

Stockpiling or Consuming: China's Current Oil Demand

By Ross McCracken*

Future oil demand growth remains highly uncertain, sensitive to the speed and extent of the economic recovery, as outlined in the International Energy Agency's Medium-Term Oil report, published in June. However, what is clear is that Chinese oil demand growth is a key factor. Not only is it expected to be the largest single source of demand growth, but its sensitivity to GDP growth is larger than for OECD countries. The IEA estimates that Chinese oil demand could reach 9.6 million b/d in 2014 under a high GDP growth scenario, or 8.5 million b/d under conditions of lower growth.

As a result, oil demand in China is being closely watched. However, two different stories are emerging that reflect the Chinese authorities release of statistics and the way in which the media reports them. According to data supplied by Customs and the National Bureau of Statistics, and then interpreted by the media, Chinese oil demand is racing ahead, rising by 4.21% on the year in July to a record 34.92 million metric tons.

This is 'implied' oil demand, the word 'implied' often falling from the media headline where economy of wordage and impact are all important. The figure actually represents refinery throughput plus net imported oil products. On the same basis, implied oil demand in the January-July period rose 0.7% to 221.47 million mt, compared with the same period in 2008, the first increase since the start of 2009.

However, if implied Chinese oil demand appears to be up, consumption appears to be down. According to China's official Xinhua news agency, surveys by the China Petroleum and Chemical Industry Association show that consumption of crude oil dropped 2.9% in first-half 2009 to 190 million mt or 7.7 million b/d.

The missing link is, of course, stocks. The government releases data on imports, exports, domestic crude production and refinery throughput, but does not release official data on the country's actual oil consumption figure and oil stockpiles. Using the implied demand data, it can be seen that crude stocks in China – domestic production plus net crude imports less refinery throughput – rose by 8.53 million mt in the year to July.

Like the government, the CPCIA does not provide overall stock levels, but it does comment on changes in their levels. According to the association, oil product inventories registered large increases in July. Chinese financial news website Caijing reported that the July oil products stocks of China's giant refiners Sinopec and PetroChina were up 30% on the year, while July oil products sales were down 6%. The CPCIA reported that through end-June, China's oil products inventory was 43.5% higher than a year ago.

Oil Product Stockpiles

So while Chinese refiners have been increasing their throughput, hitting all-time highs from May through to July, and reflecting rises in regulated oil product prices, it appears that the extra output is being stockpiled rather than consumed, while crude inventories are also growing.

The increase in refinery throughput in the second quarter reflects the resumption of operations at several key refineries following maintenance, as well as the start-up of a 240,000 b/d refinery at Huizhou and a 160,000 b/d refinery expansion project in Quanzhou. China's state oil companies are expected to add nearly 1 million b/d of new refinery capacity by end-2009, and they are still announcing new plans; on September 17 Sinopec said it would invest \$3.5 billion to add a further 240,000 b/d of capacity to the Quanzhou refinery as part of a second phase expansion.

It is doubtful that, in the short term, a market exists for the additional output either domestically or internationally. Floating storage of oil products globally was reported by the IEA to have risen above 60 million barrels at end-June, while preliminary data for end-August indicated some stabilization at about 60-65 million barrels, down slightly from end-July. Floating storage for crude was put at 50-55 million barrels at end-August down from about 65 million barrels at end-July.

The problem of excess oil stocks is reflected in Chinese state company plans to expand their own storage capacity. At the beginning of September, the China National Petroleum Corporation announced that it would expand its oil storage capacity to over 45 million mt in coming years, 15 million mt of which would be for commercial use. Local reports said that 66 new facilities are planned to come into operation this year. CNPC itself opened ten new storage facilities in first-half 2009.

The rush to build new storage reflects both the long-term government aim of increasing China's strategic petroleum reserve, as well as the short-term necessity of finding a parking space for the oil products being produced. According to a draft of the multi-billion-dollar stimulus package for the oil, petrochemical

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and chemical sectors released earlier this year, China hopes to have the capacity to store an additional 3 million mt of oil products by end-2009, 6 million mt by 2010 and 10 million mt by 2011.

Far from indicating a recovery in the world economy and heralding the approach of a second oil supply crunch, lacklustre domestic Chinese consumption suggests a slower recovery, while increased stock levels and storage capacity can be seen as a medium-term stabilizing factor for the oil market. The relevant question might not be about demand growth, but about what happens when China stops stockpiling.

Although it is only one month's data, preliminary indications for August, released in September by the Chinese General Administration of Customs, appear to confirm this outlook. Chinese refinery throughput fell in August from the record high of July, the first month-on-month drop this year. Crude imports and oil product imports also fell. The former remains high, 18% up on the same period last year at 18.47 million metric tons (4.38 million b/d), but the latter was down 28.87% on July and 18.86% on the year at 2.71 million metric tons. At the same time, crude and oil product exports jumped 25% and 10.65% respectively on the month.

Transport Key

Chinese oil demand growth is centred on the transportation sector with gasoline and diesel demand on a rising trend and fuel oil usage declining. This trend is likely to continue as fuel oil use for power production is further reduced, and as conventional refinery capacity squeezes out China's 'teapots,' which typically use fuel oil as a feedstock to produce off-specification gasoline and diesel.

In line with rising gasoline demand, Chinese domestic car sales have increased markedly in recent months, another statistic used to reinforce the apparent recovery in Chinese oil demand. This reflects heavy government subsidization. Beijing has halved taxes on new cars and offered subsidies to the country's rural population to buy small vehicles. Even in 2008, shielded from crude's highs on international markets by regulated domestic prices, the number of cars on China's roads rose by a quarter over 2007.

How China's transportation system develops will heavily influence the country's future oil demand. The recovery in new cars sales this year follows a rise in monthly average sales from 360,794 in 2003 to 732,712 in 2007, while they still rose 6.7% in 2008, despite the economic slowdown. Yet per capita car ownership remains a fraction of that in developed countries and there is clearly pent up demand for travel, as shown by rail use statistics.

But how will China's per capita car ownership evolve? While the huge size of the population suggests an enormous market, it may also prove a self-limiting factor as population density is high and urban pollution is already an issue. In addition, the country's road infrastructure is different from that in Europe or the U.S..

Moreover, the relationship between per capita car ownership and oil demand growth is uncertain. Strong growth in car ownership in Europe since 1980 does not correlate with the region's oil demand growth. While again the comparison suffers from being a developed versus developing country one, Japanese oil demand has been falling since 1999, but per capita car ownership rose from 404 per thousand people in 1999 to 441 per thousand in 2004.

That China's oil demand will start to rise as growth recovers is certain, reflecting the country's developmental status, but, in the short-term, oil demand growth is arguably being over-stated by a reliance on data based on refinery throughput. In addition, while car ownership has a long way to rise to reach developed country levels, there are internal limitations specific to China that suggest the country will never achieve or perhaps even approach U.S. levels. Nor can demand management initiatives be ruled out by government, whether driven by environmental, security of supply or local pollution imperatives.

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