Tech Talk - Countries producing over 500 kbd - Malaysia, Australia, Colombia and Ecuador

Posted by Heading Out on March 27, 2011 - 9:09am

Over the past few weeks I have been briefly discussing the amount of oil that the major producers of the world generate each year. Starting at the top, with Russia and Saudi Arabia, I have now arrived at the bottom end of the list of countries producing more than 500,000 bd. I am concluding with Malaysia (727 kbd), Australia (586 kbd), Colombia (602 kbd), and Ecuador (504 kbd). For those interested, the list (the EIA top producers in 2008) would have continued with Sudan (480 kbd), Syria (401 kbd), Equatorial Guinea (359 kbd), Vietnam (337 kbd), and Thailand (328 kbd) to cover the countries that produce more than 300 kbd.

But my interest in these countries stems from the need that the world has for significant increased production, and the further that one moves down the list, the harder it is to see any country being able to produce an extra 200 kbd - say, to provide the additional power that Japan might need to replace the destroyed nuclear reactors, not to mention the 1.4 mbd that has been projected for growth in demand of the world economy this year, nor the 1.6 mbd that the loss of Libyan production will impose on global supply.

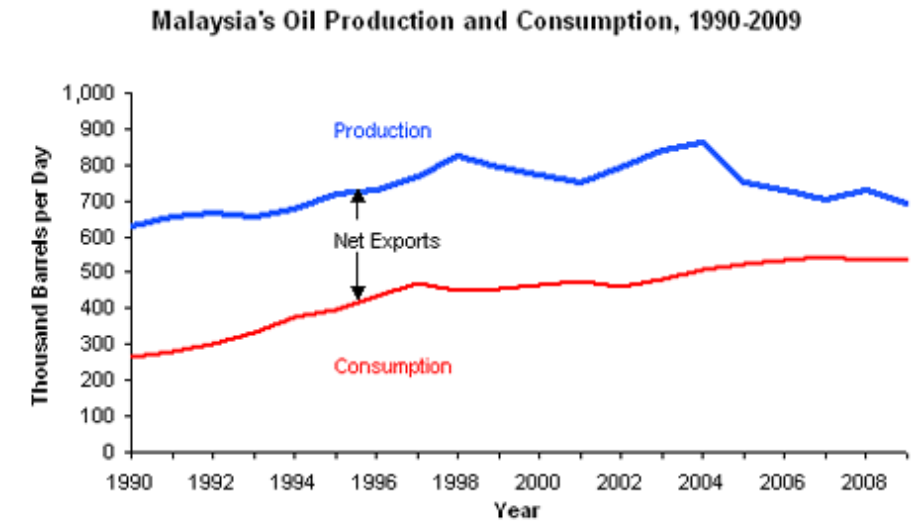
So let us begin by looking at the production from Malaysia, which seems to have hit a plateau in production of crude oil in recent years. Production levels are projected to stay about current levels, slightly below 700 kbd through 2020, with some of that coming from enhanced oil recovery techniques. Malaysia is also the second largest producer of palm oil, at around 300 kbd, though a lot of the latter is used in cooking.

Malaysia lies north of Indonesia (covered earlier in the series).

Malaysia (EIA map)

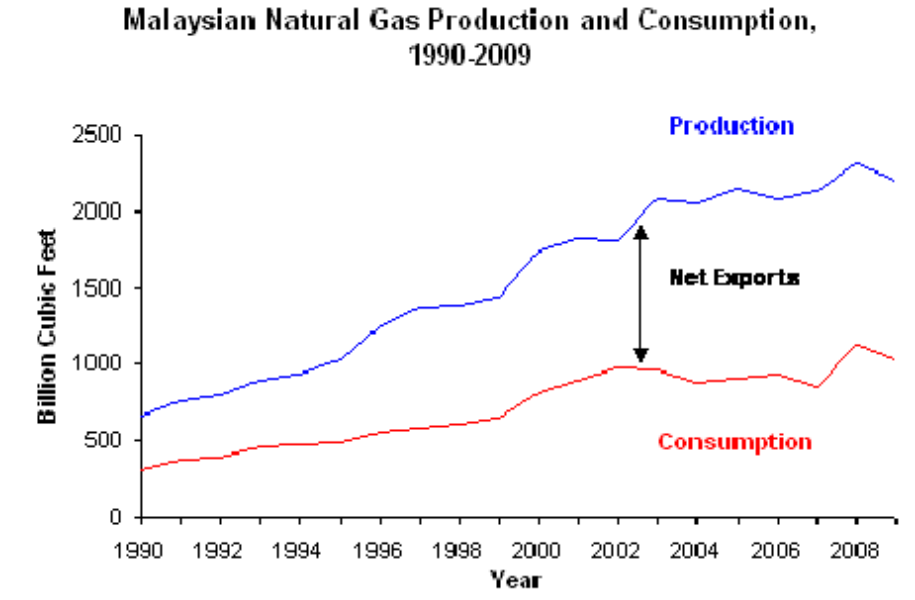
While production is holding relatively steady, consumption within the country is steadily increasing so that before too long, it is likely that the country will cease to export oil, in a similar

fate to that of Indonesia. This despite plans to further develop offshore fields.



Source: EIA

Natural gas, however, is another story, with steadily increasing production, to date, being able to out-perform increasing domestic consumption. Thus exports, which ran around 1 TCF in 2009, have continued to grow.



Source: EIA

The country exports around 1 TCF of LNG, two-thirds of which went to Japan. With only one of the re-gassifying plants in Japan out of operation, LNG provides a way of meeting some of the current energy shortfall in Japan, and Malaysia is willing to help. Malaysia is also now supplying China with LNG, with flows into Shanghai anticipated to rise to 3 million tons/year next year.

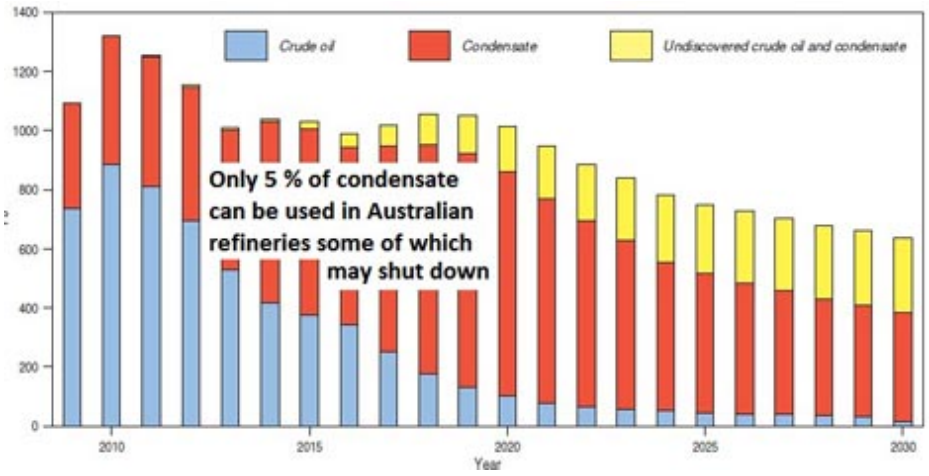
Australia is next on the list and it appears to have passed peak oil production and as a result, exports have dropped from over 500 kbd in 2007 to just above 300 kbd today. The declines in

production are expected to continue

> "The recent start-up of BHP Billiton's Pyrenees oil field and Apache's Van Gogh field - both situated off Western Australia's north-west coast - will provide a boost in the short-term; however, the long-term trend is for production to keep falling," EnergyQuest Chief Executive Officer, Dr Graeme Bethune, said today.

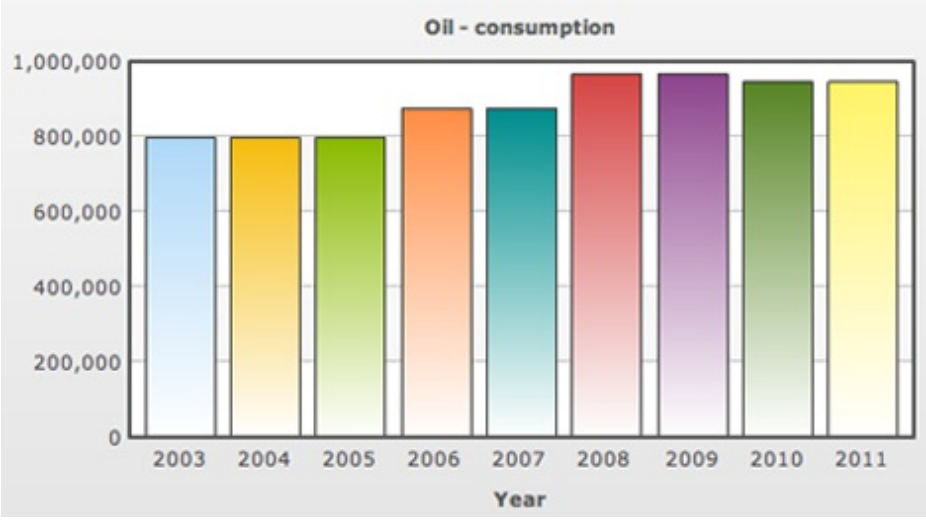
(this from April 2010). Current production is at around 540 kbd, having fallen 40 kbd in 2010.

The decline with a projected drop of 85% in 10 years can be seen from this graph:



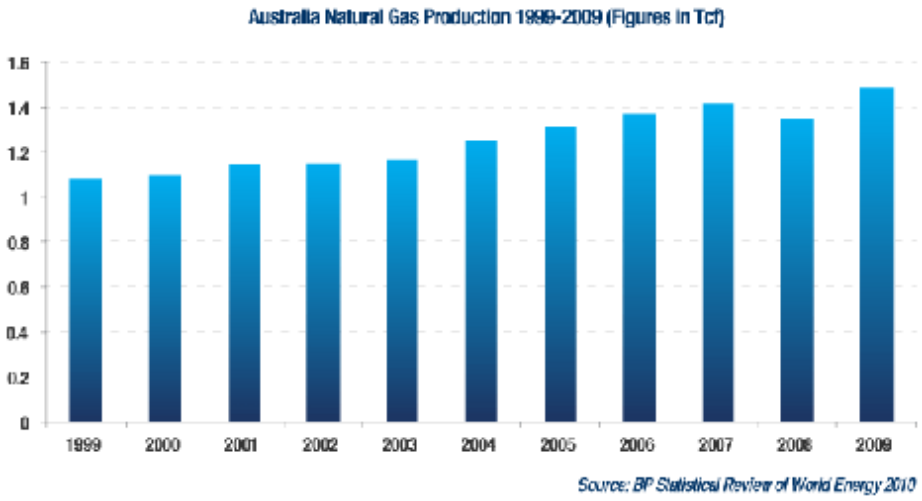
Anticipated future Australian production (Geoscience Australia)

At the same time Australian consumption has been steadily rising, and is hovering just below 1 mbd.



Australian oil consumption (Index mundi)

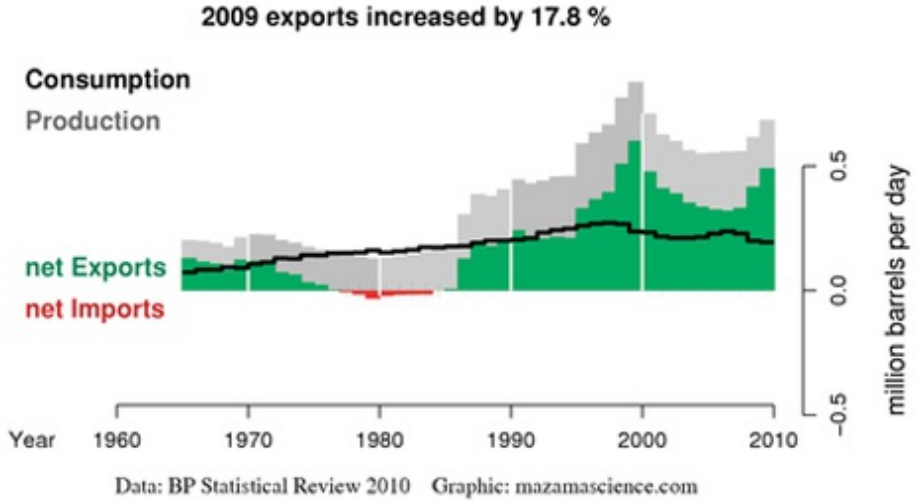
In contrast, Australian natural gas reserves are significant. As with Malaysia it has supplied LNG to Japan, starting in 1989 and has just signed a $41 billion contract for a 20-year supply of LNG from the Gorgon field, taking 2.25 million tons of the anticipated 15 million tons (0.75 Tcf) of annual production anticipated from the field, as overall gas production continues to rise.



Current estimates of Australian natural gas reserves are of over 108 Tcf

Colombia (Source EIA)

Colombia sits next to Venezuela, and I referred to some of the interplay between the two countries in an earlier post on Venezuela. Production of oil has fluctuated but has recently been increasing, so that it is now running at 800 kbd, and this is anticipated to increase to 1.2 mbd by 2012. It is thus one of the few countries that might be able to increase supply to the United States as some of the more traditional sources lose production.



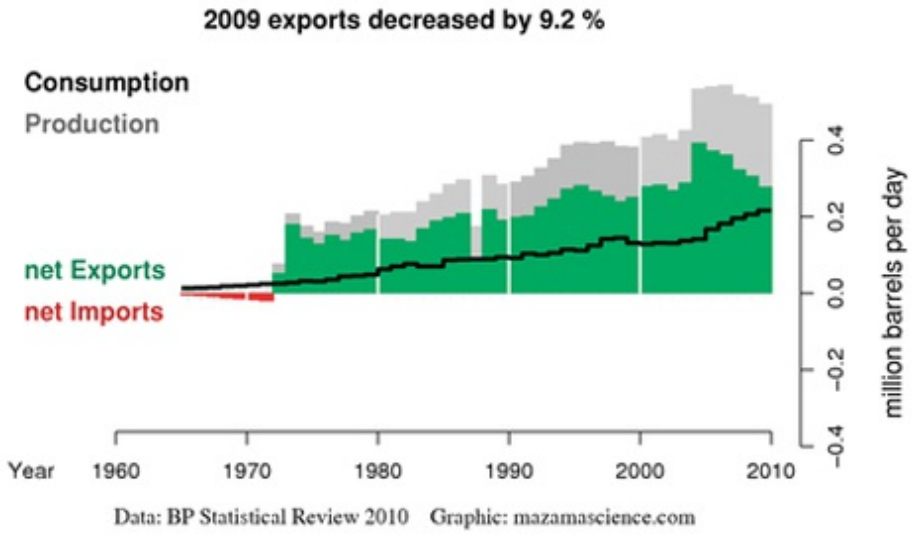
Colombia oil statistics (Energy Export Databrowser)

The problems that currently exist relate to the need for additional pipeline capacity to carry the newly developed reserves to a point where they can be exported. Investments in the country from China, among others, support a prediction of further growth to 1.4 mbd by 2014.

As I referred to in the Venezuelan post, some of Colombia's natural gas has been exported to Venezuela, with the intent that in 2012, as the Colombian reserves start to decline the flow can reverse. Much of the natural gas has been used for improving oil production in the past with the country consuming some 265 Bcf while producing 318 Bcf.

Ecuador (EIA)

And the final country producing more than 500 kbd is Ecuador, although that was in 2008, and by last year production had fallen to 485 kbd. The country shows the more standard shape illustrating the Export Land model with an accelerated decline in exports as consumption rises, even as overall production now falls.



Ecuador oil statistics (Energy Export Databrowser)

It would seem, since Ecuador exports to the United States, that the increase in Colombian production is timely.

In regard to natural gas, perhaps the EIA says it best

> Ecuador has relatively small proven natural gas reserves and a limited natural gas market.

The supply that it has is used internally, mainly for electricity generation, while much of that associated with oil is either flared or reinjected to help with production.