Peak Oil Review

Tom Whipple, Editor
Sharon Astyk, Commentary Editor

May 21, 2012

1. Oil and the Global Economy

Oil prices fell another $5 a barrel last week to close at $91.48 in New York and 107.14 in London. Again a combination of turmoil surrounding Greece's remaining in the Eurozone, unfavorable economic news from the EU, China, and the US, weak demand and growing crude stockpiles was behind the move. Oil has now fallen some $18 a barrel since March. The spread between NY and Brent crude increased to over $15 a barrel last week as a consensus grew that the reversal of the Seaway Pipeline will not be sufficient to drain much of the glut from Cushing. Okla. until its capacity is increased to 400,000 b/d next year.

Wholesale gasoline prices fell by nearly 10 cents a gallon last week while average retail prices fell by nearly 4 cents. The gasoline situation is complicated by refining problems on both coasts which are keeping average California prices nearly 65 cents a gallon above the national average. The refining situation on the US East Coast is still uncertain. Even though Delta Airlines say they will reopen a shuttered Philadelphia area refinery in the fall, many analysts are skeptical. A second and larger Philadelphia refinery is now scheduled to be closed around the 1st of August unless negotiations with a hedge fund to purchase it are successful.

US natural gas prices continued the steady climb which began in mid-April, closing at $2.74 per million on Friday, up nearly 75 cents in the last six weeks. As fracked natural gas wells are rapidly depleted, it requires continuous widespread drilling to maintain production. The heavy losses that drilling companies have suffered in the last six months has resulted in a 35 percent drop in the numbers of rigs drilling for natural gas. There is a backlog of drilled wells, waiting to be fracked and start producing, however, so for the present natural gas production remains high. The decline in new drilling coupled with the increased use of natural gas to generate power indicates that production and inventories eventually will fall. In addition, long range weather forecasts suggest that the US will have a warm summer, increasing the demand for natural gas-powered air conditioning.

There have been a number of stories on the damage wrought by the surge of drilling in shale for tight oil and gas. The large numbers of heavy truckloads and workers required is overwhelming and damaging local roads and other infrastructure, while greatly increasing unreimbursed costs to local governments. If oil prices should fall much further, the profitability of expensive-to-drill and rapidly depleting fracked oil wells may come into question. Barclay's analysts point out that the boom in "super light" liquids from US tight oil and gas production is leading to a global refinery mismatch as the trend has been towards building refineries to process heavy sulfur laden crudes.

The recent surge in Saudi oil production to an official 9.923 million b/d has pushed the Kingdom into first place as the world's top oil producer, surpassing Russian production for the first time since February 2006.

2. The EU Crisis

Over the weekend, the G-8 summit at Camp David struggled with the Eurozone debt crisis to little avail. Other than agreeing that the crisis posed a serious threat to the global economy, there seemed to be little agreement on whether to continue the present path of austerity to reduce deficits or to increase deficits in hopes of stimulating economic growth. With the results of recent elections in Greece, France and Germany, the pendulum seems to be swinging towards initiatives to stimulate growth.

The failure of the Greeks to form a coalition government had set up the need for new elections next month. Polls say that anti-austerity forces are likely to increase their strength in a new election leading to the likelihood that Greece will default and leave the Eurozone later this year. Opinions are mixed on just how much damage such an event would do to the EU's economy and the economies of its trading partners. Some foresee a financial Armageddon that will result in a global depression and sweep away many governments including that of the US, while others believe that a Greek default, although costly to the EU, would be manageable. Other than some reduction in trade with the EU they say the global economy would cope.

For now however, the perceived likelihood of a Greek default and the consequent weak euro continues to be the main factor pushing oil prices lower.

With much of the world joining in, to a greater or lesser degree, with US and EU enhanced sanctions on Tehran, the Iranian economy is starting to suffer badly. Although Iran has been sanctioned in some fashion for the last 30 years, this is the first time the sanctions have really hurt the petro-state with its large oil income. As Iran has no interest in releasing figures on just how badly they are hurting, most of the evidence of serious economic problems is anecdotal. From time to time Tehran makes optimistic pronouncements such as over the weekend when they announced the discovery of 10 billion barrels of oil in the Caspian.

Although high oil prices have been helping counteract the ever tightening oil sanctions, the recent drop in oil prices has hurt Tehran as much as anybody. The Iranians' economic situation is due to get much worse after July 1st when the EU's full sanctions kick in.

3. Iran

In contrast with the G-8 indecisiveness over what to do about Europe, there seemed to be a remarkable unanimity concerning the Iranian confrontation. For a group that included Russia and China as well as the major western powers, this may be bad news for Tehran. The meeting agreed that Iran is entitled to peaceful uses of atomic energy, but must be more open regarding activities related to developing nuclear weapons.

Moscow and Beijing now seem willing to accept the West's program of economic sanctions on Tehran as a fait accompli and realize that a slow tightening of economic pressure on the Iranians is more in line with their interests than unleashing the Israelis which could easily lead to a major conflict

Although there has been no definitive word as yet, the vibrations coming from working level meetings with the Iranians suggest that progress is being made. On Sunday, the head of the IAEA flew to Tehran for discussions with Iranian officials prior to the resumption of talks between the major powers and Iran in Baghdad on Wednesday. Some see this development as progress as others see it as simply part of the stalling tactics which Tehran has raised to an art.

The West is insisting that Tehran stop enriching beyond 3 percent, ship the 20 percent enriched uranium out of the country and open their nuclear programs to full inspection. The Iranian position is still in flux, but it clearly involves not losing too much face by giving in to outside, particularly Israeli, demands.

For now the West seems to be getting the upper hand. Tehran's oil exports are sagging, the price of oil is dropping, the banking sanctions are taking a heavy toll, and things are about to get worse for the Iranians. The West's major concern is that oil prices will increase sharply in the second half of

the year as the sanctions come into full force. Whether a combination of slowing world demand, increased Gulf Arab production, and G-8 agreement to release strategic reserves, if needed, will be enough to offset still lower Iranian exports remains to be seen.

Most observers see the negotiations as a long drawn-out process with small confidence-building concessions being made by both sides one step at a time. The West has made it clear, however, that lifting of the sanctions will not happen until Tehran has taken verified steps to assure the IAEA that they are not developing nuclear weapons.

Quote of the week

- "So many of us watched this slow train wreck happening and asked: Why are all these smart people running these smart companies consciously producing more gas than the market needs..."

  - ASPO-USA Board Member Art Berman, on the CBS Evening News

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

- Spain's Repsol has cancelled its contract to supply **Argentina** with liquefied natural gas (LNG), just weeks after the country seized control of the company's majority stake in YPF. (5/19, #6)
- **Repsol** also says it has sued Argentina over its takeover of the company's majority stake in the YPF oil and gas producer. (5/17, #8)
- Gasoline shipments to **Brazil** from the U.S. and Europe may rise as slumping ethanol production encourages consumption of gasoline. Brazilian ethanol production fell more than 40 percent from a year earlier in April. (5/19, #14)
- An exploratory oil well off the northern coast of **Cuba** has proved a failure and will be capped and abandoned, Spanish company Repsol said. (5/19, #15)
- The outcome of **China's** planned carbon emissions scheme could have a transforming effect on efforts to tackle climate change, experts say. China is preparing to run pilot carbon trading schemes beginning in 2013 in Beijing, Shanghai, Tianjin, Chongqing, Shenzhen, Hubei and Guangdong, major cities with a combined population of 250 million people. (5/18 #6)
- **China**'s three largest coal-mining areas Inner Mongolia, Shanxi and Shaanxi mined 760.97 million tons of coal over January-April, up 15% year on year, and comprising 65% of **China's** total coal output for the period. (5/18, #16)
- The Brazilian Navy confirmed that an **oil slick** has been spotted off the coast of Espirito Santo state. The spill is the latest in a series of incidents to hit Brazil's offshore oil industry since a November leak at the Frade field operated by Chevron. (5/18, #15)
- The use of E15 **gasoline-ethanol mix** in passenger vehicles could cause damage to engines, says American Petroleum Institute President Jack Gerard. (5/18, #23)
- **Enbridge** kicked off one of the most sweeping expansions in its history on Wednesday, a $3.2 billion series of projects across its pipeline system aimed at moving western Canadian crude to Eastern refineries and preventing bottlenecks in the US Midwest. (5/17, #11)
- More than two-thirds of the onshore and offshore acreage leased for oil and natural gas exploration remains idle. The **Department of Interior** found of the 36 million acres leased offshore, only 10 million acres are under active development. (5/17, #12)
- **North Dakota** has passed Alaska to become the second-leading oil-producing state in the nation, trailing only Texas. (5/17, #13)
- Total says it has stopped the **natural-gas leak** at its North Sea Elgin platform by pumping heavy mud into the leaking well there. (5/16, #22) (5/17, #22)

- Brazilian oil and gas producer **Petrobras** may "rapidly" raise its oil and gas reserves to 30 billion barrels of oil equivalent as a result of massive presalt oil discoveries. (5/16, #9)
- Mexico's state-owned oil **Pemex** said that preliminary numbers for the first half of May put **crude-oil production** at 2.550 million barrels a day on average, suggesting some stabilization of output after a slow start to the year and a slight dip in April. (5/16, #10)
- **China** has started construction on what it says will be the world's largest capacity power transmission line. The $3.7 billion, 800-kilovolt power line will be capable of transmitting 37 billion kilowatts on average annually. At 1,373 miles long, it will connect the energy base of the Hami prefecture in eastern Xinjiang with the central city of Zhengzhou, going through the expansive region of Xinjiang, Gansu, Ningxia, Shaanxi, Shanxi and Henan. (5/16, #11)
- Natural gas companies in Texas are flaring gas because of the lack of transport pipelines. The Texas Railroad Commission, the state agency regulating the oil and natural gas industry, increased the **number of flaring permits** from 107 in 2008 to 651 last year. (5/16, #14)
- **Cheniere Energy Partners LP** agreed to sell $1.5 billion in stock to investors affiliated with Blackstone Group LP at a discount in its continued aggressive effort to raise funds for construction of a natural-gas-export facility in Louisiana. (5/16, #15)
- Energy companies from China, South Korea and Japan have put aside political and commercial rivalries and plan to ship billions of dollars' worth of **Canadian liquefied natural gas** to Asian markets. (5/16, #16)
- Coping with falling prices and weakening demand, **European utility companies** are struggling to remain profitable as households and businesses throttle back on energy use in what's become a protracted period of economic uncertainty. (5/16, #21)
- The U.S. government announced it cleared the way for the development of an **offshore wind energy transmission line** for the Atlantic coast. (5/16, #24)
- **China** consumed 389.9 billion kWh of electricity in April, up 3.7% year on year, according to figures released by the National Energy Administration. (5/15, #12)
- Gunmen blasted **Yemen's LNG pipeline** just as Yemen LNG was preparing to restart processing at the Balhaf terminal after a previous attack on it in late April. (5/14, #8)
- The Russian-led ownership consortium of **Nord Stream** says it's conducting a feasibility study for the potential construction of two additional pipelines. The first of Nord Stream's two parallel pipelines shipping Russian gas to Western Europe via the Baltic Sea became operational in November. The second has been laid and is expected to come online late this year. (5/14, #13)

<u>Commentary:</u> The Impact of China and India on World Oil Markets

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

It's fashionable for various organizations and individuals in the United States to claim that the high price of oil and oil distillates is largely due to speculators. Speculators provide a convenient scapegoat for high oil prices.

The high price of oil is mainly due to the flattening of global oil production over the last 7 years combined with the rapid oil consumption increase in China and India. Figure 1 is a graph of total petroleum consumption for China and India from 1980 to 2010 (Data are from the US DOE/EIA).

Chinese + Indian Total Petroleum Consumption

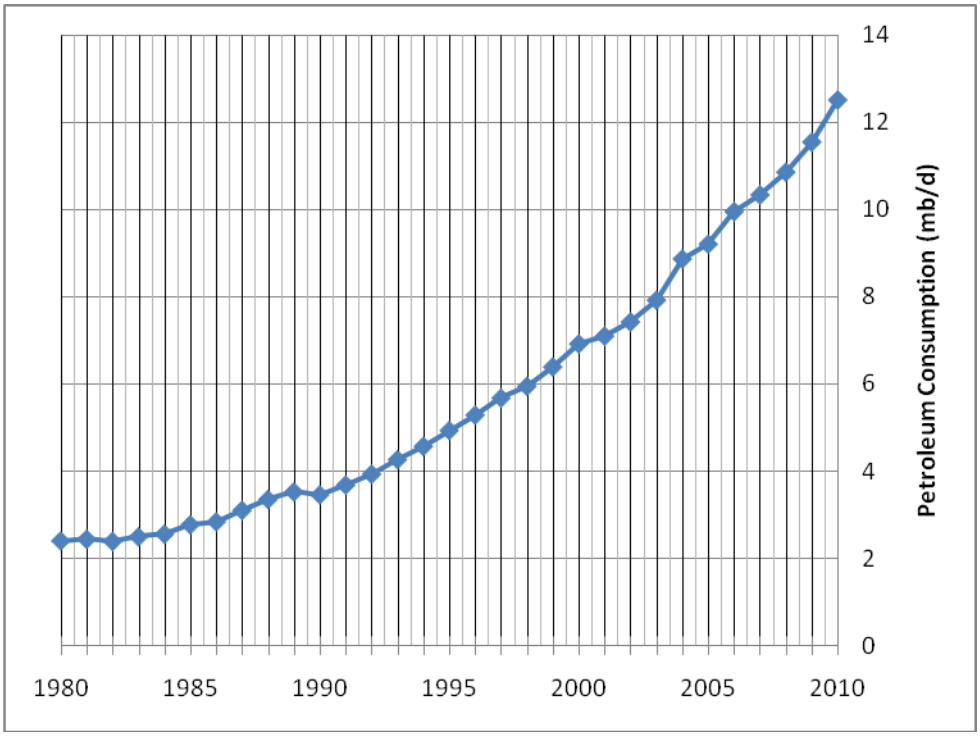

Figure 1

Over the period 2006-2010, the sum of Chinese and Indian petroleum consumption increased at an average rate of 6.34%/year. If that average rate of increase were to continue through 2018, the sum of Chinese and Indian petroleum consumption would surpass 20 mb/d and likely surpass the consumption level of the U.S.

An obvious driver of Chinese and Indian oil consumption is the rapid increase in the motor vehicle population of the two countries. In 2010, Chinese motor vehicle sales were ~18 million vehicles, up from 13.8 million vehicles in 2009. One source (http://www.thetruthaboutcars.com/2010/10/chinese-car-sales-17m-this-year-40m-in-2020-75m-in-2030/) estimates that in 2020, China's total sales could surpass 40 million vehicles/year.

India's motor vehicle fleet is also growing rapidly with total vehicle production (autos + commercial vehicles) at ~3.5 million vehicles in 2010, up from ~2.6 million vehicles in 2009.

Time will tell how rapidly the motor vehicle fleets increase in China and India but it's obvious that there is a strong desire by people in those two countries for vehicles that require oil distillates. People in China and India want to live like Americans.

The question is, where will all the oil come from to power those vehicles?

Chinese oil production (crude oil + condensate) had been rising fairly steadily over the years (See Figure 2).

Annual Average Chinese Oil Production

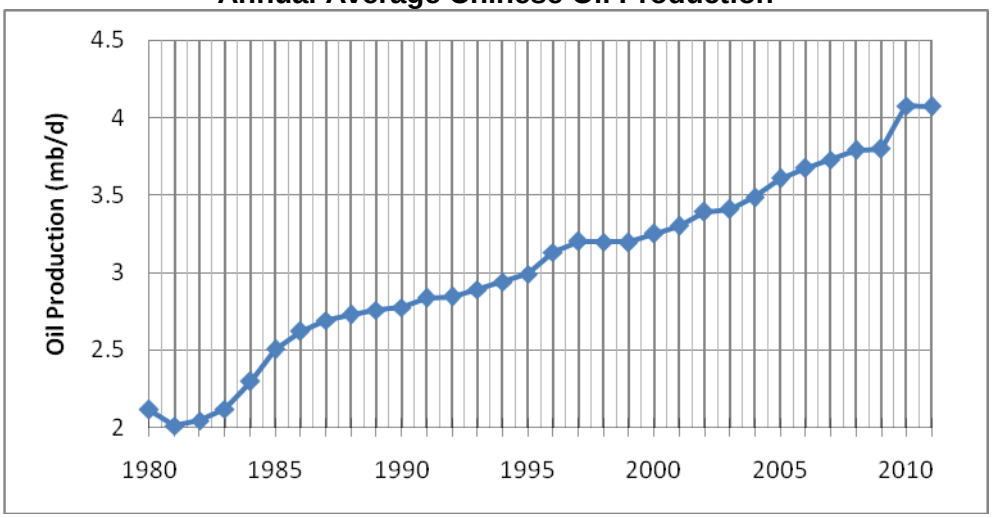

Figure 2

A closer inspection of monthly average oil production for China shows that production reached its highest level in Nov. 2010 (Figure 3). I believe Nov. 2010 will be the highest level of production that China will achieve and that in general, future Chinese oil production will decline.

Monthly Average Chinese Oil Production for 2005-2011

Figure 3

I view that as important because if China can't increase its domestic oil production, it will have to import more oil than it otherwise would.

Figure 4 is a graph of Chinese net oil imports for 1986-2009, the range of available data from the U.S. DOE/EIA. Prior to 1996, China was a net oil exporter. Since 1996, net Chinese oil imports have risen rapidly such that in 2009, net imports were 3.975 mb/d.

Chinese Net Oil Imports (mb/d)

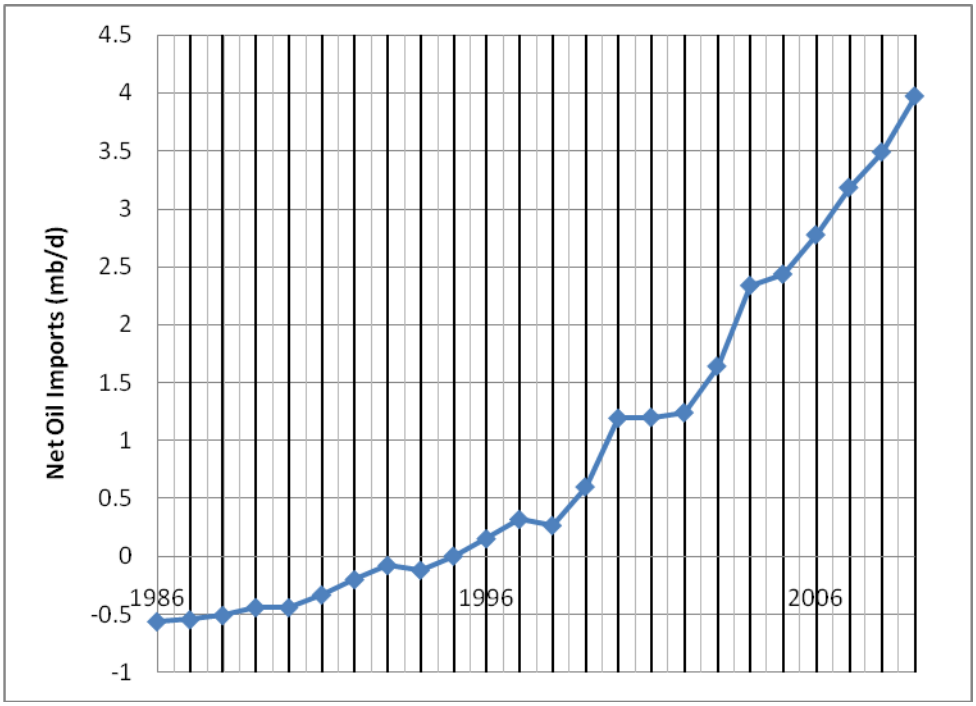

Figure 4

Indian oil production has been fairly flat over the last 15 years with a bit of a rise in 2010-2011 (See Figure 5).

Annual Average Indian Oil Production

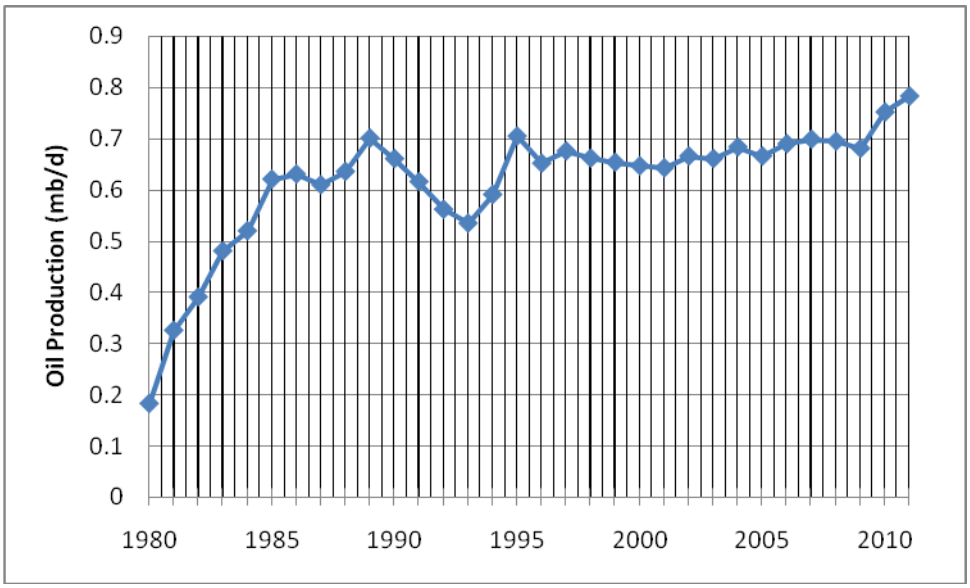

Figure 5

A closer inspection of Indian oil production on a monthly basis shows that production reached its highest level in Nov. 2010 (Figure 6). Just as in the case of China, I believe future Indian oil production will generally decline. Decreasing domestic production is important because India will have to make up the declining production by importing more oil than it otherwise would.

Monthly Average Indian Oil Production for 2005-2011

Figure 6

Like China, India's net oil imports have been rising rapidly (see Figure 7).

Indian Net Oil Imports

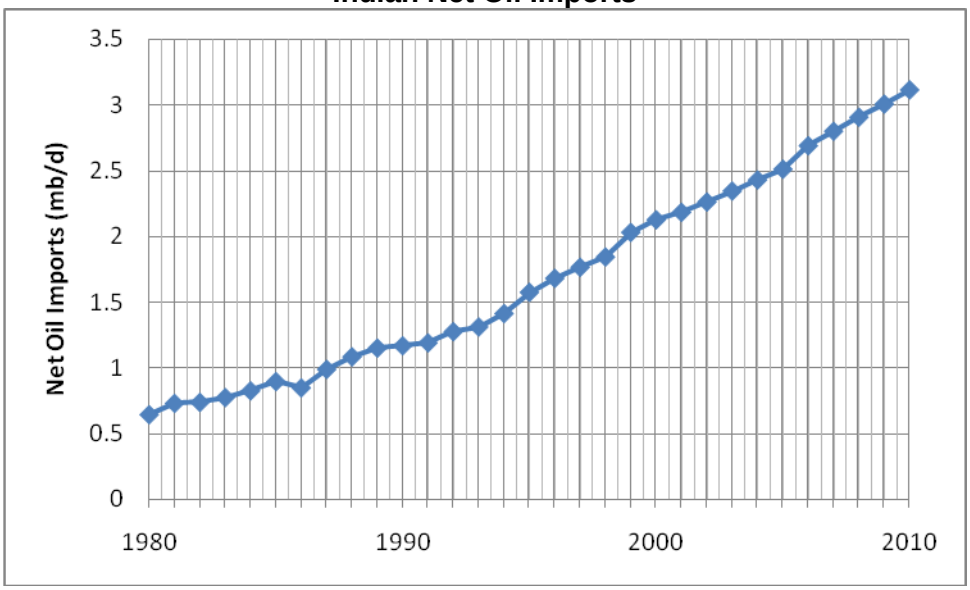

Figure 7

There will be increasing demand for oil and oil distillates in China and India, assuming individuals in those countries can afford the fuel. That will place substantial pressure on world oil markets. The oil industry is having enough problems just maintaining the present global oil production rate, let alone increasing the production rate by any substantial amount such as to lower oil prices.

If sanctions on Iran were to be effective, that would take 2-3 mb/d off the world oil market with obvious implications in terms of oil prices. I suspect that if China and India need oil to maintain economic growth, they will import oil from wherever they can get it, including Iran, irrespective of sanctions.

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/.