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1. Oil and the Global Economy

NY oil futures have risen steadily for the last two weeks closing Friday at \$93.45, some \$3 a barrel higher than at the beginning of March, but \$4 a barrel lower than the highs touched in mid-February. Although domestic crude inventories are at record levels, these large inventories are attributed to ongoing refinery maintenance and are expected to be worked off later in the year. Traders were more impressed by the 1.5 million barrel reduction in crude stocks at Cushing, Okla. which fell to the lowest level since December. Goldman Sachs is forecasting that the current \$16 spread between WTI and Brent crude will fall to \$7.50 in the second quarter as a new pipeline from the Permian Basin allows crude to be sent directly to the Gulf Coast refineries, bypassing Cushing.

Oil prices in London have been choppy in the last two weeks, hovering around \$110 a barrel as various North Sea oil fields closed and opened due to leaks and other problems.

At the global level near-term demand for oil from the US, China, and the EU does not look encouraging. The IEA now says that global demand will increase by 820,000 b/d this year, 200,000 b/d less than in its last forecast. In comparison, global demand has been increasing by an average of 1.4 million b/d during non-recessionary years. The Agency sees the increases in US and Iraqi production, coupled with the possible return of 200,000 b/d from Sudan later this year, as keeping the market adequately supplied despite declining production elsewhere and possible additional reductions in Iranian exports.

Natural gas prices surged last week, closing at \$3.87 per million on Friday, up nearly 65 cents from the lows touched in mid-February. Unexpected cold weather across the northern US led to larger than expected drawdowns from natural gas inventories. Although these inventories are still 11 percent above the five-year average for this time of year, low prices in the last year or so have caused reductions in drilling which will take some time to ramp up. Even at \$4 per million some believe the gas drillers are still losing money and it will take at least \$6 gas for many drillers to break even. As gas prices rise above \$3.50 per million, coal becomes a better value for many utilities so the trend to gas for electricity generation is likely to hold or even reverse.

US retail gasoline prices were little changed last week, holding about 10 cents a gallon below the recent high of \$3.78 for regular hit two weeks ago.

2. Middle East and North Africa

Iran: Most of the attention last week focused on President Obama's forthcoming visit to Israel and the discussions with the newly rejuvenated Netanyahu government. Some see a crucial time approaching in the next few months in the negotiations with Tehran over the nuclear issue. As Iran issues a mix of conciliatory statements about "good faith" on the part of the "west" (which seems to include China and Russia) and

announcements of increased progress towards sufficient uranium to make a bomb, it is difficult to make out just where we are headed.

Most observers see the crisis being defused for the immediate future after Tehran slowed the stockpiling of 20 percent enriched uranium. During the past week, President Obama announced that it would take at least a year for Tehran to build a bomb, and the word out of Israel is that Tel Aviv tacitly agrees. The Iranian Presidential election is coming in June and no major decision on Iran's nuclear development are expected to be made until after a new government is in place and whatever upheavals take place in the aftermath of the election are settled.

Another factor in the nuclear situation is Iran's increasing commitment to the Assad government. New reports say the Tehran has increased its shipments of military supplies to Assad, just as the moderate Arab states and West are stepping up support to the rebels. The eventual collapse of the Assad government, which looks increasingly likely, is bound to have repercussions affecting many aspects of Tehran's foreign policy including nuclear weapons.

India seems to be on the verge of cutting or eliminating its oil imports from Tehran and is in discussions with other OPEC countries for replacement cargoes. Tehran has already slipped from 3rd to 7th on the list of India's top oil suppliers.

Last week Iran and Pakistan held a well-publicized ceremony inaugurating construction of a pipeline that will supply Iranian gas to Pakistan. Washington, which partially keeps Pakistan afloat with billions in foreign aid, is far from pleased at the potential creation of an outlet for Iranian gas. However, the prospects that the multi-billion dollar project will ever be completed are not good. The financing of the pipeline is still in doubt; the Pakistani government is due for change soon; and the province through which the pipeline will pass is highly unstable.

Iraq: The bombings of government installations by Sunni insurgents continued last week with at least 25 killed near the well defended Green Zone in the heart of Baghdad when bombs went off at the Interior and Justice Ministries. A new report says the Sunnis living north of Baghdad are patching up intra-Sunni disputes and with financial and military support from the moderate Gulf Arab states are preparing for an uprising against the Shiite-dominated government in Baghdad.

In a disturbing development, Al Qaeda announced that it was responsible for the ambush and slaughter of the 48 Syrian soldiers and nine Iraqi guards who were escorting the Syrians back to their country after escaping from the rebels into Iraq. This suggests that Iraq as well as Syria is losing control of its borders to militant groups.

The Kurds, who are outraged at being largely shut out of Baghdad's oil revenue sharing with the provinces, say they will decide this week whether to remain part of the coalition government or withdraw their delegates from Parliament in protest. This continues to look like the run-up to political turmoil or even civil war.

Egypt: As diesel shortages continue to grow, Egypt's microbus drivers who are a major supplier of transportation in the country went on strike last weekend, impacting much of the economy. Egypt must import 40 percent of its diesel using scarce hard currency. As law and order breaks down, many believe that an increasing share of the heavily subsidized fuel is making its way onto the black market. Short of massive outside help, there is no solution for this situation in sight.

Egypt's second and possibly more important problem is its food supply. A new report shows that the country's strategic wheat stocks are falling rapidly and are now less than half normal. In the first seven weeks of 2013, wheat imports were two thirds lower than in 2012. For a country that relies on imports for more than half of its wheat supplies for 84 million people this is a serious problem. Last week the government announced a

major reduction in flour subsidies which led to widespread strikes and protests. More trouble is expected in the coming week.

The IMF is due back in Cairo this week for further negotiations over a \$5 billion loan which is the precursor to opening access to still more money for the beleaguered economy. The last time around, the hang-up was over the cost of oil and other subsidies that politicians give to the voters to retain their popularity. With the parliamentary elections put off for a while, maybe there will be some sort of agreement easing the financial crisis.

3. A US Energy Plan

Last week President Obama announced a “blueprint for a clean and secure energy future.” The new proposal calls for Congress to establish a new “Energy Security Trust” that would take \$2 billion in revenues from drilling on federal property over the next ten years and invest it in research on cleaner forms of energy, including safer development of natural gas, and more efficient ways to use energy. The proposals formalize what the President has been talking about in recent speeches.

No mention was made of the Keystone pipeline which has both sides of the debate aroused. For those deeply invested in the issue, Keystone has become elevated to a level where it is the only energy issue that matters. Members of Congress are busy introducing bills legislating that the pipeline be built, despite recent stories that much of the Canadian oil that transits the pipeline would be turned into oil products in Gulf Coast refineries and exported to Latin America.

White House insiders are saying that the President is likely to approve the pipeline this summer, but will use his existing court-approved authorities to clamp down on power plant carbon emissions thereby mollifying the environmentalists. Amidst all this turmoil it is problematic whether the new proposals will become law in this congress.

Quotes of the week

- “...we’re making progress, but the only way to really break this cycle of spiking gas prices, the only way to break that cycle for good is to shift our cars entirely -- our cars and trucks -- off oil.”
- [President Barack Obama](#)
- “Even at the low end of decline rate estimates, the world must find and put into production the equivalent of what is currently coming out of the entire North Sea, one the world’s largest finds, and we must do so EVERY SINGLE YEAR before worldwide production can rise. So difficult has this task become, that we’ve only just been able to keep global production on a bumpy plateau since 2005. For now, the oil industry is on a treadmill which requires ever more drilling just to keep production even.”
- ASPO-USA Board Member, [Kurt Cobb](#)

The Briefs (clips from recent Peak Oil News dailies are indicated by date and item #)

- The Middle East is facing a critical **water crisis** because of poor management and a 2007 drought, the American Geophysical Union warns in a new report. It published a NASA study that showed in 2003-09 the Middle East lost a volume of water equivalent to the needs of up to 100 million people in the region. That amount of fresh water is almost the size of the Dead Sea shared by Israel and Jordan.
(3/16, #4)

- **Gas rigs** in the US jumped by the most in more than three years as futures registered a fourth weekly gain and drilling in Louisiana and Oklahoma increased. The number of gas rigs climbed by 24 to 431 this week, the highest count since January and the biggest increase since Jan. 2010. (3/16, #18)
- The US experienced record growth in **solar installations**. A total of 3,313 megawatts of capacity was added last year, bringing the national solar photovoltaics total to 7,221 megawatts. That's a 76 percent increase compared with 2011. (3/16, #19)
- Planned **natural gas pipelines** from the US to Mexico could double the amount gas exports by 2014, the US Energy Department said. Several pipeline projects planned to Mexico could add 3.5 billion cubic feet per day, double the current capacity, by 2014 if they all come on stream as projected. (3/15, #15)
- Tight state budgets and jammed roadways are prompting some state governments to make one of the most politically unpopular moves imaginable: raising **gasoline taxes**. Because they hit everyone, gas taxes are widely disliked and rarely increased. But after decades of underinvestment in roads, bridges and public transport, states face heavy infrastructure costs and lack the money to handle them. (3/15, #21)
- **Shell** was blasted by the US government for the series of mishaps that dogged its attempts to explore for oil in the Arctic, and ordered to file detailed plans before it can resume those efforts. An Interior Department review of Shell's exploration off the north coast of Alaska in 2012, found shortcomings in oversight of its various contractors and said the company started its work "not fully prepared." (3/15, #23)
- ENN Group, one of China's largest private companies, plans to establish a network of **natural gas fueling stations** for trucks along US highways. With plans to build 50 stations this year alone, ENN joins a small but formidable group of players -- including Clean Energy Fuels Corp and Shell -- in an aggressive push to develop an infrastructure for heavy-duty trucks fueled by cheap and abundant natural gas. (3/15, #26)
- Cummins and Peterbilt released test results showing their demonstration **SuperTruck tractor-trailer** achieved a 54% increase in fuel economy, averaging nearly 10 mpg US (23.5 l/100 km) under real world driving conditions. The truck also demonstrated a 61% improvement in freight efficiency during testing. (3/15, #28)
- **Spain**, which imports about 99 percent of its natural gas, has enough prospective resources of the fuel to satisfy current demand for 70 years if shale is developed, according to a trade group. (3/15, #31)
- The **Iraqi Oil Ministry** says seven international oil companies have qualified to bid for developing a promising oil field and build a refinery in the country's south. The companies are Russia's Zarubezhneft and Lukoil, China's CNPCI, US Brown Energy, India's Reliance Industries, France's Total and Japan's JGC & Tonen General. (3/13, #14)
- A report that McKinsey & Company helped write predicted that **India** would need to double its water-generation capacity by the year 2030 to meet the demands of its surging population. (3/13, #18)
- Residents of the **Falkland Islands** overwhelmingly voted in favor of remaining a U.K. overseas territory. (3/12, #14)
- **Japan** says it has successfully extracted natural gas from frozen methane hydrate off its central coast, in a world first. Methane hydrates, or clathrates, are a type of frozen "cage" of molecules of methane and water. Other countries including Canada, the US and China have been looking into ways of exploiting methane hydrate deposits as well. (3/12, #18)

- Rising fuel prices have GM and Chrysler taking a second look at **smaller pickup trucks**—vehicles that the Detroit Three auto makers abandoned in the US amid weak demand. Both see smaller vehicles helping them to hit higher fuel-economy targets and helping to regain market share from Toyota. (3/12, #27)
- China's plans to unlock what could be the **world's biggest shale gas reserves** risk running off track after 16 firms awarded exploration rights in the latest auction lacked one core skill - not one has drilled a gas well before. (3/11, #11)
- **China's auto sales** accelerated in the first two months of this year, rising 19.5 percent over the same period of 2012 in a possible positive sign for an economic recovery. (3/11, #12)
- China's state-run media said the **largest hydroelectric project** in the Tibetan autonomous region should start generating electricity this year. The Pondo Water Control described as Tibet's Three Gorges Dam, will cost around \$728 million. and be completed by 2016. (3/11, #15)
- Updated official data show **Greece's economy** shrank at a slightly slower pace than initially forecast in the last quarter of 2012, but still contracted by 6.4 percent during the year. (3/11, #21)
- A US environmental advocacy group lauded the first trans-Atlantic flight from KLM Royal Dutch Airlines that used **sustainable biofuels**. KLM announced last week it would use biofuels to power a commercial route from Amsterdam to New York. (3/11, #24)

Commentary: Texas and Eagle Ford: Where the Action Is

(Note: Commentaries do not necessarily represent the position of ASPO-USA.)

By Roger Blanchard

A lot has been made in the media about how rapidly oil production is increasing in North Dakota due to development of tight oil in the Bakken Shale region of the state. Less has been made of the rapidly increasing oil production in Texas.

According to United States Department of Energy/Energy Information Administration (US DOE/EIA) data, oil production is rising faster in Texas than it is in North Dakota: a 523,000 b/d increase for Texas versus a 243,000 b/d increase for North Dakota in 2012, relative to 2011, based upon US DOE/EIA data as of 2/28/13.

In Texas, most of the recent oil production increase has come from a shale formation called Eagle Ford. Figure 1 is a diagram showing where Eagle Ford is located within Texas.

Eagle Ford Shale Formation Shown in Green

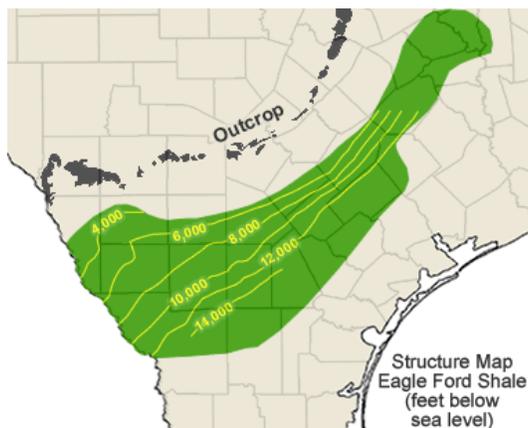


Figure 1

Eagle Ford actually has separate regions that produce dry gas, condensate and crude oil. Crude oil is produced on the north side of the formation, condensate in the middle and dry gas on the south side. Table I contains crude oil and condensate production data for Eagle Ford.

Eagle Ford Crude Oil and Condensate Production

| Year | Crude Oil Production (b/d) | Condensate Production (b/d) | Sum of Crude Oil + Condensate Production (b/d) | Change in Production from Previous Year (b/d) |
|-------------------------|-----------------------------------|------------------------------------|---|--|
| 2008 | 358 | 0 | 358 | |
| 2009 | 844 | 1,423 | 2,267 | 1,909 |
| 2010 | 11,986 | 13,708 | 25,694 | 23,427 |
| 2011 | 127,965 | 71,706 | 199,671 | 173,977 |
| 2012 | 352,127 | 71,748 | 423,875 | 224,204 |
| 2008-2012 Change | 351,769 | 71,748 | 423,517 | |

Table I*

*Data from the Texas Railroad Commission as of 2/28/13

Among the interesting aspects of the data in Table I is the rapid rise of crude oil production in the last few years and the small increase for condensate production in 2012 relative to 2011. Is condensate production on the verge of declining? Time will time.

Table II illustrates, when compared to Table I, that most of the Texas oil (crude oil + condensate) production increase in the last few years has come from Eagle Ford.

Texas Oil Production Minus Eagle Ford

| Year | Texas – Eagle Ford Crude Oil + Condensate Production (b/d) | Change in Production (b/d) |
|------------------------------------|---|-----------------------------------|
| 2008 | 1,108,720 | |
| 2009 | 1,091,253 | -17,467 |
| 2010 | 1,141,315 | 50,062 |
| 2011 | 1,211,954 | 70,639 |
| 2012 | 1,207,688 | -4,266 |
| 2008-2012 Production Change | | 98,968 |

Table II*

*Data from the Texas Railroad Commission as of 2/28/13

The data in Tables I and II show that the oil production increase for Eagle Ford was over 4 times that of Texas outside of Eagle Ford between 2008 and 2012.

An interesting aspect of oil production data for Texas is that there is a wide discrepancy between the data from the Texas Railroad Commission (TRC) and that from the US DOE/EIA over the last few years, illustrated in Table III. The oil production data in Table III is as of 2/28/13 for both agencies.

Texas Oil Production Data from the US DOE/EIA and TRC

| Year | US DOE/EIA Texas Oil Production Data (mb/d) | TRC Data (mb/d) | Difference between US DOE/EIA Data and TRC Data (b/d) |
|------|---|-----------------|---|
| 2005 | 1.076 | 1.076 | 0 |
| 2006 | 1.075 | 1.075 | 0 |
| 2007 | 1.072 | 1.072 | 0 |
| 2008 | 1.109 | 1.109 | 0 |
| 2009 | 1.093 | 1.094 | -1,000 |
| 2010 | 1.171 | 1.167 | 4,000 |
| 2011 | 1.463 | 1.411 | 52,000 |
| 2012 | 1.986 | 1.632 | 354,000 |

Table III

I've highlighted the US DOE/EIA's production figures for 2011 and 2012 in Table III because the difference between the two numbers corresponds to 523,000 b/d, a number given in the second paragraph of this commentary for the 2012 production increase in Texas based upon US DOE/EIA data. By comparison, the increase based upon TRC data is 221,000 b/d, the difference between the highlighted values for TRC data in Table III.

I first recognized a discrepancy between US DOE/EIA and TRC data in early 2012. At the time, I attempted to contact both the US DOE/EIA and TRC to try and determine the source of the discrepancy. I was informed by a representative of the TRC that they send their data to the US DOE/EIA but he wasn't sure why their posted production figures differed from those of the US DOE/EIA. I received no response from the US DOE/EIA.

I intend to monitor revisions in production data from the two agencies over the next few years to determine the magnitude of the revisions from the two agencies over time.

I have specifically included the date on which I recorded data because revisions can be made without it being obvious that changes were made.

An important question to ask, relative to Texas oil production, is when will production peak for Eagle Ford? To answer that question, it requires a reasonable estimate of the amount of economically recoverable oil in Eagle Ford.

Based upon claims by oil industry promoters, there is some huge quantity of oil in Eagle Ford, as well as other shale formations, and a peak would occur in the distant future. Oil industry promoters like to exaggerate, I suppose to lure gullible investors, so I don't place any stock in their estimates.

Based upon a recent assessment by the US DOE/EIA, the technically recoverable amount of oil in the Eagle Ford formation is approximately 3.3 billion barrels (Gb). Since the technically recoverable amount assumes that there is no limit on the amount of money that can be spent on recovery, I don't place a lot of stock in that value as being what will be economically recoverable.

But let's assume 3.3 Gb is a reasonable estimate for the economically recoverable amount of oil in Eagle Ford. Figure II is a graph of Eagle Ford oil production with an Estimated Ultimate Recovery of 3.3 Gb and a 6% decline rate after peak.

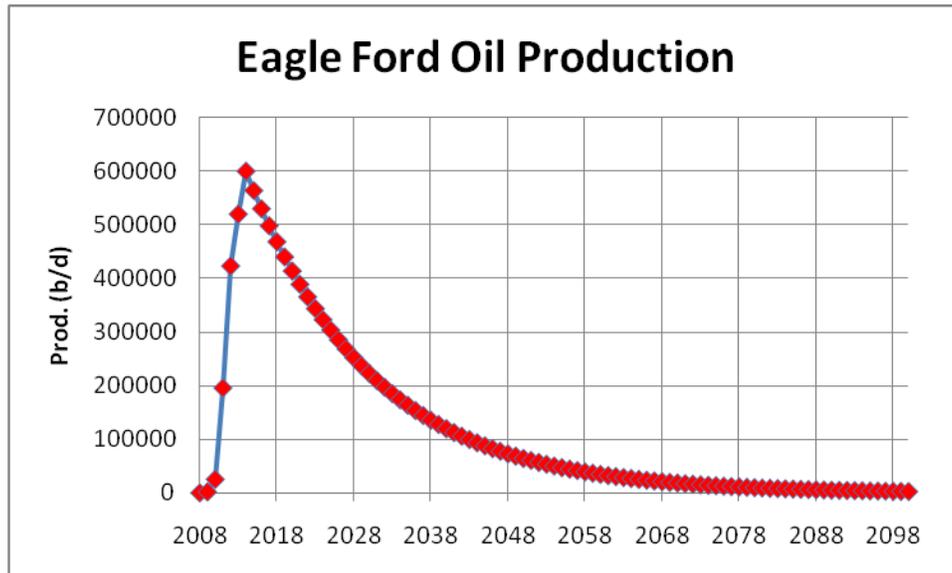


Figure II

Based upon Figure II, peak production occurs in 2014. Of course the oil industry could choose to produce the oil more rapidly with a higher peak and a more rapid decline after the peak which would alter the peak date a little.

If the ultimate recovery is lower than 3.3 Gb, as I expect, the peak will likely be lower than ~600,000 b/d and the decline steeper.

If Figure II is a reasonably accurate assessment of future Eagle Ford oil production, a secondary peak in Texas oil production should occur around 2014 followed by declining production. To place current Texas oil production in perspective, peak production for Texas occurred in 1972 at 3.57 mb/d. Texas will never again reach a production level remotely close to that value.

As with Bakken, Eagle Ford oil production will be merely a bubble. Unfortunately, I wouldn't expect the media to inform the public about the bubble until after the bubble has burst.

Roger Blanchard teaches chemistry at Lake Superior State University and authored the book "The Future of Global Oil Production: Facts, Figures, Trends and Projections by Region," McFarland & Company (2005). His website Energy and Climate News is at <http://climateandenergynews.zparking.net/>.