Peak Oil Review

Tom Whipple, Editor
Sharon Astyk, Commentary Editor

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See page 6 for more information on Art Berman's May 17 webinar, "Shale Oil in Perspective" and his recent appearance on the national CBS Evening News

1. Oil and the Global Economy

Oil prices slipped a couple of dollars last week in the face of a torrent of bad news from Europe. At week's end NY crude was down to $96 and Brent to $112. With Athens unable to form a new government, another election looks certain. Talk of Greece leaving the Eurozone continues to increase as the Germans threaten to cut off all further aid to Athens should it fail to adhere to its austerity pledge.

The economic news from China shows its economy slowing and the IEA reports that OPEC production for April increased to 31.2 (Platts puts it at 31.7) million b/d even as stockpiles continue to grow around the world. All this news has combined to give oil prices their longest string of losses since 2009.

There was little news on the Iranian situation last week. IAEA officials are scheduled to meet with the Iranians this week, but little is expected until the six-power discussion resume. The IEA believes that Iranian crude exports fell sharply during April. Tehran keeps producing oil, but could be putting as much as 500,000 – 800,000 b/d into floating storage while awaiting better times.

US gasoline futures were steady last week around $3 a gallon. MasterCard reports that US gasoline consumption the week before last was down 5.8 percent from the same week last year. The EIA says that gasoline deliveries from refineries over the last month are down by 3.2 percent during the last month suggesting that gasoline exports from the US are continuing to be above normal.

The Syrian situation continues in deteriorate with UN observers able to do little to stop the violence. A major bombing in Damascus leading to bloody reprisals is raising the question of just who is involved in what is looking like a multiparty civil war. The uncertainty over just who is fighting the regime and why is leading to second thoughts about outside intervention as Jihadists from all over the Middle East are coming to Syria to take part in the action. There was fighting in Lebanon over the weekend and fighting between Syrian Shiites and Sunnis spread across the border. Talk is increasing over the possibility that, over the longer term, sectarian fighting could spread further across the region.

US natural gas prices continued to rise and coal production continued to drop last week as utilities burned a record amount of gas to generate power. The number of rigs drilling for natural gas fell to the lowest level in 10 years last week. The gas rig count is now down 36 percent since October. In contrast, the number of rigs drilling for oil in the US hit an all-time high of 1,187, up 45 percent in the last year. February natural gas production in the US slipped 0.6 percent from January to 420 million cu ft. per day suggesting that production could have peaked. Analysts point out that the natural gas

associated with the increased drilling for oil, coupled with a mild spring, is unlikely to send prices much higher.

2. The EU at a crossroads

The political turmoil continues across Europe in the wake of last week's elections. With the Greeks unable to form a new government, it appears likely that new elections will have to be held – probably in mid-June. Polling shows that new elections are unlikely to be decisive and if anything will push Greece closer to default and out of the Eurozone. German patience with the Greeks is wearing thin and German bankers are openly talking of a Eurozone without Greece. In Spain there were massive protests against deteriorating economic conditions and high unemployment.

The fundamental issue for the EU is whether to adhere to more austerity and further budget cuts, or reverse course and increase deficit spending in an effort to foster economic growth. As the major EU economies are still in reasonable shape, the relationship between Germany and the new French President will be vital. Polls show German Prime Minister Merkel is likely to lose an important regional vote in Germany, adding to the confusion.

In the meantime, the IEA reports that oil consumption in Europe is in a "dire state." Greece, Spain, Italy, Portugal, the Netherlands, Ireland, Slovenia, and the UK are now in a "technical" recession and oil consumption continues to fall. The EU's oil consumption in March was on the order of 13.7 million b/d, down 640,000 b/d from March of last year and over a million b/d below the average of the last five years. This drop is due to a combination of economic stagnation and very high oil prices which has gasoline retailing in the vicinity of $8-9 a gallon in most of Europe.

All these problems are not going to sort themselves out anytime soon. The only issue is whether the Union will find ways to muddle along in the next year or so or whether a Greek default and departure from the Eurozone will lead to far more serious contagion which could spread to the rest of the EU and beyond.

3. China slowing

Last week brought a spate of new data showing that China's economy is slowing down. Nearly every indicator from exports and industrial production to retail sales came in lower than analysts had expected. Fixed asset investment dropped to its lowest level in ten years. Some analysts believe that China's economic growth has fallen below 7.5 percent, the government's official target.

Beijing's immediate reaction was to lower reserve requirements in hopes that doing so would spur lending to small and medium sized firms, but many believe this will not be enough. Announcements concerning major changes in fiscal policy are expected shortly.

In the meantime, China's net crude imports continue to fall with April up only 3.3 percent year on year. This compares with increases of 7.4 percent in January, 14.6 percent in February, and 8.7 percent in March. Analysts note, however, that the 2nd quarter is refinery maintenance time in China.

Beijing has been the economic engine that kept the world's economy growing for the last few years. However, with imports up by only 0.3 percent year over year in April as compared to the 12 percent expected by economists, there are clearly troubles ahead. With demand for raw materials, and possibly even oil slowing markedly, this decline is likely to be felt many countries that have been feeding raw materials to China. Exports last month grew by only 4.9 percent year over year, or only half what was expected.

After China weathered the 2008 recession in better shape than the OECD countries, there was much talk of a superior Chinese economic system. Now many are not so sure. Some see China's problems as more political in nature as Beijing attempts to maintain a curious amalgam of capitalism

and state control all under the leadership of a monolithic Communist Party than tolerates little dissent.

4. IEA's Monthly Report

In its May *Oil Market Report*, the International Energy Agency ruminates over an uncertain period ahead. With OPEC output up by 3 million b/d over April 2011 and demand across much of the OECD declining, the global oil markets are in better shape than earlier this year and stockpiles have resumed growing after Libyan production largely returned to the market.

The Iranian confrontation still tops the list of potential problems ahead. For now Tehran seems to be dumping the oil it cannot sell into its own tanker fleet at that rate of 500,000 to 800,000 b/d, but come July insurance sanctions may force the Iranians to deliver much of their oil in their own self-insured ships. The steady drop in demand from most of the OECD, the increase in OPEC production, and the slowing of China's growth may be enough to offset the on-going drop in Iranian exports without causing a price spike. This may be true despite the outage of 1 million b/d of exports from Syria, Yemen and the Sudans.

The bigger problem in the second half may be the rate of global economic growth. In its latest GDP projections, the IMF warns of the damaging impact of high oil prices – Brent is still well over $100 a barrel – and the future of the Eurozone.

Given all this, the Agency is still forecasting that global oil demand will rise by 800,000 b/d during 2012, or about the same as it was last year, and will be consumed at the rate of 91.1 million b/d in the 4th quarter. It should be noted that this is getting into the region that many have predicted will be the all-time high of global oil production.

Quote of the week

- "There is a real risk that policymakers, wrongly convinced that surging supply has solved all US energy vulnerabilities, will neglect the demand side of the equation. But the basic reality hasn't changed: more supply can help, but to fundamentally reduce US vulnerability to the vagaries of world energy markets, we need to rein in our extraordinary (and economically self-damaging) demand."

- Michael Levi

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

- **OPEC** has revised its 2012 world oil demand outlook slightly upwards, citing a stable US economy and the shutdown of nuclear plants in Japan. They predicted 2012 demand at 88.67 million b/d, up 0.90 million bpd from 2011, in their latest monthly report. (5/12, #5)
- Scientists from 15 countries are calling for a better **political response** to the provision of water and energy to meet the challenge of feeding a world of 9 billion people within 30 years. The joint statement by some of the world's leading science academies was issued ahead of the G8 summit in the United States. (5/12, #6)
- **Angola's** ruling party is gripped by a struggle over who should succeed President dos Santos, amid public rallies calling for the leader of Africa's second-largest crude producer to quit after 32 years in power. (5/9, #8) (5/12, #13)
- Venezuelan President **Chavez** has returned from Cuba, saying he has successfully completed a course of radiotherapy for cancer. (5/12, #14, #15)

- **Pakistanis** held demonstrations in several cities to voice their anger over the worsening electricity crisis, as summer temperature soars to over 40 degrees C. in some parts. (5/11, #11)
- **US coal production** totaled about 17.9 million tons in the week ended Saturday. The production estimate, based on railcar loadings, is the same as the previous week's estimate and 8% lower than the estimate for the comparable week in 2011. (5/11, #23)
- **China's first deep-water drilling rig** began operations near islands in the South China Sea in a move to assert Beijing's territorial claims. The area is north of the Paracel islands and claimed by China, Vietnam and Taiwan. (5/8, #15) (5/10, #12)
- Japan's government will take a controlling stake in the **Tokyo Electric Power** under a plan effectively nationalizing one of the world's largest utilities. The government will inject $12 billion as part of a 10-year restructuring aimed at preventing the power monopoly from going bankrupt. (5/10, #18)
- Chevron and Shell are set to be named the companies to explore two large Ukrainian fields for unconventional natural gas. The developments are likely to be the largest foreign investment in the country to date. (5/10, #26)
- Now that Japan has no nuclear power for the first time in more than 40 years, **Chinese solar producers** are eyeing the world's third-largest economy for new business opportunities. At least five Chinese solar panel manufacturers set up offices in Japan since the beginning of this year. (5/10, #28)
- Near-record low natural gas prices have hurt the industry, but a technology that can turn cheap gas into more profitable **diesel** could keep demand high and mitigate the impact of falling costs. (5/9, #14)
- Moody's has lowered its outlook for the **US coal industry** to negative and expects some of the decline in US coal consumption to be permanent. Electricity producers' demand for coal has diminished recently as natural gas prices have sunk to new lows. (5/9, #15)
- US officials approved a plan by Anadarko Petroleum to drill **3,700 natural-gas wells** in eastern Utah, capping a years-long review of a project that will be one of the largest in the region. (5/9, #17)
- The **UAE's strategic oil pipeline** for bypassing the Strait of Hormuz is complete and exports are expected to start within three months. Initially operating at a rate of 1.4 million b/d, the pipeline should offer the Gulf producer an alternative route out of the narrow strait which Iran has threatened to block. (5/7, #9)
- An Iranian energy official said plans were under way to build a **136-mile natural gas pipeline** to Iraq. (5/8, #7)
- Violent confrontations between **Somali pirates** and merchant ships' armed guards could become more common as some shipping companies have reduced ship speeds through the highest-risk area to save on fuel. A day at lower speeds can save $50,000 in fuel costs, enough to pay the guards for the whole journey. (5/8, #10)
- The **EU's trade chief** said he would soon take measures against Argentina over its decision to expropriate the stake held by Spain's Repsol in Argentina’s YPF oil company YPF. (5/8, #13)
- **India** will step up imports of liquefied natural gas, as domestic gas output is projected to decline in the next two to three years. (5/8, #16)
- Singapore state investment firm Temasek Holdings and Hong Kong-based private-equity firm RRJ Capital will jointly invest $468 million in Houston-based liquefied natural gas firm **Cheniere Energy Inc**. (5/8, #23)

<u>Commentary:</u> Major Oil Companies on Peak Oil

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

By Robert L. Hirsch et al.

Background: Production from oil fields is known to peak and then decline. Oil production in a large and growing number of oil producing countries has peaked and declined. Because the world oil resource is finite, it is undeniable that world oil production will peak and decline also. However, it is extremely difficult to predict when decline might begin and how rapid the decline might be. If the decline rate were very small, then it could be argued that the ensuing stresses might be readily managed.

With the exception of the French oil company Total, the International Oil Companies (IOCs) have denied concerns about the impending decline in world oil production, often called "Peak Oil."

Some possible explanations for the IOC position are as follows:

1) **OPTIMISM BIAS**. Oil companies have a bias to be optimistic and might justify their positions on the basis of the fact that giant and smaller oil fields continue to be found.
2) **CONFIRMATION BIAS**. Since other companies are taking the same position, it must be correct.
3) **EVENT TIMING**. Companies may believe that the decline will not happen soon, so talking about it now is counterproductive.
4) **CONTRACT TERMS**. A credible Peak Oil announcement could upset existing IOC contracts with oil producing countries, leading to more restrictive contract terms or contract terminations, resulting in a decline in company production and profitability.
5) **STOCK PRICE**. A credible Peak Oil announcement could lead to an emotion-driven selloff in oil company stock, even though just the opposite is likely in the aftermath.
6) **CHAOS TRIGGER**. The managements of the IOCs are likely cognizant of the chaos that the declaration of the advent of world oil production decline would create and they do not want to be the first credible, large institution(s) to announce it.
7) **FEAR**. Talking about the implications of the potentially radical change in economies due to resulting high oil prices and oil shortages could shut oil company executives down and cause them to ignore the threat.
8) **FEAR OF OIL MARKET COLLAPSE**. A credible Peak Oil announcement would almost certainly frighten the general public into suddenly cutting back on oil use, negatively impacting oil demands and damaging near-term IOC profits.
9) **STAFFING PROBLEMS**. An announcement of "Peak Oil" could cause staff to flee from a company to another industry and could cause recruitment difficulties.
10) **NEED FOR A MITIGATION PLAN**. An IOC publicly admitting Peak Oil would be compelled to simultaneously announce an aggressive company plan for dealing with the tragedy. Such an effort would require significant planning, possibly including acquisitions, e.g., acquiring coal for CTL, gas for GTL, etc. Such an effort would take time.

Upton Sinclair is purported to have said, "It is difficult to get a man to understand something when his salary depends on his not understanding it."

Robert L. Hirsch is a former senior energy program adviser for Science Applications International Corporation and is a Senior Energy Advisor at MISI and a consultant in energy, technology, and management. Hirsch has served on numerous advisory committees related to energy development, and he is the principal author of the report Peaking of World Oil Production: Impacts, Mitigation, and Risk Management, which was written for the United States Department of Energy.

Webinar: Shale Oil in Perspective (May 17)

This Thursday, May 17 from 3:00 - 4:30PM Eastern, ASPO-USA Board Member Art Berman will present his session "Shale Oil in Perspective" as part of the ASPO-USA Webinar Series.

Berman, a consulting petroleum geologist and noted shale expert (see NY Times, Rolling Stone, Rice University) was recently featured on the May 11, 2012 edition of the CBS Evening News with Scott Pelley.

Art's session will take a hard look at the current enthusiasm and media hype regarding the potential of shale oil to boost U.S. oil production, including a review of key technical and economic factors that will determine whether such potential is likely to be realized. Key topics to be addressed include:

- Historical review of oil and petroleum liquids development in U.S. shale oil regions.
- Critical examination of recent technological and economic changes that are driving new supply forecasts for shale oil.
- Recent exploration, development, and production experience with select shale oil plays.
- Assessment of shale oil development in the context of overall U.S. oil and gas trends.

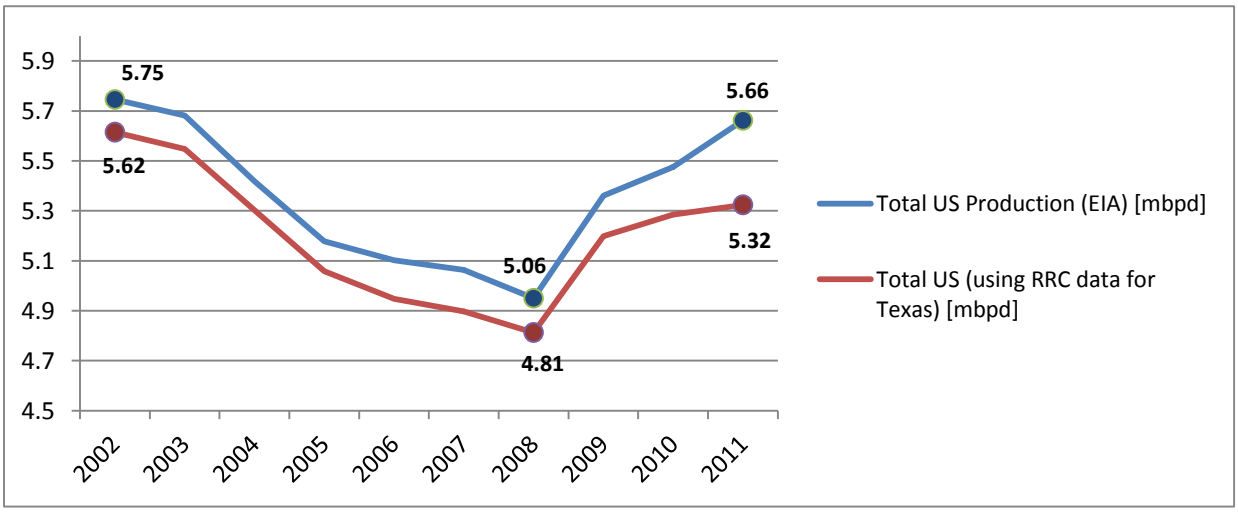
Shale oil promoters have consistently claimed that the US is a test case for the world and that improved technology has allowed US producers to offset the underlying production declines and show a net increase in production. They then claim that we can look forward to rising global production as this technology is applied around the world.

Are these shale plays the start of a global oil resurgence, or a sign of desperation by U.S. oil & gas companies "running faster and faster just to stand still?"

Consider the gap between EIA crude oil production data for Texas versus data compiled by the Railroad Commission of Texas (RRC). The Texas RRC, which sums the reports from Texas producers to generate production numbers, puts Texas December 2011 crude oil production at 1.05 mbpd. The EIA estimates Texas December 2011 crude oil production at 1.65 mbpd.

This is a discrepancy of 600,000 bpd for the late 2011 monthly data.

Further, we can create a chart from 2002 to 2011 that shows 1) EIA data for US crude oil production and 2) the same US crude oil production with one change - substituting the RRC data for Texas for the EIA data for Texas.



Here, the gap between the EIA and RRC data increases from 0.1 mbpd in 2002 to near 0.4 mbpd in 2011. And all of this *assumes* that the EIA data for the rest of the United States is accurate.

Based on the EIA/RRC discrepancy, what if a good deal of the increase in reported US oil production is a result of a flawed methodology by the EIA? Furthermore, if we see this much of a discrepancy in US state production data, how much confidence should we have in the EIA's global data?

Based on the RRC data, it appears that a thousand rigs drilling for oil in the US in 2011 served to keep production flat year over year.

And note that--based on the RRC data--all of the expenditures by the US oil industry from 2005 to 2011 only served to bring US crude oil production back to the 2004 pre-hurricane rate of 5.3 mbpd.

Some would say that ASPO-USA takes a pessimistic view to counter the extreme optimism of US oil & gas producers, but this isn't accurate. There are three labels instead of two. There's *optimistic*, *pessimistic*, and the position ASPO-USA does take: *realistic*.

When overly optimistic or pessimistic statements are made, statements not supported by the data, that's a problem. ASPO-USA's pursuit of "Truth in Energy" is a pursuit of accurate and transparent data - and an obligation to point out when the data and the claims do not match up.

For much more information on Shale Oil, please join us for Art Berman's webinar this Thursday, May 17. More information and registration links can be found here:
http://www.aspousa.org/index.php/aspo-usa-webinar-series/