

THE ASSOCIATION FOR THE STUDY OF PEAK OIL AND GAS “ASPO”

NEWSLETTER No. 65 – MAY 2006

ASPO is a network of scientists and others, having an interest in determining the date and impact of the peak and decline of the world’s production of oil and gas, due to resource constraints. Independent national affiliates are in existence or formation in Australia, Canada, Egypt, France, Germany, Ireland, Italy, Netherlands, New Zealand, Portugal, South Africa, Spain, Sweden, United Kingdom and the United States.

Missions:

- 1. To evaluate the world’s endowment and definition of oil and gas;***
- 2. To study depletion, taking due account of economics, demand, technology and politics;***
- 3. To raise awareness of the serious consequences for Mankind.***

Newsletter: The newsletter is currently compiled under the auspices of ASPO IRELAND, which maintains a full and searchable archive of past issues at www.peakoil.ie.

Foreign language editions are available as follows:

Spanish: www.crisisenergetica.org

French: www.oleocene.org (press “Newsletter”)

Newsletter communications should be addressed to ASPO IRELAND at www.peakoil.ie

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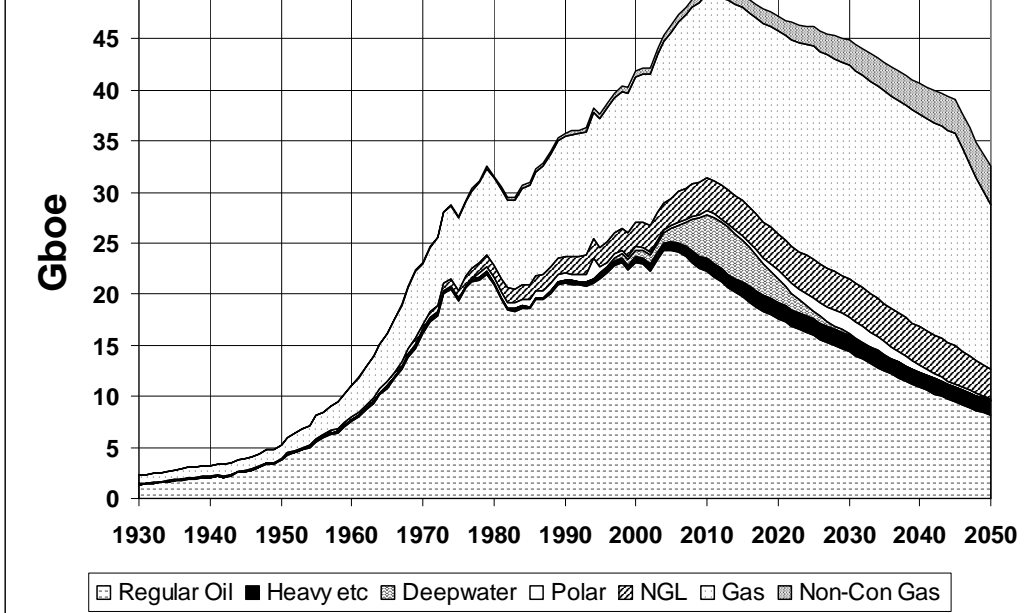
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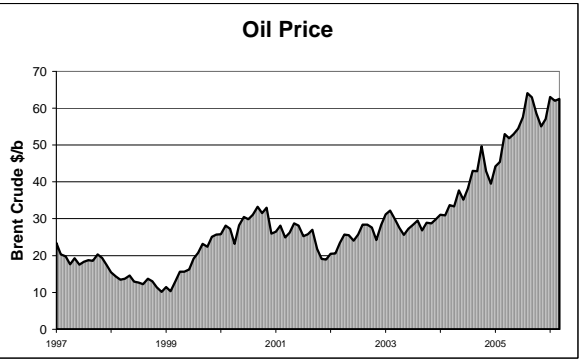
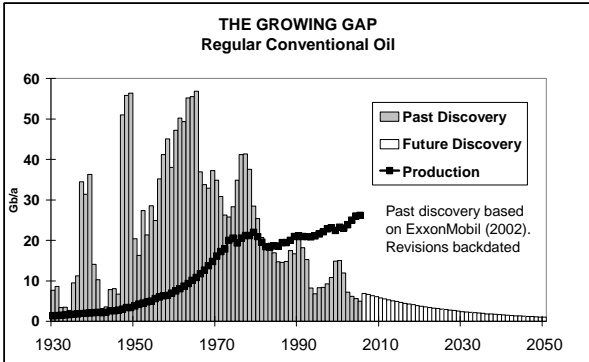
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The General Depletion Picture

**OIL & GAS PRODUCTION PROFILES
2005 Base Case**



ESTIMATED PRODUCTION TO 2075										End 2005		
Amount			Gb	Annual Rate - Regular Oil					Gb	Peak		
Regular Oil				Mb/d	2005	2010	2015	2020	2050	Total	Date	
Past	Future		Total	US-48	3.6	2.8	2.2	1.7	0.4	200	1971	
Known Fields	New			Europe	5.0	3.4	2.3	1.6	0.2	75	2000	
968	794	138	1900	Russia	9.2	8.5	6.9	5.7	1.5	220	1987	
	932			ME Gulf	20	19	19	19	11	680	1974	
All Liquids				Other	29	27	23	20	9	725	2004	
1073	1377	2450		World	67	61	54	48	22	1900	2005	
2005 Base Scenario				Annual Rate - Other								
M. East producing at capacity (anomalous reporting corrected)				Heavy etc.	2.3	3	4	4	4	151	2021	
Regular Oil excludes oil from coal, shale, bitumen, heavy, deepwater, polar & gasfield NGL				Deepwater	3.6	12	11	6	4	69	2011	
				Polar	0.9	1	1	2	0	52	2030	
				Gas Liquid	6.9	9	9	10	8	276	2035	
				Rounding					-1	-2	2	
Revised	03/03/2006			ALL	80	86	80	70	37	2450	2010	



702. *No to coal*

A correspondent from Denmark finds a flaw with what appeared to be the only feasible option in the five energy strategies proposed by the G8.

In the latest newsletter (64), it states in Item 696, that increased power production capacity, based on clean coal technology, is considered a "good idea", as there is "plenty of coal". I found this fairly disappointing, and indeed somewhat irresponsible, since that appears to be a strategy that would only result in us backing ourselves into yet another corner. If the world doesn't figure out peak oil before it's "too late", why on earth should we risk the same with coal? And if Gregson Vaux's calculations are somewhat accurate, the lifetime of the world's coal endowment may not be that long if one takes the increased demand after peak oil has occurred into account.

It is my firm belief that ASPO simply shouldn't advocate any strategy going forward that relies on fossil fuels, period. Other than that, you're doing a very good job indeed. Now if only you could wake up the Danish government to reality... sigh.

kind regards, Peter Steens.

703. *A shift by BP?*

In a keynote speech at the Institute of Petroleum meeting in London, Lord Browne, the CEO of BP, who has been dismissive of peak oil, even instructing his staff to distance themselves from the subject and avoid public comment, recently went so far as to admit: *It is impossible to predict the future, except to say that it wont look like the past.* Looking at the depletion profile on Page 1, we can certainly agree that the natural decline of future production is unlike the growth of the past.

Meanwhile, Christophe de Margerie, head of exploration for Total and heir presumptive to the leadership of the French energy multinational, states that

The world lacks the means to produce enough oil to meet rising projections of demand for fuel over the next decade. The world is mistakenly focusing on oil reserves when the problem is capacity to produce oil.

Forecasters, such as the International Energy Agency (IEA), have failed to consider the speed at which new resources can be brought into production, he believes. "Numbers like 120 million barrels per day will never be reached" <http://business.timesonline.co.uk/article/0,,13130-2124287,00.html>

704. *What is Money ?*

Although some people have less of it than others, virtually everyone finds himself putting his hand into his pocket for money in his daily life. Yet, it is very difficult to understand what exactly this magical ingredient actually is.

If we look back to primitive society, we can imagine how a man who shot a deer with his bow and arrow might have bartered it a neighbour's stone axe. Later, somebody may have fallen upon a nugget of gold in a local river bed, and then swapped it for five of his neighbour's sheep. The neighbour in turn may have exchanged it for something else from someone else. This was not exactly barter any longer but recognition of the scarcity value of the nugget.

Next, people started to deliberately look for gold or silver, and, if successful, claim ownership to the mine. The value of the product of the mine greatly exceeded the cost of paying and feeding the miners. Kings started to issue coins, bearing their effigy as a symbol of their dominion. The Roman Empire, which relied on mercenary troops paid for with silver coins, fell when the supply of silver dried up after the Rio Tinto mines of Spain hit the water table. Some nations went further, undertaking foreign conquest in search of gold and silver. The Spanish Empire of Latin America is a prime example. Money somehow became a tool of empire as Christ had notably remarked with the words: *Give unto Caesar, that which is Caesar's.*

Lumping this heavy gold and silver around was tiresome, and some bright spark thought of storing it in exchange for a receipt, when then acquired the values of the stock. Some even brighter sparks started issuing more receipts than they had stocks, inventing money out of thin air.

Money and confidence became two sides of the same coin. The coinage itself involved confidence as unscrupulous mints debased the currency by reducing the content of gold or silver, despite high penalties. In mediaeval Russia, those caught doing so had molten lead poured down their throats.

The population of the world at the time of Christ was about 400 million and no more than doubled over the next seventeen centuries in what must have been a fairly stable economy with a rather fixed supply of coin and promissory notes. But then people began to harness energy from wind, water and coal with which to manufacture goods for trade, which led to a growing demand for financial capital. It was met at first by increased gold mining in South Africa and other places, but later by an expansion of promissory notes. Banks lent more than they had on deposit, confident that tomorrow's economic expansion was collateral for today's debt. Even so, the currency was at least notionally backed by gold in the central banks despite the fact

that they would not be able to meet their obligations in full if everyone decided to cash in their paper receipts simultaneously. A further complexity arose from fixing exchange rates between different currencies, whose values waxed and waned both with relative economic performance and the degree to which different countries were willing to print money and properly control debt. Some currencies were more widely used than others delivering a massive hidden tribute to the issuing country in the form of various indirect fees and usury. Probably the principal benefit flowing from the British Empire was the use of the pound sterling as a world trading currency, which in turn prompted rivalries and challenges, perhaps providing an important ingredient in the tensions leading to two world wars. Even so, the system seemed to work well enough, becoming ever more sophisticated, although failing briefly with the Great Depression of the 1930s.

The Second World War ended with the Breton Woods Agreement in which exchange rates between currencies were fixed between each other and in relation to gold. Although victorious in military terms, Britain effectively lost the war with the collapse of its empire and the surrender of the pound sterling to US dollar as the world's premier trading currency. The latter's economy boomed as banks pumped ever more money into the system. Even so, it was forced to abandon the gold standard in 1971 partly to fund the Viet Nam war. Thereafter, the world's financial system was based on little more than confidence in perpetual economic growth, but faith was rewarded because the economy did grow over the subsequent 35 years, fuelled by an abundant supply of cheap oil-based energy. The United States was the financial power house of the world although its actual manufacturing and productive base declined as its industries moved overseas to benefit from near slave-labour in countries that allowed themselves to build up massive dollar denominated debt. In fact, it was able to secure its soaring oil imports virtually for free in the sense that the cost of imports was matched by the expansion of domestic credit, which at base was nothing more than an expression of confidence. Furthermore in the 1970s it was agreed to trade oil in dollars, meaning that anyone wanting to buy or sell the stuff accumulated hoards of dollars, indirectly propping up its value.

One of the most bizarre elements has been the status of the *Federal Reserve Bank* which most people imagine to be the central bank of the United States, when in fact it is a privately owned un-audited profitable organisation that creates money and credit out of thin air using Government bonds as collateral.

A new situation may now be unfolding as oil prices soar from the capacity limits imposed by Nature. The cost of production has not materially changed meaning that the high prices represent profiteering from shortage, especially by the Middle East countries which supply about one-third of the world's needs. In effect close to a trillion dollars a year are being currently pumped into the system as new liquidity, created effectively out of thin air, lacking any tangible backing in gold or barter in any form. It rather seems as if oil is replacing gold as a prop for currency. Oil prices can only rise higher as natural capacity limits are breached, until such time as the demand for oil can be reduced.

It is very difficult for mortals to penetrate the workings of the financial system that seems to be based on the flimsiest of foundations. Perhaps a moment of truth is approaching when the bubble will burst.

705. ASPO IRELAND and ASPO INTERNATIONAL

Interest in the Peak Oil issue, as raised by ASPO, has grown rapidly in recent months, with increasing recognition of its global importance. Several governments are beginning to react with new policies to address the consequences. Sweden has taken a lead, aiming to cut its oil dependency by 2020. Ireland too is moving in the same direction.

ASPO was formed as an informal network of scientists in 2000 following a lecture at Clausthal University in Germany. It has expanded over the following years to be represented in most European countries. It has also held annual conferences in Uppsala, Paris, Berlin, and Lisbon, with the 2006 event to be held at San Rossore in Italy under the auspices of ASPO Italia. These events have attracted increasing participation and media coverage. A new policy was adopted in 2005 to encourage the formation of national organisations to pursue the subject locally. Such entities have now been formed, or are forming, in the following countries: Australia, Austria, Canada, Egypt, France, Germany, Ireland, Israel, Italy, Mexico, New Zealand, Norway, Portugal, South Africa, Spain, Sweden, Switzerland, United Kingdom, and United States.

Despite these successes, ASPO has so far failed to establish a central secretariat or provide a formal common framework within which the endeavour may be developed.

ASPO IRELAND may now be in a position to remedy this shortcoming, having recruited staff. It may also be able to host the 2007 Annual Conference in Ireland, while continuing to maintain the database and depletion model, as well as issue the monthly ASPO Newsletter (see www.peakoil.ie).

It is ready to act as Secretariat for the wider association of national ASPO organisations, establish the norms of membership, effect co-ordination and liaison, as well as deal with rapidly increasing media demands.

To set the ball rolling those wishing to join a formalised international grouping may do so by endorsing the following Statement of Aims as drawn up by ODAC, which represents ASPO in the United Kingdom, and registering by e-mail to Katie Buckley at K.Buckley@aspo-ireland.org.

ASPO

STATEMENT OF AIMS

ASPO (The Association for the Study of Peak Oil and Gas) is a network of non-profit, independent organisations based in many countries with the following shared aims:

- To evaluate the world's endowment of oil and natural gas;
- To determine the probable date and impact of the peak and decline of the world's production of oil and gas;
- To pursue the release of reliable and transparent data on the world's oil and gas reserves/production rates in order to provide a firm basis for policy-making;
- To raise international public awareness and promote better understanding of oil and gas depletion and its consequences;
- To urge governments to adopt strategies to mitigate the effects of oil and gas depletion with new policies aimed to cut waste, improve energy efficiency, and bring in alternative energies;
- To promote the adoption of an Oil Depletion Protocol, whereby imports are cut to match supply;
- To warn of the consequences of delay.

706. An unintended hidden Benefit

In Newsletter 64 Item 692 we described a new approach to studying depletion in order to avoid the word *Reserves* which is commonly defined in political, commercial or financial terms, often lacking technical credibility. We also no longer speak of *Ultimate Recovery* but rather of *Estimated Total Production to 2075 (ETP'75)* to avoid having to worry about the almost irrelevant tail end.

This new approach offers an olive branch to the flat earth economists, whose religion prohibits recognition of natural limits. They are now able to accept declining production on the notional basis of lack of investment, profit, manpower or political restriction without mentioning the constraints of Nature.

Perhaps the geological profession will reap untold benefits as highly paid fossil collectors comb the lands, and new institutes of higher learning valiantly try to make good the manpower deficiency. If they don't at first find more oil, they can of course be trained to look still further.

707. Report from the 7th International Oil Summit in Paris April 7, 2006

Kjell Aleklett represented ASPO at the above meeting, which was also covered by CNBC

A major topic for the oil summit was much discussion about needed collaboration between National Oil Companies (NOCs), and International Oil Companies (IOCs). More than 75 % of remaining oil reserves are in the hands of NOCs and IOCs are producing at maximum capacity using all available technology. Hence it is easy for anyone to understand why IOCs are eager to convince the NOCs that they need new partners in the future. Chevron is the perfect company to use as an illustration of the problem. According to their experts they are using advanced technology but production is declining. Chevron is facing Peak Oil and Peak Oil is reality, but none of the seminars at the summit addressed this problem.

Claude Mandil, Executive Director of the International Energy Agency (IEA) was first on stage. He saw no peak in the demand before 2030. Different scenarios yielded demands from 111 to 123 million barrels per day (mbpd) in year 2030. He showed a figure with demand increases for the years 2004 to 2010. The conclusion was that the demand growth was 1.5 mbpd per year over the next 5 years. The oil industry has for several years claimed that the production from existing fields is declining at around 5 % per year or a decrease in production of about 4 mbpd each year. Adding the increase in demand and the decline we get that an extra 27 mbpd is needed in new capacity in the next 5 years. Projects adding the 7.5 mbpd were discussed but the decline in existing fields was not mentioned. A question to Claude Mandil about this decline got the answer that fields have always been declining and so far this has not been any problem. Mohammed Barkindo, Acting Secretary-General of OPEC, discussed the increasing demand as the oil producing countries see it. For them it is important to have security in demand. If different scenarios showed that there is an uncertainty of 12 mbpd, one should not expect that OPEC will make investments that bring the production into the uncertainty region without the security of high oil prices.

In the next section three ministers from oil producing countries got the opportunity to address the future of oil policies in context of high oil prices. His Excellency, Edmund Daukoru, President of OPEC and Minister of State for Petroleum Resources in Nigeria, claimed that he saw no problems when it comes to resources. OPEC has a spare capacity of 2 mbpd. The problems can be found on the down stream

sector. Refineries are not prepared to take the oil that is available today. They need to make investments to handle sour oil.

Security of demand was the key issue for His Excellency Abdulla Bin Hamad Al-Attiyah, Second Deputy-Premier and Minister for Energy and Industry of Qatar. But first he proudly told us that Qatar last year had the highest increase in GDP in the world, and the increase this year was also very high. Qatar is just now investing heavily, but the problem is that price of materials like steel and cement have increased threefold or more. If these investments to increase production are to continue they need firm security of demand. He also pointed out that OPEC did not set the price of oil. Traders around the world set the price for OPEC.

The third minister to address the summit was His Excellency Mohamed bin Dhaen Al Hamili, Energy Minister of the United Arab Emirates. He discussed reserves and pointed out the fact that the reserves outside the Middle East will only last for 22 years at today's production rate while the reserves in the Middle East will last for 88 years and this shows that the production in the Middle East will be even more important in the future. This is exactly what Dick Cheney said in 2001 in the US energy policy document: "In year 2020 around 54 to 67 percent of the world production of oil needs to come from the Middle East."

In the discussion Claude Mandil had trouble understanding that OPEC needed the guarantee of security of demand, as it was so obvious that demand was increasing. The call on OPEC is enormous. In the IEA 2004 World Energy Outlook the base scenario has an increase for OPEC from 28.2 to 64.8 mbpd from 2003 to 2030, and 33 mbpd of these increase should come from the Middle East. Producers in the Middle East must double their oil production. This is not possible, but it looks like the producers are unable to bring themselves to say that. The request for a guarantee of Security of Demand, that never will be given, might be another way to say that it is not possible to double the production. I think it is time for OPEC to start to discuss sustainable production. In this discussion one has to include two components. (1) The fact that you can not over-produce an oil field without damaging the total production from the field and (2) that the countries in the Middle East are heavily dependent on revenues from the oil industry. When these revenues start to decline the whole region might start to decline. The Middle East is now helping us with energy, who will help the Middle East then?

In the session about Access to Oil & Gas, the oil industry got the opportunity to tell their part of the story. Norsk Hydro, Shell, Total and Chevron all presented great commercials for IOCs. A summary is that they all think that NOCs need help in the future. It is easy to understand that they want to have this collaboration as reserves for the IOCs are declining much faster than for NOCs. A question from me about the steep decline in the North Sea and the fact that production for Chevron is declining even though they are using all available technology got the following answers.

Tore Torvund from Norsk Hydro explained that technology had doubled the total output but they now were very surprised to see the very high decline rates. In 2005 the production in Norway declined by 10 percent. The Chevron chief economist Edgard Habib explained the decline with the fact that it was a mature industry.

When Peak Oil was brought up it was interesting that Malcolm Brinded, executive Director of Exploration and Production for Shell, accepted that easy oil now is peaking, but saw no problems in increasing production steadily to 2020. Production from deep water, Arctic oil, heavy oil, oil sand and oil shales should be sufficient. On the other side we have Christophe de Margerie (head of exploration for Total) who claims it is time to find out what the maximum production capacity might be and when it will occur. ASPO, the Association for the Study of Peak Oil & Gas, has long been tackling these questions seriously.

Questions from the delegates from China indicated that they were worried over the price of oil. In a private discussion with Claude Mandil he told me that the world can never reach a production of 115 mbpd. This is the IEA 2005 basic scenario figure down from 123 mbpd in 2004. We might soon see scenario estimates of 100 mbpd from IEA instead of 115. We will soon be facing the fact that an increasing import demand from China must result in a decline of the imports in other parts of the world.

Calendar - Forthcoming Conferences and Meetings

ASPO members and associates [shown in parenthesis] will be addressing the subject of Peak Oil at the following conferences and meetings. Information for inclusion in future newsletters is welcomed.

May 8	Evora University, Portugal, [Laherrère]
May 10	EU Committee, Brussels [Campbell]
May 16	EDF Paris [Laherrère]
May 17	Energy Security of Supply, London [Campbell]
May 18-21	Ankelohe Conversations Symposium, Hamburg , Germany [Campbell, Leggett]
May 30	Certu, Lyon , France [Laherrère]
June 2	The End of Cheap Oil.....Swiss Energy Foundation, Zurich [Zittel]
June 7	Futurible Paris [Laherrère]
June 21-22	Global Commodity Markets, Zurich [Campbell]
July 4	Peak Oil Debate, Limerick University, Limerick , Ireland [Campbell]
July 18-19	ASPO-5 International Conference, San Rossore , Italy
November 30	Air Transport & Energy Challenge, Toulouse , France [Bauquis]

Note

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