million to a syndicate led by FirstEnergy Capital and Advantage raised C$87.5 million through a syndicate of buyers also led by FirstEnergy.

TransCanada hits headwinds

Company takes C$2.9 billion write-down for Keystone Xl; more layoffs in store; proposal for Energy East faces stiff opposition

By GARY PARK
For Petroleum News

The cost of TransCanada’s unyielding battle to notch victory in a decades-long effort to fend off opponents to Keystone XL resulted in a C$2.9 billion write-down in the first quarter of 2015 when the big energy pipeline company posted a C$2.5 billion loss. And there’s more pain on the horizon with TransCanada issuing notice that another round of layoffs are in store for its employees on top of November’s cuts which financial disclosure documents released earlier in February showed reduced the payroll by 547 to 5,512.

Chief Financial Officer Don Marchand told analysts that some of the deepest cuts involved management positions, including vice presidents and directors.

"I wouldn’t say we’re done at this point," he said, referring to a search for more duplication across its business.

However, the non-cash charge related to Keystone XL did not prevent TransCanada from approving its 16th consecutive annual dividend increase.

"Although 2015 was a very challenging year for the energy industry, our C$64 billion portfolio of high-quality energy infrastructure assets performed well," said Chief Executive Officer Russ Girling. Setting aside the write-down, TransCanada had earnings of C$453 million, off C$58 million from a year earlier, mainly reflecting low returns from its Canadian power and pipeline divisions.

Girling said many of the assets are underpinned by regulated businesses or long-term contracts that generate predictable cash flows at minimal risk.

"In addition, we are proceeding with C$13 billion of near-term growth opportunities that are expected to be in-service by 2018," he said.

Those include the Prince Rupert Gas Transmission pipeline, the Coastal GasLink project and the Merrick line, all in British Columbia and dependent on final investment decisions in a shaky LNG sector.

Beyond the near term is the Energy East crude pipeline from the Alberta oil sands to Canada’s Atlantic Coast, targeting offshore exports from its design capacity of 1.1 million barrels per day, which faces relentless opposition, especially from provincial and municipal governments in Quebec, First Nations and environmental activists.

John Soini, the head of Energy East, is waging a quiet lobbying mission in Quebec at a time when the province is establishing itself as a global leader on climate change.

Energy East has also become an issue of national unity in Quebec, where separations and nationalism openly argue the province should not allow English Canada to win approval for a pipeline to carry "dirty" crude from the oil sands.

The Alberta and Saskatchewan governments are working hard to convince Quebec Premier Philippe Couillard to replace imports into Eastern Canada of 84,000 barrels per day from Saudi Arabia with Canadian crude.

But Couillard is more focused on reducing Quebec’s greenhouse gas emissions by 37.5 percent from 1990 levels by 2030 by relying on hydroelectricity.

He boasted at the United Nations conference on climate change in December that Quebec is "now recognized as a high-level player — of international caliper — on the issue of climate change.”

Couillard and his allies noted that the Alberta-based Pembina Institute has calculated Energy East would contribute another 30 million metric tons a year of carbon to Canada’s emissions, undercutting the federal government’s goal of reducing emissions by 30 percent from 2005 levels by 2030.

Steven Guilbeault, of Montreal-based environmental group Equiterre said the pipeline would account for about two-thirds of Canada’s allowable emissions under the Paris accord.

"That would leave one-third for the rest of the economy," he said. "I can’t see how this would fly."
Scoping meetings set for Nanushuk EIS

By KAY CASHMAN

The Corps will conduct the following public scoping meetings:

**Nuiqsut, March 21**
Kisik Community Center, 5-7 p.m.
2330 2nd Ave.

**Barrow, March 22**
Unupiat Heritage Center, 5-7 p.m.
5421 North Star St.

**Anchorage, March 28**
Crown Point Hotel, 6-8 p.m.
199 West International Airport Rd.

**Fairbanks, March 31**
Fairbanks Pipeline Training Center, 6-8 p.m.
3600 Cartwright Ct.

The Corps is the lead federal agency for the project's EIS. The U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and the Alaska Department of Fish and Game are project sponsors.

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### Continued from page 17

**SHARE SALES**

He said two types of energy investors dominate the market these days — those who believe the low commodity price downturn will turn around by the end of 2016 and those who want to see more evidence of a recovery before taking the plunge.
BP REPORT

Dale also said that the Energy Outlook does not consider unforeseen technical breakthroughs which could disrupt those energy markets at some point in the future. The energy growth scenario presented in the Energy Outlook projects a global population increase of about 1.5 billion people to a level of 8.8 billion by 2035. The world gross domestic product, a key measure of economic activity, should more than double during that timeframe, with almost half of that increase coming from China and India. Almost all of the anticipated increase in energy demand would come from fast-growing economies, with energy demand hardly increasing in the developed world, the Energy Outlook report says. A long-term trend towards global electrification and the increasingly widespread access to electrical power will drive more than half of the global increase in energy demand, with people in Asia and Africa particularly benefiting from this trend.

Fossil fuels dominant

Fossil fuels will likely remain the dominant global energy source, accounting for some 60 percent of the increase in energy usage and almost 80 percent of total energy supplies in 2035. The use of renewable energy sources will grow rapidly, but this growth will stem from a low base: Increasing at a rate of 6.6 percent per year from the current level of 3.3 percent of total energy supplies, renewables could achieve a primary energy share of 9 percent by 2035, the Energy Outlook report says. A projected increase from 1.2 billion today to 2.4 billion by 2035 in the global vehicle fleet will be the prime factor behind an anticipated increase in the consumption of liquid fuels that the BP analysis sees as pushing a rebalancing of the oil market. The analysis takes into account continuing substantial increases in vehicle fuel efficiency, with the likelihood that efficiency improvements will accelerate to a level of 2 to 3 percent per year, compared with 1.5 percent per year at present. The BP analysis anticipates natural gas being the fastest growing fossil fuel, with a usage growth rate of 1.8 percent per year. Abundant supplies and supportive environmental policies will drive this growth, with the majority of the increase in gas demand coming from emerging countries China and India will likely account for 30 percent of the increase, with the Middle East accounting for more than 20 percent. Within the global natural gas market, the trade in liquefied natural gas will grow twice as fast as gas consumption, with more than 40 percent of the increase in global LNG supplies happening over the next 5 years as various LNG projects reach completion. And, towards 2035, as LNG becomes the dominant form of traded gas, regional gas prices will become increasingly integrated, the Energy Outlook says. The United States will likely become a net exporter of gas, while Europe and China will become increasingly dependent on imported gas.

Coal demand slows

Demand for coal, on the other hand, will likely slow sharply to an annual growth rate of 0.5 percent per year compared with the rate of almost 3 percent per year seen in the last 20 years. By 2035 coal’s share in the overall worldwide energy mix will likely fall to an all-time low, with gas replacing coal as the second largest energy source, the Energy Outlook report says. Much of this slowdown would result from a deceleration in China’s coal demand as that country rebalances its economy. India will likely prove to be the largest growth area for coal usage, replacing the United States as the world’s second largest coal consumer, after China. Coal demand in the United States and the developed countries of Europe will likely fall by more than 50 percent by 2035, the Energy Outlook report says. The Energy Outlook anticipates the use of nuclear power increasing at a rate of 1.9 percent per year, with China’s production of nuclear power growing at 11.2 percent per year, more than doubling by 2020 and increasing nine-fold by 2035. Nuclear power in the European Union and North America will likely decline by 29 percent and 13 percent respectively, as aging nuclear facilities go out of use while economic and political constraints inhibit new nuclear investments. The restart of Japanese nuclear reactors could raise that country’s nuclear output to 60 percent of 2010 levels by 2020. The Energy Outlook anticipates the use of hydropower to increase at a rate of some 1.8 percent per year worldwide, with much of that growth coming in China and Brazil.

continued from page 8

HB 247

Credit is whether, as the administration pro- poses, a requirement for payment of mini- mum tax should be made retroactive to Jun. 1, 2015. Alper said the reason the administration is requesting that the change be retroactive is that “at least one of the major producers … will show a loss for 2015, and will be off- setting minimum tax payments beginning this month … to the level of zero by using their operating loss credit from calendar year 2015 to offset minimum tax payments for 2016.”

Asked by Rep. Kurt Olson, R-Soldotna, if the companies were doing anything illegal or unethical in their calculations, Alper said absolutely not, that they are following state law when total lease expenditures exceed the rate for carry-forward credits in effect of $1.2 billion in 2016, which, Alper said, is “well below the state’s forecast, but … could happen,” the companies would show a loss of $1.2 billion in 2016, which at the 35 percent rate for carry-forward credits in effect for 2015, would mean more than $400 mil- lion in carried-forward annual loss credits. “Now if those low prices continue for another couple years, that’s another 2 years worth of zero tax revenue … so they would be able to completely offset any minimum tax payment for 2 years into the future, until they ran through this $400 million worth of credits and possibly earning additional credits along the way.”

Alper said what is proposed in HB 247 is that even if the companies are losing money, the administration wants them to pay the 4 percent minimum so the state is at least getting something.

And the credits would not be lost but would be deferred into the future and used once the price of oil recovers and the com- panies have tax liabilities that they could offset with their credits. ●

Carbon emissions and the energy future

In the coming years, improving energy efficiency and the changing fuel mix will likely more than half the growth rate in carbon emissions into the atmosphere, a phe- nomenon that will represent a decoupling of the historic linkage between economic growth and carbon emission rates, according to BP’s annual Energy Outlook. Nevertheless, carbon emissions are likely to increase by 20 percent between 2014 and 2035, an outcome with a widening disconnect from emissions targets designed to limit global warming to 2 degrees C at most. And, with any hope of meeting the global warming goal requiring unprecedented rates of reduction both in energy intensity and carbon intensity, a meaningful price for carbon is likely to be the most efficient means of achieving carbon emission targets, the Energy Outlook says. Energy intensity refers to the amount of energy needed to support a unit of economic output, while carbon intensity refers to the amount of carbon emitted per unit of output. But efforts to speed the transition to a lower-carbon energy system, including the introduction of a price for carbon, would have a significant impact on the world’s ener- gy future.

A carbon price that rises to, say, $100 per tonne in the developed world and $50 elsewhere, coupled with tougher carbon dioxide standards for vehicles, for example, could result in carbon emission rates peaking in 2020 and declining to nearly 8 percent below 2014 levels by 2035. Total energy demand would grow more slowly than otherwise, with non-fossil fuels meeting all of the need for increased energy supplies — a continuing increase in the use of natural gas and oil would be more than offset by the reduced use of coal. Renewable energy use would increase by an astounding six-fold by 2035, a rate of gain in market penetration comparable to that of oil in the period 1908 to 1923, the period that included such phenomena as the Texas oil boom, the discovery of oil in the Middle East, the start of mass motoring and the British Navy switching to oil as fuel, the Energy Outlook says. But even in this scenario, the demand for oil and gas would continue to grow, albeit at a slower rate than otherwise.

— ALAN BAILEY

continued from page 15

Information at: www.spewrm.org  •  (907) 227-8514  •  phodge@slb.com

Contact Keistin Nelson at knelson@spwelnews.com
Crowley celebrates more than 6 years since its last LTI

Crowley Maritime Corp.’s tanker escort and docking services group in Valdez is celebrating more than 6 million man hours and more than 6 years since logging its last lost time injury. In addition to this remarkable number, the company announced that it had not had an OSHA recordable case in more than 2 million man hours while performing tanker vessel and escort vessel work for Alyeska Pipeline Service Co. In 2015, the company logged more than 1 million man-hours while safely escorting 236 tankers through Prince-William Sound, transporting 185 million barrels of oil in one of the harshest environments in the world.

“We’ve partnered with Alyeska Pipeline Service Company for more than 25 years to provide the safest, most comprehensive spill prevention and response services available for tankers traveling through Prince William Sound,” said Rocky Smith, Crowley’s senior vice president and general manager, petroleum distribution and marine services. “This achievement is a testament to the keen focus on safety our professional mariners and Valdez shore side support team displays. They are relentless in their pursuit of zero harm to people, property and the environment.”

In Valdez, Alaska, Crowley personnel and tugs help protect the environment through a contract with Alyeska Pipeline Service Co.’s Ship Escort/Response Vessel System. As part of this commercial partnership, the company provides tug escorts for tankers traveling through Prince William Sound and to and from the Valdez Marine Terminal, assuring safe passage, even under the most extreme winter weather conditions. They also provide secure docking and undocking operations at the oil product loading terminals.
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statute put sunset dates on those.
“Alaska’s always going to be way more expensive,” Lalicker said. “If we manufacture something and take it out to the field in Texas that’s way different from manufacturing it in Texas and having to ship it all the way up here.”

Cost premiums

There is a 20 percent premium on the cost of labor in Alaska and everything is more expensive in the state, he said. In addition, places like Texas have a much more extensive infrastructure and many more service companies, Lalicker said. The current oil price situation is particularly challenging. For example, the off-field operating costs, Lalicker said. The consequence has been a climb in the company’s Alaska oil and gas production to almost 60,000 barrels of oil equivalent per day, he said. Lalicker also commented that he is a firm believer that, while the issuance of bonds can be justified to support the purchase of new acquisitions, organic growth in those acquisitions must be funded from the company’s free cash flow, and not from borrowed money. Companies that use borrowed money to bet on future oil and gas production go bankrupt if the market turns against them, he said.

In Cook Inlet, Hilcorp’s strategy of ferrying away at a myriad of small projects aimed at improving field performance has resulted in a doubling of oil production from the company’s Cook Inlet assets from 6,000 barrels per day to 12,000 to 13,000 barrels per day. At the end of 2014 the company acquired from BP the Northstar and Endicott fields, and a 50 percent interest in the Milne Point and Liberty fields, on the North Slope and in the Beaufort Sea. Since that acquisition, the company has been very active in its new Arctic properties, although the company has yet to do much new drilling there.

“It’s certainly our intent, over time, to grow our rate and reserves from those fields as well,” Lalicker said.

Limited gas market

From a natural gas perspective, Hilcorp has kept Cook Inlet production relatively flat since acquiring Marathon’s Cook Inlet assets in early 2013.

“There’s only a finite market for gas in Alaska,” Lalicker said. “We focus our energies on continuing to serve that market.

Hilcorp continuously talks to its customers about gas supply requirements and has signed agreements for supplies as far out as 2022 to 2024, Lalicker said. The approach is to find out what gas people want to buy and then spend money to make sure that the reserves and deliverability are available to meet those customer needs.

He commented that his company is about to drill another well offshore in Cook Inlet, from the monopod platform, and that the company had been drilling wells at Milne Point on the North Slope.

“It isn’t one big project that makes this happen,” Lalicker said. “It’s lots of little things all the time. That’s what you do with properties late in their life.”

Moreover, he commented, Hilcorp’s investments in Alaska translate to employ- ment for people, with the company growing its Alaska workforce and desiring to have a stable workforce perhaps 20 to 30 years into the future.

Hilcorp also said that his company has been conducting some exploration in the Cook Inlet region, in the interests of finding new resources for the future, but so far has experienced “underwhelming” results.

Further investment

Hilcorp plans to invest between $200 million and $225 million in Alaska in 2016. Capital projects and drilling account for a little more than half of that expenditure, while about 40 percent will go on field expenses such as maintaining facilities and equipment. But with expenditure in 2017 and beyond an unknown at this point, Hilcorp’s message to the Legislature is that the company has been growing rate and reserves by spending money, and that the current fiscal debate is a big concern.

When looking at a 10- to 20-year investment time horizon, the one thing that really matters is stability in the fiscal system, Lalicker said.

“Why is it that changes we lose confidence in our ability to make investments, because we don’t know what the deal is going to be down the road,” he said. “If you want to undermine my willingness to invest in Alaska, keep trying to change the fiscal system every year or two.”

While he is not aware of any changes in the Texas tax regime for many years, there have been debates over Alaska’s tax system three or four times in the four years since Hilcorp entered the state, Lalicker said.

Complete fiscal package

And it is not just a question of tax incentives: It is about the complete fiscal package, including corporate income tax and property taxes. With every state having its own mix of tax provisions, depending on its policy priorities, Alaska must decide what behaviors it wants to incentivize through its tax system, Lalicker said.

Lalicker also commented that, just as Hilcorp’s business model revolves around the need to continuously conduct many small tasks and delegating much day-to-day decision making to the shop floor, to keep aging fields alive, the state of Alaska might want to adopt a similar mindset, as the state’s oil and gas provinces mature and more smaller companies work around the edges of the massive legacy discoveries. The fiscal system, the regulatory regime, the services sector all need to be geared around this paradigm of quickly and efficiently conducting many small projects, rather than chasing single massive prizes, he suggested. Taking months to obtain a permit does not work when you are trying to do many little things, he said.

Fire Protection Specialists

GMW has 17 years of experience working in Deadhorse supporting oil field activities on the North Slope of Alaska

GMW Fire Protection has offices in Anchorage and Deadhorse

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• Fire Alarm Inspections and Maintenance
• Special Hazards Design and Installation including FM-200 and water mist suppression systems
• Fire Estering Inspection and Service including hydro-testing and re-charge
• Fire pump certification and inspections
• Portable gas monitors and systems installation and calibration
• Kitchen hood service and maintenance
• CO2 system maintenance and recharge

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Sometimes you just need boots on the ground.
enced by tax reform passed in 2013 and raised by the voters in 2014,” she said. ConocoPhillips Alaska’s 2015 capital spend was $1.4 billion, “essentially on par with our 2014 capital spend of $1.6 billion. This compared with a 41 percent reduction in the corporation’s worldwide 2015 capital spend,” Lowman said. Joe Marushack, president of ConocoPhillips Alaska, said in late November that his company was maintaining its capital spending program in the state, although it has reduced operating costs through a cut in its workforce of 5 percent with another 5 percent of the workforce retiring and not being replaced.

In the parent company’s annual report, filed with the Securities Exchange Commission Feb. 22, ConocoPhilips noted that in 2015, the United Kingdom enacted tax legislation that reduced its UK corporate tax rate by 12 percent, while Alberta enacted legislation increasing the company’s overall Canadian corporate tax rate by 2 percent. “Our management carefully considers these events when evaluating projects or determining the level of activity in such countries,” the report said.

continued from page 1

NEB OUTLOOK

ments of the Paris conference, the UN suggests the commitments will see GHG emissions rise from 2010 to 2030.

Forecast based on today

The NEB repeatedly stressed that its forecast looks only at what is happening today and how that influences its projections. It did not take into account world price trends for energy or what policies the Canadian government might introduce to set a national price for carbon, to accelerate the shift in energy mix to renewable or the impact of subsidies for clean technology.

The NEB did not try to guess the outcome of oil pipeline hearings or actions, but cautioned that whatever happens there would be only limited impact on energy demand.

Even if all four of Canada’s major export pipeline projects — Keystone XL, Northern Gateway, Energy East and Trans Mountain — end up on the scrap heap, the board said growth in energy use would be only marginally lower. It also said that oil markets will continue to be accessed by rail if pipelines are shelved and will continue to exist domestically and offshore.

Demand growth slowing

For those looking for encouragement from crude-by-rail use in Canada, the NEB noted that end-use demand would increase at an average annual rate of 0.7 percent from 2014 to 2040, about half the increase from 1990 to 2013. Production of crude, based on all three scenarios, will continue to be accessed by rail if pipelines are shelved and will continue to exist domestically and offshore.

continued from page 19

BP REPORT

Changing patterns of consumption

By 2035 energy consumption in the European Union could fall to levels last seen in 1984, with renewables becoming the largest energy source for power generation and with carbon emissions consequently falling at a rate of 1.2 percent per year. Imports of natural gas, both as liquefied natural gas and by pipeline from Russia, should rise by 41 percent over the period of the outlook.

Energy consumption in North America should grow by 6 percent by 2035, by which time the continent could be producing about 30 percent of the world’s natural gas. On the other hand, with increasing energy efficiency, the amount of energy needed per unit of economic output should steadily decline. North America should become energy self-sufficient by 2018. And with strong growth in liquid fuel production coupled with declining oil demand, the continent should become a net oil exporter in 2021. Increasing natural gas production should offset a decline in coal. The Energy Outlook anticipates the Middle East continuing as the world’s top oil exporter, while Russia will remain the world’s largest overall energy exporter. Africa, with urbanization and a rising population, will see the fastest growth in energy demand of any worldwide region. China will overtake Europe as the biggest energy importer. India will see the fastest energy consumption growth of the major economies and will remain dependent on imported energy, despite its rapid development of non-fossil fuel resources.

The United States will become energy self-sufficient by 2021 and will maintain a position as the world’s largest liquid fuel and natural gas producer, the Energy Outlook says.

Tight oil and shale gas

The revolution of tight oil and shale gas production will continue, after a brief retrenchment as a result of low oil prices. Tight oil production in the U.S. will likely plateau at a level of nearly 8 million barrels per day, or almost 40 percent of U.S. production, in the 2030s. U.S. shale gas production should grow by some 4 percent per year between 2014 and 2035, becoming three-quarters of all U.S. gas production and 20 percent of global production in 2035. Shale gas production is also expected to increase worldwide, especially in the Asia Pacific and China, with a global production growth rate of 5.6 percent per year, and with shale gas “share of total gas production more than doubling, from 11 percent in 2014 to 24 percent by 2035. However, the rate of growth of U.S. tight oil production may slow after 2025, with growth limited by the size of the remaining resource. And, although tight oil production will increase globally, tight oil may only account for less than 10 percent of total oil production worldwide in 2035.

Predictions over the future growth of tight oil and shale gas form key uncertainties in trying to anticipate energy futures — the possibility of higher than expected production of these commodities would tend to crowd out conventional hydrocarbon production. Coal could be the main casualty, with a higher proportion of gas being used for power generation, the Energy Outlook says.

Other uncertainties

The Energy Outlook comments that different assumptions about improvements in...
on the Beaufort Sea coast, towards the western end of the North Slope. Caelus continues its development activities in the Oooguruk unit in the nearshore waters of the Beaufort Sea off the central North Slope. The company’s Nuna development, which is in the Oooguruk unit but will operate from an onshore pad, is on track for first production in late 2017, Feige said.

BP, ConocoPhillips and Hilcorp

BP continues with an aggressive program designed to maintain and expand production from the Prudhoe Bay field, with the completion of eight wells, 46 new sidetrack wells, and 420 well workovers in the main part of the field in 2015. The company also drilled some wells in the Lusbarene field, and gathered some new seismic data in the northern part of the Prudhoe Bay unit, Feige said.

Having brought on line the first wells in drill site 2S in the Kuparuk River unit and at the CD5 drill site in the Colville River drill site 2S in the Kuparuk River field and significant drilling in the North Slope fields, has returned two wells to production in the Northstar field. The company drilled three new wells and is undertaking some new facility construction in the Milne Point field. Hilcorp plans to drill 10 more wells at Milne Point and conduct multiple well workovers in 2016, Feige said.

New exploration and development

Repsol and Armstrong Oil & Gas have started the National Environmental Policy Act review for a proposed development in the Pikka unit, between the Kuparuk River and Alpine fields. Production from that development would likely come on line in five to seven years. Feige said. AEX, a subsidiary of Arctic Slope Regional Corp., is drilling its Place No. 3 exploration well in the central North Slope to the south of Oooguruk.

Great Bear Petroleum is conducting a further large 3-D seismic survey in its acreage south of Prudhoe Bay, but has postponed the re-entry of its Alkaid No. 1 well from this year until 2017, following Gov. Walker’s 2015 tax credit veto, Feige said. The company originally drilled the well in 2014. Great Bear is also in the process of bringing new partners into its North Slope program, Feige said.

And Accumulate Energy, having drilled its Icweine no 1 well, at Franklin Bluffs on the Dalton Highway, is now preparing to start a seismic survey in its leases. Great Bear and Accumulate are both pursuing shale oil plays.

Overall the robust cross section of companies working on the North Slope tells us that the industry still views the resource endowment and the investment environment as making Alaska a good place to be, Feige said.

The Cook Inlet basin

The Cook Inlet basin is also seeing some significant activity. Hilcorp is working diligently throughout the basin to bring oil and gas production on line and anticipates spending about $120 million in the Cook Inlet region in 2016 — the company has done a fine job of driving down its operating costs, in part through the aggregation of its drilling and wellworkover operations, Feige said. Hilcorp has also been able to introduce a level of competition in the Alaska service industry, sometimes using firms from the Lower 48, she said.

The larger jack-up drilling rig that Furie Operating Alaska has contracted for its Cook Inlet operations is now en route to Alaska from Singapore and is expected to arrive in mid-May. Furie needs the larger rig because the Spartan 151 rig that it had been using is too small for safe operations when doing development drilling at Furie’s new offshore gas production platform, Feige said. Gas production from Furie’s offshore Kitchen Lights field began late last year. Furie anticipates using the new jack-up rig for full-field development at Kitchen Lights, and to drill further exploration wells in the unit, she said.

Cosmo to come on line

BlueCrest Energy Inc. is bringing in a large land-based drilling rig in April to develop the Cosmopolitan oil field off the southern coast of the Kenai Peninsula, using extended reach wells from onshore. First oil is expected in mid-2016. The company may also develop gas from offshore at the Pikka unit, between the Kuparuk River and Alpine fields. Production from that development would likely come on line in five to seven years, Feige said. AEX, a subsidiary of Arctic Slope Regional Corp., is drilling its Place No. 3 exploration well in the central North Slope to the south of Oooguruk.

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BP REPORT

energy intensity, the amount of energy required per unit of economic output, and about the rate of economic growth have significant impacts on energy forecasts — the base forecast in the outlook assumes continuing improvements in the energy intensity. But maintaining a level energy demand, rather than have energy demand grow in the future, would require the energy intensity to decline at more than double the rate of decline seen in the last 20 years.

And, were there to be no increase in the rate of decline in energy intensity, the growth in energy demand by 2050 could as much as double. A slowdown in global economic growth, particularly as a consequence of a slower rate of growth than expected in China, could reduce the overall energy demand by about one-third, relative to the base case presented in the Energy Outlook. The large, impact of this would be on coal demand, followed by gas and then oil. The slower growth would also dampen the demand for renewables, the Energy Outlook suggests.

—ALAN BAILEY