Peak Oil Review

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1. Prices and Production

Oil prices spent the week in the vicinity of $82 a barrel. On Friday prices rose briefly to a two-month high of $83.16, then fell back on concerns about US economic growth. For the past six months, the oil markets have cycled between optimism and pessimism about the prospects for an imminent economic rebound. Increasing demand for oil in Asia continues to be the key prop under oil prices. The IEA reported that preliminary data shows apparent Chinese demand in January increasing by 28 percent year over year – albeit from a relatively low base. February data from China shows oil imports increasing to 4.8 million b/d from 4.0 million in January.

The weekly stocks report showed total US commercial petroleum inventories dropping by some 5 million barrels last week as there were large, unexpected draw downs of gasoline and distillate stocks. US gasoline demand remains steady at about 8.8 million b/d; prices increased by 5 cents per gallon last week and the national average is now $2.79 a gallon – nearly 90 cents a gallon more than at this time last year.

Natural gas futures fell to the lowest price in 16 weeks as forecasts of milder weather ahead is expected to lead to lower-than-normal demand this spring.

As oil prices seem unable to climb higher than the low $80s, analysts are beginning to wonder if we will see the traditional spring price jump. Every year since 2004, oil prices have increased anywhere from 34 to 119 percent from winter lows to summer highs as refineries increased production for the summer driving season. But this year OECD economies are all mired in significant economic difficulties, which raises the question as to whether demand will increase significantly during the summer driving season. OPEC has been slowly raising production to keep up with increased demand from Asia and the oil producing nations. The Saudis are reported to have increased output by 100,000 b/d in February to 8.25 million b/d. The CEO of Saudi Aramco reiterated last week that they have 4 million b/d of spare capacity that can meet increasing demand from Asia.

2. From the IEA

The Agency's chief economist, Fatih Birol, said last week that the "era of cheap energy is over," that oil supply is unlikely to keep up with demand, and that he expects oil prices to "stay on the high side" due to structural not cyclical changes.

Global oil supply increased by 900,000 b/d in February to 86.6 million b/d. OPEC members bound by a quota increased production by 80,000 b/d last month, putting the cartel 1.9 million b/d above quota. For now the Agency says oil markets are well supplied and that there is an element of geopolitical tensions in current oil prices.

In its monthly Oil Market Report, the agency once again increased its forecast for 2010 global oil demand by 70,000 b/d to 86.6 million b/d. This would be a gain of 1.6 million b/d from 2009 levels. The growth will come from non-OECD countries with Asia accounting for half of the growth. OECD demand for oil is now forecast to shrink by 120,000 b/d in 2010.

With the Chinese economy continuing to grow very rapidly, the IEA increased its estimate for China's oil demand in 2010 by 130,000 b/d to 9 million b/d – an increase of 6.2 percent over 2009.

Non-OPEC production for 2010 is now estimated to be 51.8 million b/d, an increase of 330,000 b/d from 2009. Increased production from the North Sea, Egypt, Russia, Thailand and Columbia is projected to account for much of the increase.

3. China

Hardly a day goes by without major economic news coming from China. Last week's reporting shows China continuing to grow at astonishing rates, leading some to say "too rapidly." The official numbers are impressive: exports and imports up 46 percent year over year; industrial production up 21 percent and retail sales up 18 percent in the first two months of the year; oil imports up 800,000 b/d in February to 4.8 million.

There was of course a downside to all this "astonishing" economic growth. Consumer prices rose by 2.7 percent in February, year over year, and factory gate prices increased by 5.4 percent in February.

While clearly concerned, Chinese officials seem content to let the 2008 stimulus program, which is nearly over, run its course during the remainder of the year while cutting the pace of bank loans. These appear to have dropped by 50 percent last month from January levels.

Doubts about Beijing's statistics are beginning to surface even in Chinese newspapers. While there is little doubt that the country is growing rapidly and that its strong demand for oil, coal, copper and iron ore continues to support world prices, some of the numbers being released seem too high and could be influenced by political concerns as happens in many other countries.

A major issue at the minute is whether China will allow its currency, the renminbi to rise against the dollar. So far Beijing has resisted US admonitions to revalue, but many see indications that such a move is in the offing.

It remains clear, however, that Chinese economic development, be it boom or stagnation, is likely to be the major factor influencing oil markets for the next year or so. Nothing outside of major supply disruptions in the Middle East is likely to come close.

4. CERA Week

This year the annual Cambridge Energy Research Associates conference, which traditionally is attended by many of the major personalities in the energy industry, seems to have focused mainly on the prospects for shale gas.

Speaker after speaker spoke ecstatically about the prospects for the natural gas industry: demand from the power industry will double gas consumption in the next 20 years; there is enough gas to power America for 100 years at current rates of consumption; shale gas will account for 50 percent of US gas consumption in 25 years. One speaker, however, pointed out that Europeans, with a more pristine landscape than the US, may be reluctant to let highly intrusive shale gas drillers have as much latitude as they do in the US.

The simultaneous growth of the global LNG industry and US shale gas is bringing so much gas to market, at a time when industrial demand is dropping, that it may be a while before prices recover to economic levels. Several speakers expect that the demand to replace coal with natural gas will quickly clear the current surpluses of gas and in the long run the challenge will be to find still more.

Speaking at the conference, US Energy Secretary Chu called natural gas a transitional fuel that will used until renewable sources such as sun and wind are more widely available.

Quote of the Week

- "Carbon-based fuels, in their cleaner forms, must keep carrying the load. Renewables just cannot ramp up fast enough to replace them. Let's consider what gas can mean for the future. The real future, not the pipe dreams of the hydrocarbon deniers."
  -- *James Mulva, CEO of ConocoPhillips*

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

- **Kuwaiti** scientists now say that global oil production will peak in 2014. The Kuwaiti study created its world model for peak oil based on 47 individual models for each major oil-producing nation. It also took a separate look at OPEC, which includes nations that control about 35 percent of the world's oil reserves. (3/13, #7)

- **Nigeria's** controversial oil industry bill is expected to eventually pass but the government may find it tough to later shift gears as international oil firms targeted under the legislation scale back their investments. Last year about $8 billion was invested in Angola's deep-water resources--more than twice as much as in nearby Nigeria. (3/13, #8)
- **Venezuela** would continue producing crude oil even if its ailing electricity system were to suffer a collapse, the country's oil minister said Friday. Oil accounts for more than one-third of Venezuela's gross domestic product, more than half of government revenue and about nine-tenths of the country's exports. (3/13, #9)
- **The Venezuelan government** plans to increase its consumption of oil and natural gas by a third in 2010 to fuel power plants with which President Chávez hopes will overcome their electricity crisis. (3/10, #14)
- Oil production in its aging fields is sagging so rapidly that **Mexico**, long one of the world’s top oil-exporters, could begin importing oil within the decade. (3/10, #25) *[See the Commentary]*
- **India’s** biggest energy explorer, Oil & Natural Gas Corp., may borrow $10 billion over the next decade as it competes with rivals from China and South Korea to buy oil assets overseas to meet domestic fuel demand. (3/8, #14)
- **Iraq’s** major coalitions were locked in a surprisingly close race on Thursday, in initial results from elections that deepened divisions across a fractured landscape. Candidates were quick to charge fraud, heightening concerns whether Iraq’s fledgling institutions were strong enough to support a peaceful transfer of power. (3/12, #11)
- The storm brewing on OPEC's horizon over future **Iraqi oil output** could engulf the producer group sooner than it would like. OPEC is unlikely to discuss Iraq at its meeting on March 17 but it may need to do so within a couple of years. The consensus among analysts is that it would take around 5 years for Iraq to boost output by 1-1.5 million b/d. (3/12, #12)
- **Saudi Arabia** is pressing ahead with the biggest offshore oil development in its history, despite having about 4 million b/d of idle crude production capacity. Development of the supergiant Manifa oilfield, containing an estimated 10 billion barrels of reserves, is “on time and on budget.” Production from Manifa will start in 2013, two years before the project’s scheduled completion. Output is projected to reach 900,000 bpd of crude. (3/12, #13)
- **Petrobras CEO Gabrielli** told a Houston group that, while operating in Brazil's pre-salt region does require an array of technologies, a bigger challenge lies in meeting logistical demands for operating in deep waters offshore. By 2018, Petrobras is looking for 58 new drilling rigs, with 23 being delivered between 2009 and 2011, nine being charted in 2012 and the remaining 28 being built in Brazil between 2013 and 2018. Petrobras has budgeted $174.4 billion for 2009-2013 under their business plan. (3/10, #15)
- Tullow Oil will keep half its big **Ugandan** oil and gas discovery, but it can’t afford to develop by itself the $10 billion worth of likely downstream and upstream investment. Hence the decision to sell one-third stakes to France's Total and China's CNOOC. (3/11, #12)
- **Exxon Mobil** outlined plans Thursday that rely heavily on oil from tough to reach places, extracting it from the depths of the ocean, the frozen Arctic and the tar sands in Canada's frozen tundra. But oil pumped in these places tends to be much more expensive than oil from more conventional sources. Exxon isn't alone. Easily accessible oil is becoming harder to find, and nations that have it are demanding a bigger cut of the profits. The entire industry is confronted with drilling for more expensive oil. (3/13, #12)
- **Exxon Mobil** is counting on natural gas to provide the bulk of its future growth. CEO Rex Tillerson is counting on a $28.8 billion acquisition of gas producer XTO Energy as well as

new gas developments from the South Pacific to the Celtic Sea to counter a 6.7 percent drop in output in the past five years. (3/12, #23)

- The newly built, ultra-deepwater drillship **Discoverer Inspiration** has started operations for Chevron in the Gulf of Mexico under a 5-year drilling contract. The drillship targets the drilling of wells up to 40,000 ft of total depth and can drill in up to 12,000 ft of water. (3/13, #16)
- In **Pennsylvania,** about 1,000 shale gas wells have been drilled and state and local tax revenues from shale gas may reach $871 million this year, according to the Marcellus Shale Coalition, a Canonsburg, Pennsylvania-based industry group. Drilling is on hold in New York while state regulators complete rules to address environmental impacts. (3/11, #24)
- Researchers at Texas A&M's Global Petroleum Research Institute are testing a new "**fraq-water"** membrane filtration system to determine if it sufficiently cleans the drilling water to reuse or recycle it. (3/13, #20)
- **The International Air Transport Association** said it expects the airline industry to incur a $2.8 billion loss in 2010. IATA also lowered its 2009 loss estimate to $9.4 billion. The improved forecast has been driven by economic recovery in the emerging markets of Asia-Pacific and Latin America. Worldwide passenger demand is forecast to increase 5.6% in 2010 and cargo is now expected to rise 12% this year. Revenues are half-way to recovery—$42 billion below the 2008 peak and $43 billion above the 2009 trough. (3/11, #8)
- Shell said it has stopped **gasoline sales to Iran**, becoming the latest European energy company to scale back ties with Tehran as the threat of tougher U.S. sanctions against the country looms. Iran has little refining capacity and is forced to import as much as 40% of the refined products it needs at a cost of several billion dollars a year. (3/11, #10)
- A senior **Iranian** oil official said increased gasoline rationing imposed late last year has failed to reduce domestic demand, an acknowledgment that reflects the OPEC nation's economic struggles as it faces possible new sanctions. (3/9, #8)
- **Iran and China** have signed an agreement to allow China to set-up an oil rig in the Gulf despite increasing international calls to enforce tougher sanctions against Iran. (3/9, #9)
- China reaffirmed its position that dialogue and consultation were the best method of resolving the **Iran nuclear** issue and should not be abandoned lightly. (3/9, #10)
- **US Defense Secretary Gates** arrived in Riyadh on Wednesday for talks with the Saudi royal family that senior defense officials said would be focused on Iran. His visit follows recent trips to Riyadh by Secretary of State Clinton as well as Gen. Petraeus and Adm. Mullen. Saudi officials are very concerned about Iran's nuclear program. (3/10, #8)
- **Indian** power companies are stepping up interest to secure coal resources in Indonesia and Australia to meet power needs. Coal demand in India could be 1.4 billion metric tons by 2020, exceeding domestic supply of 1.1 billion tons. Coal India, the nation's monopoly producer, is looking at 10 proposals in Indonesia, Australia and the US for strategic coal alliances. (3/10, #19)
- BHP Billiton, Anglo American, and Xstrata are **shipping coal 10,000 miles to China** from their Cerrejon mine in Colombia for the first time this year because of surging demand and rising prices in Asia. Prices 45 percent higher than in Europe make it worthwhile to transport the fuel to ports that are twice as far as European harbors such as Rotterdam. (3/12, #19)
- **Lithium-ion batteries** are the favored type for electric and hybrid vehicles because they carry more energy with less weight than other materials and because they lose their charge more slowly. Bolivia, which has almost half of the world's reserves, is building a pilot production plant and drilling exploratory holes. That Bolivia is a remote, unstable country often hostile to foreign investment has spurred serious interest in producing lithium in Argentina, Chile, Australia, Serbia, China, Finland, Mexico and even in the USA. (3/12, #26)

- A growing army of Beijing residents is returning to two-wheeled transport, but this time around it is to **electric bikes**. The explosion in purchases of electric bikes helps buyers move around more quickly in an increasingly auto-congested city. (3/11, #26)
- **Saudi Aramco chief Khalid Al-Falih** expressed worry about assumptions in the political realm that alternative energy sources could "transform the face of energy overnight". The over promise and under deliver of such technologies could lead to "green bubbles" which could collapse and damage their potential for success in the long term. (3/10, #9

Commentary: Interview with David Shields—update on Mexico and oil

David Shields is a journalist and independent oil industry analyst based in Mexico City. Steve Andrews caught up with him yesterday and posed a few questions.

SA: Is Mexico's well-being tightly tied to oil production?

David Shields: I think the oil industry is roughly 3-4% of Mexican GDP, which is not that high. It's a much bigger proportion of tax revenues. So it's very relevant. But oil prices have fluctuated wildly over time. There have been very bad years of Mexican oil revenues and Mexico has survived them. When you have a bad year you have to reduce your expenditures. But Mexico is a very troubled country and a very unequal country, so when there are oil revenues there is one part of society that seems to benefit and another large chunk that never seems to do so. So I think the answer to that is not a straight yes or a straight no, it's a complex issue.

SA: A recent New York Times article asserts that Mexico's basic problem is that a lot of it's easy oil is "used up." That's a very imprecise turn of phrase, but do you generally agree with it?

Shields: I think a large amount of it is already used up. As a ballpark figure, roughly 70% of Mexico's proven reserves have been consumed. So I think there is an awareness at Pemex that the future is about secondary oil recovery, enhanced oil recovery, and about finding more reserves, which is easier said than done. And also, peak water is an issue for Mexico going forward, but it's an area in which we have no experience. And so it will be hard to do that unless the ways of working in Mexico are changed quite substantially which is political out of bounds right now.

SA: What's the status of Mexico's effort to create a new model for working with foreign oil companies.?

Shields: For many years here, people have been thinking about models to use with international oil companies. But there is social and political opposition that is very strong. There is a perception among ordinary Mexicans that foreigners only come into to Mexico to take away our riches. That comes from the Spanish conquest centuries ago. So this is a long term barrier to international investors, particularly in oil. International investors have made their way into other areas of the economy successfully, but people here have some resentment, especially in banking. There are virtually no Mexican banks anymore; they're all owned by Spaniards, by Americans, by Canadians.

Recent reforms in Mexico do have an intention to get international investors more involved in the oil industry. It's possible IOCs would get involved, but probably the new reforms don't go far enough to allow IOCs to get involved in Mexico because they do not allow any kind of sharing of revenues, sharing of production, and they don't allow companies to book reserves. I think almost any IOC will tell you that a key condition for them to get involved abroad is for them to be able to book reserves wherever they work.

SA: Your oil minister Georgina Kessel has been quoted as saying that Mexican oil production will level off this year. Do you agree with that?

Shields: I don't agree. Production may level off momentarily, either now or at different times in coming years, but I think the trend will continue to be downward. I basically agree with the analysis in the very good article by Roger Blanchard in your publication. He thinks Mexican oil production will fall by about 5% annually over the coming years. I think that is basically correct and what I would expect. It may be less or more than that in some years; it is not necessarily a linear thing.

I think the biggest problem Mexico has is that this is a country with some giant oil fields that are now either all mature or declining, with the exception of Ku-Maloob-Zapp. And KMZ is basically at its highest level right now, producing over 800,000 barrels a day. It's not clear how long it will be able to keep up that production—maybe two years, and at best 5 or 6 years.—so there is a field that will soon join the decliners. And we have not had any major discoveries for a quarter of a century. Some of us believe that it could be feasible to find other major oil fields in Mexico, if you drill much further down or if you go further out into the Gulf of Mexico, but that hasn't happened yet.

SA: Kessel has been quoted about the potential for 50 billion barrels in the deepwater Gulf.

Shields: That is kind of a generic assumption, but I don't think it's 50 billion in the deepwater. I think the 50 billion is what the government is calculating for undiscovered fields in Mexico in general. Some 29.5 billion is the estimate for what could be discovered in the deepwater. This is based on satellite studies and the seismic that they have.

SA: Do you have a sense for the time frame for when first oil might come from the deepwater?

Shields: It's certainly unclear. The first deepwater oil would be at least 6 or 7 years down the road and it may be more. And first production may not be very high. To get major production from the deepwater, we're talking about 12 years or more.

SA: The US EIA forecasts that Mexico's production will decline by 600,000 barrels a day by 2020, at which point the country would become an oil importer. Do you agree with that view?

Shields: If we were to project the 5% annual decline rate mentioned earlier, production would probably not be very far away from that. There are many unforeseeable factors, but I would imagine that Mexico's production by 2020 could be something like 1.8 or 1.9 million b/day. It could be lower.

The idea of importing oil has been a taboo in Mexico because we have been a large oil exporter. But political discourse is changing now. There is a growing awareness that even in the short term Mexico could possibly start importing light oil, regardless of our heavy oil exports. Some 20 or 30 years ago, Mexico's output was largely light oil. Then Cantarell production moved up and Ku-Maloob-Zapp came in and they are heavy oil. Mexico's refineries were built to process light oil and they haven't really been revamped as they should have been. To get lighter blends for our refineries, we need to import some light oil. So in the near term we will import light oil even as we continue to export about 1 million barrels a day of heavy oil. But that figure will also gradually decline.

SA: Could you comment on the Chicontepec field? Right now it produces about 35,000 b/day.

Shields: The current administration has committed to this project and is still committed to it despite all the criticism and the problems. They went in without doing the prior studies to figure out what would be the right kind of exploitation to overcome geological problems that they have encountered. They are now doing the studies, testing technologies for Chicontepec. My opinion is that they went to the wrong place because historically, geologically, it has been such a challenge. If they had concentrated in proven basins in the southeast of Mexico, they probably could have done better.

Recent criticism is such that it is creating a negative feeling about the project that could be politically problematic going forward. Depending on the results over the next two years, the new government in 2012 will then make a decision whether or not to continue with Chicontepec. Unless results improve, I think they will not go on with it beyond 2012.

SA: At the ASPO conference, you laid out how Pemex gives different outlooks to different audiences—to the public vs. to the politicians in hearings. Is that still the case?

Shields: We are already sensing a change. To most people, the discourse was, "things are fine." But most people, especially banks and international investors, realize that things are not fine. Their credibility has fallen before that audience, so they see there is no other way to treat that audience other than to give them the truth. The discourse had the intention of hiding or masking the decline of Cantarell. Well Cantarell has declined. So there is not much left other than to be honest about where things stand, though I think they are still being more optimistic than what reality would justify.