ASPO USA

PEAK OIL REVIEW

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1. Oil and the Global Economy

In a short trading week, oil prices rose steadily last week closing at $97.23 in New York and $109.93 in London. NY crude is now only $3 a barrel below the highs seen in mid February, but Brent crude is still $7 below these highs reflecting the tightening of the Brent-WTO spread to the smallest margin since July. Most of the gain last week was attributed to the "settlement" of the financial crisis on Cyprus and the report that the US economy grew by 0.4 percent in the 4th quarter rather than the 0.1 percent than had been expected.

The Cyprus settlement has been brutal with large uninsured depositors possibly facing as much as a 60 percent loss of the funds they had on deposit in Cypriot banks. Many of these depositors were Russians and Moscow has been complaining mightily about the details of the bailout. The OECD warned last week that there will be no meaningful economic recovery in the Eurozone for the rest of 2013. The UK's net energy imports for 2012 rose to the highest level since 1976 due to problems in North Sea oil and gas production that required larger coal imports.

As part of the new Moscow-Beijing energy partnership that has large quantities of Russian oil and gas going to China, China National Petroleum Corp will be allowed to join with Moscow's Rosneft in exploring three offshore Arctic areas for oil. Exxon, ENI, and Statoil have already agreed to participate in exploring the region.

Cold weather in the US sent natural gas futures to an 18-month high above $4.10 per million last week, but prices closed at $4.02 on forecasts of warmer weather in April. The EIA reported that demand for natural gas in January was 4.1 percent higher than in January 2012 while output was 1.1 percent lower. Analysts believe that output will increase in coming weeks as winter maintenance and disruptions come to an end. As natural gas prices rise above $4 some are starting to wonder just how long the era of "cheap gas" will last especially as the rig count continues to drop and new demand from power plants, chemical facilities and export markets increases.

A report from the IMF calls for the elimination of energy subsidies worldwide as a major cause of the over-consumption of oil, coal, and natural gas. This over-consumption in turn aggravates global warming and

worsens local pollution. The report says the top three energy subsidizers are the US at $502 billion, China at $279 billion, and Russia at $116 billion.

2. Middle East

Iraq: Over vehement objections from Washington and Baghdad, Turkey and the Iraqi Kurds appear to have decided to move forward with an oil deal that will give the Turks a stake in the Iraqi Kurds' oil fields and the construction of new pipelines for the export of oil and gas to Turkey.

Iraqi officials are becoming increasingly concerned that the Syrian civil war will spread into Iraq as Sunni tribes that range across the border have started joining in the effort to overthrow the Assad government.

Despite the multiple political crises facing the Iraqi government, it announced that the long-awaited National Energy Strategy Plan has been completed and is ready for cabinet approval. The plan envisions three scenarios with the "medium" one having Iraq's oil production hitting 9 million b/d by 2020 from the current 3.3 million b/d and the "high" scenario seeing production at 13 million b/d. Both plans envision production at 4.5 million b/d by the end of next year.

Senior Iraqi parliamentarians involved in oil policy say these estimates are too optimistic given the current state of Iraq's oil production infrastructure and the political landscape. One parliamentarian thinks the country is more likely to produce an average of 2.9 million b/d in 2013 given the dispute with the Kurds.

As US oil companies bail out of Iraq they are being replaced by the Chinese who don't seem to mind the political instability. One estimate says that in a few years a third of Iraq's oil production will come from Chinese-run oil fields.

Iran: Tehran seems to be making some headway in exporting oil despite the sanctions. A Chinese supertanker visited Iran's largest export terminal last week for the first time since the sanctions started, suggesting that Beijing may be offering government-backed insurance for cargoes of Iranian oil. India's Petroleum Minister announced that his country has no intention of completely cutting off imports from Iran and is working on establishing a special insurance fund to cover the Iranian cargoes.

Although Japan's imports of Iranian crude were up slightly in February, they are quite low by historical standards so Tokyo is not worried about violating US sanctions laws.

Egypt: The fuel and food situation continues to raise fears that a general uprising could engulf the country. Egypt's hard currency reserves have fallen to $13 billion from $36 billion two years ago, but much of this reserve is illiquid and billions are owed to foreign companies that operate Egypt's oil and gas fields. The immediate crisis is insufficient diesel fuel needed for irrigation pumps, harvesting this year's crop, and transportation of nearly everything. There are long lines at filling stations in many parts of the country. The government is attempting to install a rationing and distribution system for fuel and flour in hopes of curtailing black market sales which are running rampant, but Egyptian papers are saying this may not become effective until January.

An IMF team is due back in Cairo on Wednesday to continue the loan talks, but government insists it does not need an emergency loan at this time and still seems unwilling to impose the harsh austerity measures demanded by the IMF for fear of provoking more rioting. The Morsi government seems to be taking the position that the country is too big to fail and that the outside world cannot afford to let the Suez Canal close, so somebody will step in and bail the country out.

The only bright spot of the week was the offer of oil from Iraq and Libya which the country can no longer afford to purchase on the open market. Egyptian diplomats are reported to be making the rounds of the oil-producing states seeking loans or gifts. Whether this aid will be enough to allow Cairo to muddle through the

current crisis remains to be seen. Over the weekend, Egypt's most popular television satirist was arrested for insulting President Morsi in what could be the beginning of a crackdown on anti-government dissent and another round of troubles.

3. China's "Green GDP"

For over 30 years China's economic growth, which has been averaging in the neighborhood of 10 percent a year, has been the envy of the world. This growth, however, has come in part by ignoring environmental aspects of growth at a time when most OECD countries were being subjected to increasingly tough and expensive regulations. We are now seeing growing evidence that public outrage across China is reaching a level that government officials will likely have to take environmental concerns into account when planning new economic projects. In addition, they will have to spend more on controlling pollution from existing facilities. Last week the Chinese Academy of Environmental Planning issued a report that placed the cost of pollution and damage to China's ecosystem at $230 billion. This number, which admittedly is based on partial information, clearly only scratches the surface of the problem in a country where the political system has been built with a decisive tilt toward rapid economic growth as its most important imperative.

At a minimum, however, there is a new openness in reporting environmental problems that was not present until recently – the 16,000 dead pigs floating in Shanghai's drinking water supply and last week the wastewater from a paper mill going to grow wheat. These stories are balanced in the press by reports that the Mayor of Beijing will spend $18 billion on sewage treatment and garbage incinerators in the next three years. While this may reassure the populace that the government shares their concerns and is taking action, the question is whether there will be any real progress.

From the peak oil perspective, will there be any real reduction in China's demand for fossil fuels in next decade or two or will they actually attempt to get the projected 300 million cars on the road by 2030? There is some evidence that China's coal production, but not necessarily consumption, is starting to slip a bit. For years production has been growing at 10 percent a year, but in 2011 it slipped to 8.7 percent and then to 4 percent last year as imports grew. Some of this shift, however, was due to the relative cost of importing coal by ship to coastal power stations rather than transporting it from remote interior coal mines by train.

While there has been much lip service in China to cleaning up the environment, so far most of this is supposed to come through greater energy efficiency and the use of cleaner fuels and power sources rather than reductions in economic growth which is still set for circa 7.5 percent a year or greater.

Last week, however, a new US Federal Reserve study concluded that China's economic growth will slow over the next 15 years and is unlikely to return to the days of 10 percent growth. The study sees the possibility that a combination of factors could lead to a worst case scenario in which growth even falls to less than one percent.

Quotes of the week

- "Waiting for catastrophe to happen before acting means that it's too late to act. It is precisely this scenario that proper risk management is designed to avoid. If I were to grade America's risk management strategy with regard to energy supply and climate change, I would, not surprisingly, give it a failing grade."

  - ASPO-USA Board Member, Kurt Cobb

- "China is also on track to consume about 10 million b/d of oil this year, slightly more than half that of the US. The Chinese, however, currently are selling themselves 20 million new cars and trucks a year

(and there are not many trade-ins) so unless there is a major turn of events they will be up with the US's oil consumption in another decade or so."

- Tom Whipple

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

- **Brazil's** oil production is falling. Imports of gasoline are rising rapidly. Even the nation's ethanol industry has had to import ethanol from the United States. Half a decade has passed since Brazilians celebrated the discovery of huge amounts of oil in deep-sea fields by the national oil company, Petrobras which is losing the race to keep up with the nation's growing energy demands. (3/27, #6)
- Russian oil company Tatneft said it was sending staff members back to **Libya** that were withdrawn during the civil war. (3/30, #6)
- The **EPA** has proposed standards aimed at cutting the amount of sulfur in gasoline by two-thirds before 2018, a move oil industry groups said may increase the price at the pump. "These common-sense cleaner fuels and cars standards are another example of how we can protect the environment and public health in an affordable and practical way," EPA Acting Administrator Bob Perciasepe said in a statement. (3/29, #7) (3/30, #12)
- The challenge facing was underscored as data showed further declines in consumer prices and an unexpected contraction in factory output. (3/29, #6)
- The number of **gas rigs** in the U.S. declined to near a 14-year low, according to Baker Hughes. Gas rigs dropped by 29 to 389, while oil rigs climbed by 30 to 1,354 last week. (3/29, #8)
- **ConocoPhillips**, the biggest gas producer in northwestern New Mexico's San Juan Basin, will temporarily suspend new gas drilling there until further notice. Low gas prices were behind the drilling suspension. "We'll watch the price of natural gas and when it rises to what we consider to be economic, we'll resume a drilling program as soon as possible." (3/29, #12)
- The **European Commission** has officially launched what promises to be a contentious debate over greenhouse gas reduction and renewable energy targets for 2030. In releasing its "green paper" on a 2030 framework for climate and energy policies, the commission kicked off a three-month process during which it will gather feedback from member states, industry players, environmentalists and others as it seeks to extend climate change efforts beyond the current binding 2020 targets. (3/29, #13)
- **Peak oil demand** is around the corner, a prominent oil analyst says in a new report. The amount of oil consumed globally could top out by the end of the decade, as more fuel-efficient vehicles hit the roads and cheap natural gas edges out crude in some markets, according to Citigroup's commodities team. That shift should keep oil prices between $80 and $90 a barrel for the long term, a roughly 20% drop from the cost of crude today. (3/28, #5)
- **South Sudan**, which is resuming oil output halted 14 months ago, may take as long as a year to reach pre-shutdown production levels because of possible damage to equipment. Oil in South Sudan is pumped mainly by China National Petroleum Corp., Malaysia's Petroliam Nasional Bhd. and India's Oil & Natural Gas. (3/28, #14)
- **Northern China**'s electricity sector is depleting the arid region's water, says a new study. Coal-fired power generators in the north, along with coal mining in the same region, were responsible for withdrawing 98 billion cubic meters of fresh water in 2010, nearly 15 percent of China's total fresh water withdrawals that year. (3/28, #15)

- A Canadian Pacific Railway train carrying crude oil to Chicago derailed in western **Minnesota** on Wednesday and spilled up to 714 barrels, state officials said, the biggest recent accident in a growing number of railroad leaks of crude. As energy companies have turned to trains to move crude from booming North American oil fields not adequately served by pipelines, such railroad-related incidents have risen sharply in the past few years. (3/28, #21)
- **Royal Dutch Shell** said it has received approval from the Chinese government for the company's first shale-gas production-sharing contract in China, a significant milestone as the country looks to tap potentially massive unconventional gas reserves and achieve ambitious shale-gas production targets. (3/27, #9)
- Scientists have linked Oklahoma's biggest recorded **earthquake** to the disposal of wastewater from oil production, adding to evidence that may lead to greater regulation of hydraulic fracturing. The 5.7-magnitude quake in 2011 followed an 11-fold bump in seismic activity across the central U.S. in recent years as disposal wells are created to handle increases in wastewater from hydraulic fracturing. (3/27, #12)
- British energy company **BP** expects its latest oil discovery off the coast of Brazil has commercial prospects. BP said it achieved a flow rate of 5,600 barrels of oil per day and sustained that for 32 hours during a test of its Itaipu-1A discovery. (3/26, #17)
- **Chinese oil demand** during the first two months of the year increased more than 4 percent compared to the same time last year, analysis says. Analysis from reporting agency Platts says demand for the first two months of 2013 averaged 10.35 million barrels per day, a 4.3 percent increase year-on-year. (3/26, #18)
- **Chevron** unveiled a deepwater oil discovery in the US Gulf of Mexico about 190 miles off the coast of Louisiana. The oil major said the well, located in 6,127 feet of water, revealed more than 400 feet of oil-bearing rock. Results from the well, which was drilled to a depth of 31,866 feet, are still being looked at and more work remains to determine the full extent of the discovery. (3/26, #22)
- **Centrica**, one of the U.K.'s main energy providers, has signed a deal to buy billions of cubic meters of liquefied natural gas from the US, in the first deal clearly intended to bring gas from North America to the U.K. The contract with Cheniere Energy Partners has Centrica importing 1.75 million metric tons of gas annually for 20 years with an expected start date in 2018. That would be enough to power around 1.8 million U.K. homes, according to a statement by the firm. (3/26, #24)
- **Ionova Technologies** reports that its zinc-ion-based ZIP-Cap asymmetric ultra-capacitor is expected to provide a 25-fold reduction in cost and a 5-fold increase in energy density (up to 35Wh/L) without the ultra-pure materials or expensive “dry-room” facilities that are necessary to build today’s ultra-capacitors. Asymmetric ultra-capacitors achieve greater energy density versus today’s Electric Double Layer Capacitors (EDLCs) by combining one activated carbon EDLC ion-adsorption electrode with one ion-insertion (battery-like) electrode. (3/26, #25)