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ASPO USA PEAK OIL REVIEW

Association for the Study of Peak Oil & Gas USA

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1. Oil and the Global Economy

Oil prices fell again last week with both NY and London oil closing out on Friday down about $4 a barrel from earlier in the week. Behind the price drop is a rising dollar, a glut of crude in the US, with stocks up 8 percent in the last six weeks, and weak demand. The EIA reported US crude stocks rose by 4.1 million barrels the week before last and stocks at Cushing, Okla. by 2.2 million. If the increase in US crude stocks continued last week, they will be at their highest level for the end of October since 1930.

US refineries ran at very high rates this summer to meet the gasoline demand during the summer driving season, but also to supply diesel to Europe and Latin America which are feeling the pinch of reduced Libyan and Nigerian crude supplies. The demand for diesel from overseas markets has resulted in a glut of gasoline as refineries end up with two barrels of gasoline for every barrel of diesel they produce. This has driven retail gasoline prices to their lowest in two years.

Brent prices took a dive on Friday after Bloomberg reported that some Libyan oil production resumed so that it is now about 100,000 b/d higher than it was last week. Given the political situation in Libya, production figures are likely to be erratic for the foreseeable future as the various tribes and their militias try to pressure the central government. At week's end NY oil futures were trading at $94.61 a barrel, down about $10 a barrel from the beginning of October and London was trading at $105.91, down about $5 from the middle of last month.

US crude production fell last week by 43,000 b/d to 7.85 million barrels. Although the detailed production numbers won't be available for another two weeks, it is likely that bad weather in the Dakotas contributed to the decline.

OPEC's production climbed in October. Some of the maintenance work on Iraq's Basra terminal was completed allowing for exports to climb to 2.3 million b/d in October. Tanker trackers report that OPEC is likely to cut back on exports in November as demand eases.

Most analysts see further oil price declines in the immediate future as demand continues to be weak, production is increasing at several locations around the world, and there does not seem to be an immediate threat to Middle Eastern oil exports.

US natural gas production climbed 0.3 percent in August to a record 74.82 billion cu. ft. per day. This is 3.1 percent higher than in August of 2012. Natural gas prices have fallen by about 50 cents per million since the beginning of October on increasing stocks and forecasts of warmer weather in the next few weeks.

2. The Middle East & North Africa

Iraq: As terrorist bombs continued to go off across the country, President Maliki met in Washington with President Obama to seek increased US military assistance in coping with what he says are attacks by al-Qaeda. Baghdad is seeking Apache attack helicopters and US-manned intelligence drones as well as other forms of military and intelligence support. Washington is concerned that Maliki is unwilling to accept any of the responsibility for the renewed troubles and continues his discriminatory policies against the Sunni minority.

Despite the steady stream of bombings, mostly against Shiite civilians and government security personnel, the overall stability of the country does not as yet appear to be threatened. Oil continues to be produced and exported in increasing quantities despite the reluctance of several major oil companies to remain in the country. Although the northern export pipeline is blown up every few weeks, the Iraqis have become adept at repairing the damage so that flows are restored quickly.

How long the situation in Iraq can last is coming into question. There are growing calls from Shiite leaders to take up arms in self defense; however, they insist they will do so under the aegis of the Shiite dominated security forces -- which so far have proved largely ineffective.

Baghdad reported last week that oil exports in October increased by nearly 9 percent over September as some of the ongoing port improvements at the Basra export terminal became operational.

The Kurdish oil situation became more confused last week when Ankara announced that it would not import oil from Iraqi Kurdistan without Baghdad's approval. Small quantities of Kurdish oil are already being exported to Turkey by tanker truck, however; a newly built pipeline from Kurdistan to Turkey is being tested and will be ready for use in early 2014; and the Kurds have announced they plan to build a second pipeline that could increase exports to Turkey significantly. How Baghdad reacts to all this likely will depend on whether they can get a share of the revenue from the Kurdish exports and the general security situation in the country in the coming year.

Iran: It was a rather quiet week, with nuclear negotiations, on which much of Iran's future depends, scheduled to resume later this month. Tehran issued a statement criticizing Baghdad for trying to grab Iran's oil customers while Iran is under sanctions.

Domestic problems continue to plague the Iranian government. Xinhua reported that Iran's inflation for the last 12 months hit 36.2 percent, up 11 percentage points from the same period in 2012. Tehran may also be forced to impose water rationing unless the capital's residents cut water consumption by 20 percent. President Rouhani has called for a national water plan to deal with the growing crisis. Iran's population is up to 77 million now with Tehran's metropolitan area at 12 million. Dry spells in the Middle East and increased extraction of underground water are resulting in increasingly salty water in the wells used for agriculture.

Despite its domestic problem, Tehran seems confident that the current round of nuclear negotiations will result in the lifting of the sanctions and unlimited access to world markets and capital investment. The government plans to revise its energy contracts to attract more foreign investment as it still has large reserves of cheap-to-exploit oil and gas which can be exploited in a relatively benign environment.

Tehran is leading a movement to reinvigorate a natural gas OPEC which would regulate pipeline and LNG exports. Iran is currently forced to burn off billions of dollars worth of natural gas each year as sanctions are hampering it from building an LNG export capability. The BP statistical review recently rated Iran's reserves of natural gas above those of Russia.

Tehran had planned to build four LNG terminals to export gas from the giant South Pars natural gas field it shares with Qatar. After Shell, Repsol, and Total pulled out of the projects, Tehran was working on a single

LNG terminal with the Chinese who left in September leaving the Iranians on their own. Even if the sanctions are lifted, Tehran will have trouble attracting the major foreign oil companies unless it offers very attractive terms.

Syria: In contrast with last summer when the US apparently was only days away from launching airstrikes, it has been relatively quiet in Syria of late. The UN chemical weapon inspectors report that the Syrians' capability to produce more poison gas has been destroyed and all that remains is to neutralize circa 1000 tons of existing gases and precursors.

Islamist rebels, with links to al Qaeda, have been building up strength in the Damascus suburbs in what they hope will be a final push to capture the city. Mortar and rocket attacks on government held districts of the city are becoming more frequent and two weeks ago the rebels blew up a pipeline feeding gas to a major power plant which resulted in Damascus being blacked out for several hours.

The Israelis apparently launched airstrikes against two military sites near the coastal city of Latakia last week. Although neither side would confirm that the attacks took place, sources in Washington say the Israelis were likely targeting advance air defense equipment that was destined for Hezbollah.

The humanitarian crisis that is accompanying the Syrian uprising is growing to alarming proportions. Syria's economy has nearly ground to a halt and food is becoming scarcer all the time. Millions are hungry and malnutrition is taking an increasing toll. Some refugee specialists fear that hundreds of thousands could die from hunger this winter as food supplies cannot reach many of those trapped by the fighting.

Syria is rapidly sinking from a relatively well off oil-producing country to a failed, anarchic state such as Somalia. The major danger is that the passions aroused in this conflict will spread to other Middle Eastern states eventually endangering oil exports and the global economy.

Libya: Conflicting reports as to the state of the country's oil production came out of Tripoli last week. On Monday the government announced that production was less than 300,000 b/d. On Tuesday, Reuters reported their calculations showed that less than 90,000 b/d was being exported with a lot of this coming from offshore oil fields less susceptible to interference. Natural gas exports by pipeline, which also come mainly from offshore fields, continue to flow into Italy.

On Thursday, Bloomberg reported that production had increased by 100,000 b/d, which triggered a precipitous drop in the London oil markets, but this has yet to be confirmed. With militias and other protest groups opening and closing valves at will, keeping track of the overall situation is difficult.

There is a growing consensus that Libya is falling into total chaos. Last week a well-armed militia made off with $55 million from an armored car. Three weeks ago, one militia kidnapped the Prime Minister who was quickly released by another bigger, more powerful militia. The situation seems bound to deteriorate further as the government no longer has the revenue from oil exports to pay its bills and employees. Forty-two years of one-man rule has left the country with no political institutions and a deep well of mistrust. Foreign investors that are vital to developing and maintaining oil production are pulling out.

It is doubtful that Libya will be producing much oil until all this is settled which could take a long time. The best that might happen is for the eastern province of Cyrenaica, which holds much of the country's oil reserves, to break away from Tripoli's rule and resume oil production on its own.

3. China

Last week Beijing announced that its manufacturing in October rose to the highest level in 18 months, but other indexes suggest that the economy is slowing so that growth in the 4th quarter may not be up to the 7.8 percent registered in the 3rd quarter.

Next Saturday the 370-member third plenum of the 18th Central Committee will meet in Beijing that is expected to result in major changes to China's basic economic policies. A similar plenum in December 1978 radically changed China's economic system to the mixture of socialism and capitalism which launched the country on 25 years of dynamic growth. President Xi has been telling foreigners that this meeting will be as significant as the 1978 meeting and will bring about major reforms. These meetings are held in complete secret so that it will likely to be weeks before any decisions are announced.

The US has asked China to join the IEA in coordinating releases from the strategic petroleum reserve it has amassed in recent years. China is thought to be building a reserve of roughly 500 million barrels that will be filled by 2020. US Energy Secretary Moniz indicated last week the Beijing is willing to enter talks with the US on the issue which will be held next year.

The Chinese are looking for ways to cut the costs of shale gas wells which according to Platts are currently running about $15 million each. To cut costs, Beijing is talking about procuring equipment locally and undertaking very large scale drilling operations. Whether the Chinese can find shale gas in such easy to exploit topography and geology as is found in parts of the US remains to be seen.

4. Quote of the Week

- **"The industry has resorted to fracking, and tar sands mining, and deep-water exploration to keep our supply numbers afloat. We've also gotten a lot more liberal about what constitutes 'oil production.' Adding in butane and propane and their brethren pumps up the numbers, but I'm not seeing a rush of butane gas stations popping up in my town. They serve a purpose, but they do not come close to serving as adequate substitutes for the conventional crude oil that powers 90% of our transportation.**"

-- Rick Turcotte, Peak Oil Matters blog, 10/29/13

5. The Briefs

- **Lukoil's** arrival in western Iraq two years ago sparked tribal disputes that set back the start of the $30 billion project by more than a year to early 2014. Russia's no. 2 oil producer moved swiftly to repair relations, hiring thousands of locals and supplying equipment for educational, medical and sports institutions. West Qurna-2 now employs about 11,000, two-thirds of whom are Iraqi nationals. (10/31 #8)
- **In Kenya,** Tullow Oil has been forced to suspend operations at its two blocks in Turkana after locals stormed the facilities last week. Two area Members of Parliament marshaled local residents to march to Tullow's camps demanding jobs and supply contracts for the local communities. (10/29 #7)
- **OGX oil** which Eike Batista's firm took public in 2008 for $4.1 billion—then Brazil's largest initial public offering of stock—declared on Wednesday Latin America's biggest ever bankruptcy after failing to produce nearly any of the 10.8 billion barrels Mr. Batista claimed it could find. (11/1 #16)
- **Petroleo Brasileiro's** CEO claimed the company's oil and gas production will increase from an average 2.2 million barrels of oil equivalent per day in 2012 to 5.7 MMboepd by 2020. To reach that mark, the company will invest $237 billion. (11/31 #13)
- **Brazil** is taking steps to stem huge losses on sales of diesel and gasoline that have raised questions about its ability to run a huge investment program. Strong growth in sales of cars and trucks has led to record fuel demand in Brazil. Petrobras currently imports expensive gasoline and diesel from abroad and sells them at a loss. (10/28 #9)
- A report issued by the **World Energy Council** says fossil fuels will continue to dominate the energy sector for the foreseeable future. The report made it clear that fears expressed in respect of so-called "peak oil" were unlikely to be realized within the next forty years at least. (10/28 #14)

- **Russia** is planning to more than triple crude-oil exports to China over the next decade, but it doesn't look ready to increase production proportionally. Most of the oil fields in Russia's biggest production center, Western Siberia, which accounts for around two-thirds of its output, are more than three decades old and in decline despite several years of billion-dollar efforts to maintain oil production in the region. (10/28 #13)
- TransCanada Corp. CEO acknowledged that opponents of the **Keystone XL pipeline** have slowed its approval, though he said his company remains committed to the project. (10/31 #20)
- Since July, plans have been announced for three large railroad loading terminals in western **Canada** with the combined capacity of 350,000 barrels a day — equivalent to roughly 40 percent of the capacity of the proposed Keystone XL pipeline. Over all, Canada is poised to quadruple its rail-loading capacity over the next few years to as much as 900,000 b/d, up from 180,000 today. The oil industry may simply bypass the pipeline argument by using rail. (10/31 #24)

***[Editor's note:** the 9 story clips immediately below point towards a) rising costs for oil companies, b) more commitments by oil majors to develop in remote locations such as the Arctic and c) a parallel commitment to investing in the expensive oil sands. This does not bode well long-term for lower oil prices which some optimistic analysts suggest.]*

- **India**'s Oil & Natural Gas Corp. is at risk of incurring a loss in its crude oil business for the first time as subsidy payments and production expenses rise. The cost of producing crude oil increased five percent, while buyers are paying four percent less for the product. (11/1 #21)
- **China**'s biggest state-owned oil firms, sitting on ageing fields, are scrambling to ramp up crude oil and natural gas production to meet increasing domestic demand through a slew of investments that also risk pushing up their costs. They have also invested heavily in risky projects such as deepwater drilling at home and abroad. These investments, which mirror a trend in the global oil industry, will increase costs. (10/30 #10)
- **Canada's** federal energy regulator approved an application by ConocoPhillips to begin drilling two exploratory wells for oil above the Arctic Circle in the Northwest Territories, the first such permission granted for hydraulic fracturing of horizontally drilled wells in the Canadian Arctic. (11/1 #24)
- **Suncor Energy** will proceed with the $12.9 billion Fort Hills oil sands project as it seeks to increase production. The venture with Total and Teck Resources will begin producing crude in 2017, adding 180,000 b/d of output in northern Alberta. (10/31 #23)
- **Shell** announced last week it was moving ahead with an oil sands project in Alberta, Canada, expected to produce 80,000 barrels of oil per day. Shell will use steam injection to heat the oil and plans to eliminate the need for freshwater used for steam generation through recycling of water produced with the oil. (11/1 #25)
- **Shell** is trying to leave an oil-rich but violent part of Nigeria, say people briefed on the company's plans to sell a vandal-prone pipeline and several oil wells there. (10/3 #11)
- Rates for the largest **oil-tankers** surged 13 percent in one day as Chinese freight traders led an acceleration in Asian demand for ships to load Middle East crude, sapping a fleet surplus that made the carriers unprofitable almost all year. Rising demand has cut a capacity surplus to the smallest since June. Very Large Crude Carriers (VLCCs) have earned $5,598 a day on average this year, less than they need to cover running costs. (11/2 #3)
- **Chevron** reported production from wells increased last quarter but remained below target. The company produced 2.59 million *barrels of oil equivalent per day* in the quarter, up from 2.52 million a year earlier.

The company has been targeting 2.65 million b/d for this year. A large part of future growth in coming years will be from Chevron's Australian liquefied natural gas projects, Gorgon and Wheatstone. (11/2 #23)

- Oil giant Shell will make another attempt to drill for oil off **Alaska's arctic coast**. Shell has devoted nearly $5 billion and eight years of work for its arctic oil exploration in the Chukchi and Beaufort seas. (11/2 #21)
- **Alaskan oil output** has declined every year since 2002 as the yield from existing wells shrinks. Alaska North Slope crude production averaged 534,306 barrels a day in October, down from 572,589 a year earlier. (11/2 #20)
- In July, US refiners exported a record 3.8 million barrels of oil products a day—up nearly two thirds from 2010 exports. That's part of the driver in **a tanker building boom**. Shipping operators and investors are pouring billions of dollars into building new oceangoing tankers to transport diesel, gasoline and aviation fuel. Overbuilding looks likely. (10/31 #17)
- **The US rig count** targeting oil and natural gas in the U.S. increased by four this week to 1,742, according toBaker Hughes Inc. Oil rigs rose by 19 to 1,376. The gas count fell 16 to 360. Miscellaneous rigs rose one to six. (11/2 #24)
- **The Gulf of Mexico**, stung by the worst offshore oil spill in US history in 2010 and then overshadowed by the onshore fracking boom, is on the verge of its biggest supply surge ever. Over the next three years, the Gulf is poised to deliver a slug of more than 700,000 b/d of new crude, reversing a decline in production and potentially rivaling shale hot spots like Texas's Eagle Ford formation in terms of growth. (10/29 #10)
- Shale oil has replaced around 2 million b/d of **US crude oil imports**. If EIA's projections are correct, crude imports could be reduced by another 2-2.5 million. That would leave the US with a crude import requirement around 6 million b/d. To call this energy independency is more than an exaggeration. (11/1 #28)
- The American Association of Railroads said year-to-date **oil delivered by U.S. rail** is up 34.4 percent increase from last year. (11/2 #19)
- **U.S. gasoline prices** averaged $3.34 in October; 37 cents lower than October 2012. However, an Illinois refinery fire has caused slightly higher than average prices in that region. (11/2 #18)
- **The Bureau of Ocean Energy Management** says it should have enough information to consider the east coast for a five-year lease plan beginning in 2017. Virginia's two senators support such a lease sale. (10/31 #18)
- Phillips 66 plans to build a terminal in Texas aimed at **exporting propane and butane** to meet growing demand for those fuels, which are being produced in the US alongside oil and natural gas. (11/1 #23)
- Cheap energy gives the US a huge **competitive advantage** over Europe**.** In light of this and other advantages, it is hard for businesses to justify new investments in energy-intensive activities - such as petrochemicals plants or refineries - that can relocate to the US. (10/31 #25)
- Reviving memories of past "gas wars," **Gazprom** complained last week that Ukraine still owed it hundreds of millions of dollars that needed to be paid immediately. Although Gazprom hasn't threatened to halt deliveries, observers were quick to note that the sudden concern over Ukraine's outstanding IOU comes a month before the former Soviet republic is due to sign a deal with the European Union that would strengthen political and trade ties. (10/31 #4)
- Russian energy company **Gazprom** said it wasn't ready to examine the shale natural gas potential in the country because of abundant conventional reserves. (10/31 #27)

- Whatever **Lebanon**'s natural gas reserves may be, and more than half the country's exclusive economic zone has still to be surveyed, there doesn't seem to be much prospect that exploration work will begin anytime soon. Lebanon has been without a government since March because of sectarian rivalries. (10/31 #9)
- Saudi Arabia and the United Arab Emirates, two of the world's leading oil producers, are spearheading a Middle Eastern drive to develop **solar energy**, with plans for projects requiring $1.5 billion in investment by the end of 2014. The program, designed to free up for export increasing amounts of oil and gas being used domestically for power generation. (11/2 #30)
- **Solar industry manufacturers** are rebounding from a two-year slump faster than technology companies recovered from the dot-com bubble of the late 1990s. (10/31 #30)
- Operators of some of the largest US truck fleets, including Lowe's., Procter & Gamble Co. and United Inc. are shifting to **natural gas fueled trucks**, betting on new engine technology that promises to drop the costs. (10/30 #14)
- A new analysis of **Propane-fueled taxis and buses** in Hong Kong shows that catalytic converters become fouled and vehicles begin emitting extremely high levels of nitrogen dioxide, unless replaced every 18 months in vehicles that are driven around the clock. (11/2 #17)
- **Bicycle** sales outpaced new-car sales last year in every one of the 27 countries in the European Union except Belgium and Luxembourg. (10/28 #12)
- Global **light vehicle assembly** will reach 81.8 million units in 2013, representing a 3.3 percent gain form 2012, according to Autofacts. (10/30 #4)
- **Pirates** operating off the Horn of Africa netted more than $400m in ransom money between 2005 and 2012, a new World Bank and UN report says. (11/2 #16)
- **California's lawmakers** approved new legislation allowing hydraulic fracturing and acid treatments to rejuvenate its ageing wells in exchange for strict controls and tougher enforcement. (10/31 #16)
- Average summer temperatures in the eastern Canadian Arctic are the highest they have been in the past 44,000 years reflecting what scientists call an unprecedented warming of the region says a new study by the University of Colorado Boulder. (10/28 #3)
- Climate change will pose sharp risks to the **world's food supply** in coming decades, potentially undermining crop production by 2 percent per decade and driving up prices at a time when the demand for food is expected to soar, scientists have found. (11/2 #4)
- The **Pacific Ocean** is warming at a faster rate than it has in the previous 10,000 years, suggesting more difficulties in countering the effects of global warming, according to a new study published Friday in the journal Science. (11/2 #5)
- Authorities across **Western Europe** began a giant cleanup operation Monday after one of the biggest storms in a decade pummeled first England and Wales and later parts of the Continent, killing at least 10 people and causing widespread travel chaos and power outages. (10/29 #15)

6. In Memoriam

This past Saturday a memorial service was held for a most notable commentator on the world's energy and population problems: Dr. Albert Bartlett (1923-2013). He was a highly honorable man and a born educator driven by a deep desire to make the world a better place.

Armed with a Physics PhD, a professorship at the University of Colorado in Boulder, and a keen eye on some global mega-problems, Dr. Bartlett began speaking out in 1969. By March of this year, just before he turned 90, he had delivered 1,743 presentations to widely ranging audiences in 49 states and 7 other nations, including Saudi Arabia. He titled his talks either "Arithmetic, Population and Energy" or "The Forgotten Fundamentals of the Energy Crisis."

For "Big Al's" combination of unmatched persistence, rigorous logic and gentlemanly demeanor, back in 2005 our friend Randy Udall dubbed him "a saint." Months ago, another of his friends Richard Brenne offered that "Al should be designated the first winner of the Nobel Prize for Common Sense." Last week, energy commentator Richard Heinberg wrote that "Al used simple math to show the absurdity of the mainstream view that economic and population growth can go on indefinitely. The contradictions between assumptions and reality were so blatant that audiences often erupted in laughter. No one else has ever managed to be so funny and so bleak at the same time. He woke a lot of people up, and for that he deserves our deepest thanks."

Al's background that wasn't so well known to people who just heard his lecture or read one of his many publications: His first job was working at the Los Alamos National Laboratory during World War II, and his job-related photos of the first atom bombs were world-famous. He liked hitchhiking and loved trains, even hopped a freight to New Mexico for that first job. Al, his wife, and his four daughters camped every year, right up through this past July. And in his home town of Boulder, back in the late 1950s and early 1960s, Al was the point person on a ballot initiative that resulted in the creation of one of the most picturesque open-space areas within any city in our country.

Of Al's many quotable lines delivered and points scored with audiences and readers around the world over five decades of outreach, the few below capture a bit of his core:

"The greatest shortcoming of the human race is our inability to understand the exponential growth function."

"The population explosion is the most serious problem facing mankind."

"Can you think of *any* problem, on *any* scale, from microscopic to global, whose long-term solution is in *any* demonstrable way aided, assisted or advanced by having larger populations at the local level, the state level, the national level or globally?...

"A CU professor of economics once told me, 'This stuff you're telling people is all wrong.' So I gave him a copy of my 1978 paper and asked him to take a red pencil and mark the things that are wrong, since this would help me. Later he simply returned the paper unmarked and said, 'It's *all* wrong.' Which wasn't any help."

"Sustainable growth is an oxymoron."

"The question of how long our resources will last is perhaps the most important question that can be asked in a modern industrial society."

"Everything I know tells me we should have started planning and preparing back in 1956 when M. King Hubbert started warning people about the eventual downturn in world oil production. It was already late when I got started on this in 1969."

Al Bartlett, a tireless giant of a man, has moved on, and those of us who knew him will miss him dearly.

Submitted by Steve Andrews

If you never heard Al's famous presentation, you can watch it in its entirety on YouTube. When you have an hour, google "Al Bartlett" and click "presentations."