

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

NEWSLETTER No. 89 – MAY 2008

ASPO started as a European 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. Now, associates are active in Australia, Austria, Belgium, Canada, China, Croatia, Denmark, Egypt, Finland, France, Germany, Hong Kong, Ireland, Isle of Man, Israel, Italy, Luxembourg, Japan, Korea, Kuwait, Malaysia, Mexico, Netherlands, New Zealand, Norway, Portugal, Russia, Singapore, Slovenia, South Africa, Spain, Sweden, Switzerland, United Kingdom, USA, and Venezuela.

(Formally constituted entities are shown in bold face)

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 of oil and gas decline for Mankind.**

Foreign language editions are available as follows:

Spanish: www.crisisenergetica.org

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

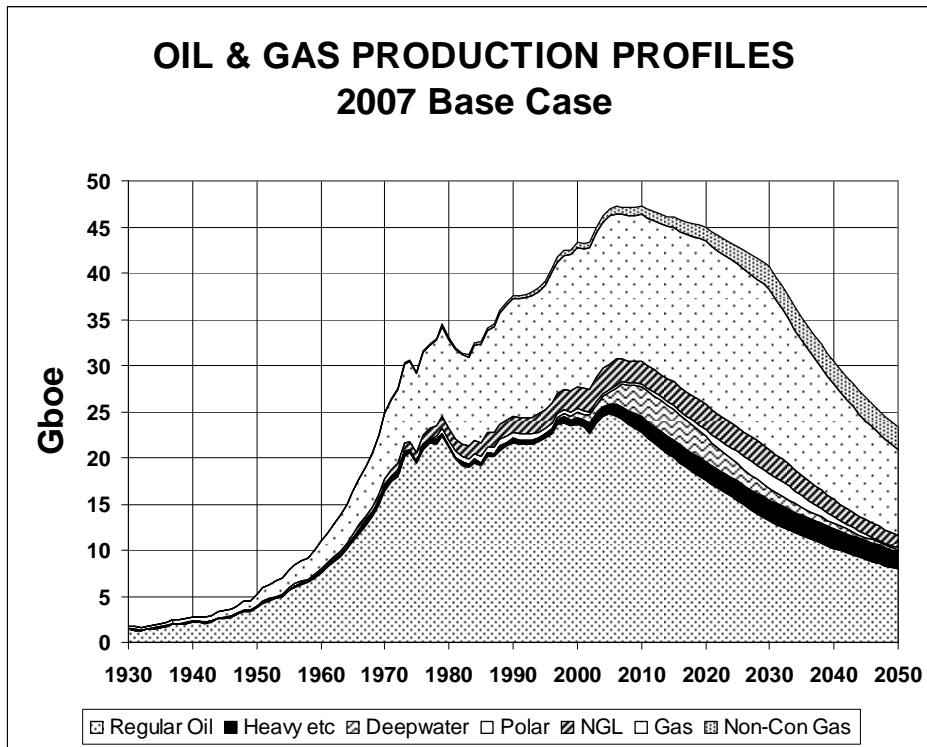
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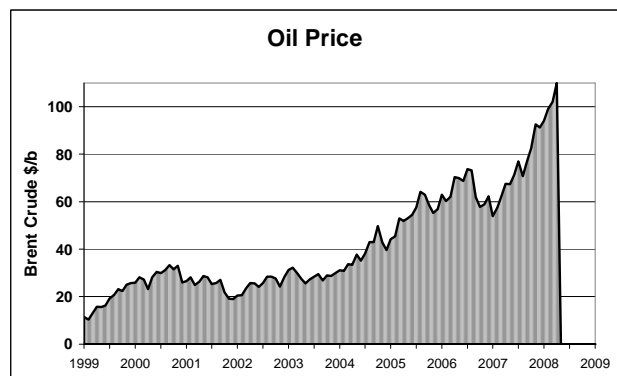
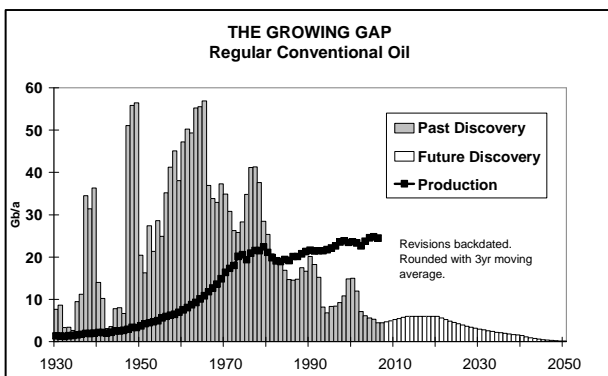
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The General Depletion Picture



ESTIMATED PRODUCTION TO 2100								End 2007			
Amount			Gb	Annual Rate - Regular Oil					Gb	Peak	
Regular Oil				Mb/d	2007	2010	2015	2020	2030	Total	Date
Past				US-48	3.7	3.1	2.4	1.8	1.0	200	1970
Known Fields	New		Europe	4.3	3.5	2.5	1.7	0.9		76	2000
1008	724	143	Russia	9.7	9.7	7.8	6.2	3.9		230	1987
	867		ME Gulf	19	19	20	20	17		663	2015
			Other	29	27	22	19	13		706	2005
All Liquids			World	66	62	55	48	36		1875	2005
1159											
1291											
2450											
2007 Base Scenario				Annual Rate - Other							
M. East producing at capacity (anomalous reporting corrected) Regular Oil excludes Heavy Oils (inc. tarsands, oilshales); Polar & Deepwater Oil; & gasplant NGL Revised 19/04/2008				Heavy etc.	3.9	5	5	5	6	184	2030
				Deepwater	6.7	9	9	8	4	85	2013
				Polar	0.9	1	1	2	4	52	2030
				Gas Liquid	6.5	7	7	7	7	203	2035
				<i>Rounding</i>			-2	-1	-2	51	
ALL				84	83	75	70	55		2450	2007



1033. China Re-Assessment

The impact of Peak Oil on China was reviewed in Newsletter No 40 of April 2004. The following revision has been supplied by ASPO-CHINA. We may note that it proposes a much higher estimate of Ultimate Recovery at 155 Gb, compared with 65 Gb in the current version of the Newsletter model. This implies a radical improvement over the past discovery trend, as shown in Figure 2.

ASPO-CHINA will be holding a meeting on May 18th to assess China’s oil security and welcomes ideas, comments and articles. (Contact chinapeakoil@126.com)

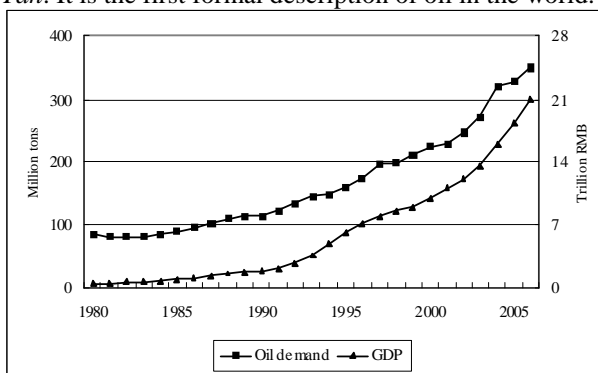
Country Assessment – China (Revised)

Feng Lianyong, Li Junchen and Pang Xiongqi
China University of Petroleum (Beijing)

China was one of the first countries in the world to exploit oil. In fact, it was already using oil for illumination, lubrication and medicine in the Han Dynasty. In the 11th Century, a scientist, named Shen Kuo, described oil discovery and usage in China in his famous technology book *Meng Xi Bi Tan*. It is the first formal description of oil in the world.

China’s oil industry developed after the establishment of the People’s Republic, but it faced serious difficulties in 1949, followed by an epoch of reconstruction. The ensuing economic boom needed more and more oil, which boosted the development of the oil industry. This demonstrates the close link between economic growth and oil consumption, as illustrated in Figure 1. The country was self-sufficient in oil from 1965 to 1993 when it again became a net importer.

China’s oil industry therefore faces a major new challenge to meet the country’s growing needs.



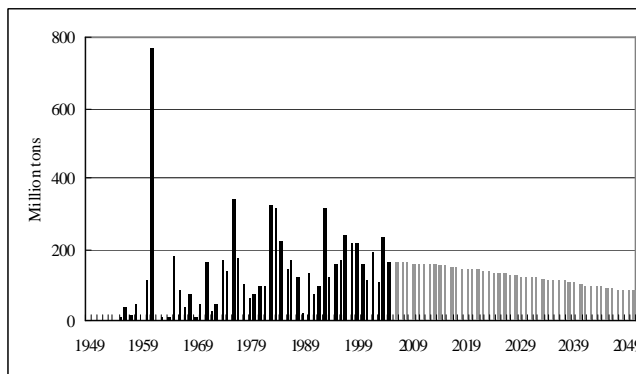
China’s Oil Reserves

The growth of oil reserves in China can be divided into the following five stages:

- Stage 1. (1907-1949), when oil was discovered in the Ordos Basin and in other few areas;
- Stage 2. (1950-1964), when there was a limited and irregular epoch of successful exploration, including important finds in the Songliao Basin;
- Stage 3. (1965-1975), when the Bohai Bay Basin was fully developed;
- Stage 4. (1976-1990), when there was successful exploration in both the East and West of the country, and offshore.
- Stage 5. (1990-), when the Tarim, Junggar and Ordos Basins were brought in, and production increased further.

We believe that more reserves can be discovered with the help of science and technology. A study made in 2005 suggests an ultimate recovery of 21.2 billion tons (155 Gb).

Figure 2 gives the discovery trend, which is expected to decline at an average rate of 1.6% a year in the future. It follows that the country’s production is set to decline in the years ahead.



China’s oil production

If we accept estimated Ultimate Recovery of 21.2 billion tons from the 2005 study and apply the Weng Depletion Model, described below, we arrive at the profiles depicted in Figure 3.

The Generalised Weng Model

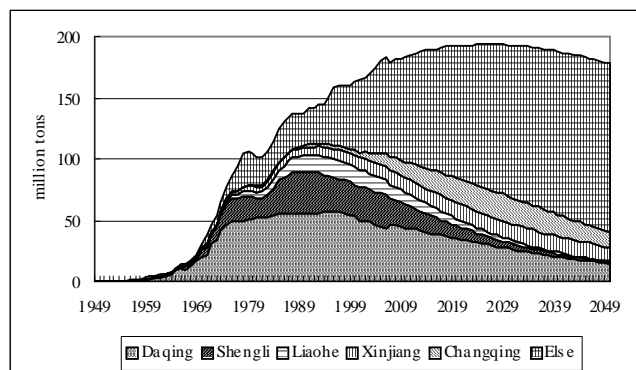
The Generalized Weng Model was proposed by Professor Chen Yuanqian in 1996. Its equation can be written as follows:

$$Q = at^b e^{-t/c}$$

$$Q_{\max} = a(bc / 2.718)^b$$

$$t_m = bc$$

Q —annual production, million tons;

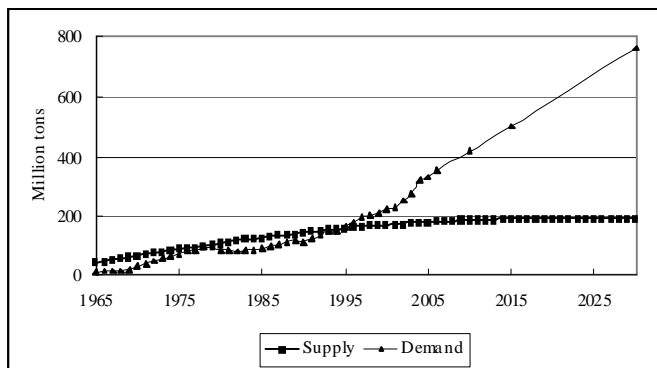


Q_{\max} —maximal annual production, million tons;
 t —development time, a;
 t_m —time of maximal annual production, a;
 a, b —model factors

A forecast based on this model gives a peak of production in 2026 at 194 million tons, with the potential for increase at only about 10 million tons. It follows that production is already close to a plateau.

China's oil demand

Based on the data of National Bureau of Statistics of China, the country's economy began to grow rapidly from the 1980s and even faster after 2000. Oil demand is proportional to economy growth, giving a correlation coefficient between GDP and oil demand at 99.5%. Based on data from the BP Statistical Review of World Energy 2007, it is evident that China's oil demand growth is one of the fastest in the world, having increased by 7.4% per year over the past ten years. It reached 350 million tons in 2006, being second only to that of the USA, and is set to grow further with the expanding economy, but production is growing only slowly. The gap between demand and production now reaches 166 million tons, and is set to become progressively larger in the future, as illustrated in Figure 4.



Oil demand is taken from the IEA forecast while production is based on the Weng Model. The gap is widening.

Recommendations

The rampant industrialisation and commercialisation of China in recent years may not be sustainable in energy terms, especially considering the large population. It is accordingly timely to come forth with the following recommendations to mitigate the impact:

- (1) Expedite the development of the remaining petroleum resources;
- (2) Co-operate with oil exporting countries and establish the strategic oil reserves;
- (3) Expedite the development and utilization of natural gas and unconventional oil and gas resources;
- (4) Advocate conservation by improving energy efficiency and build a society economizing on energy;
- (5) Take control of population growth.

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1034. ASPO-7 International Conference

ASPO-ESPANA is pleased to announce that it has successfully raised the initial sponsorship with which to organise the seventh International ASPO Conference that it plans to hold in Barcelona on October 23rd - 24th, subject to confirmation. Plans are still at an early stage but Daniel Gomez Canete and his committee are at work on the programme, welcoming ideas and contributions (santaferino@telefonica.net).

It is well said that *from small acorns, large oak trees grow*. Certainly the stature of the ASPO International Conferences has grown over the years as the world begins to wake up to Peak Oil as one of the great turning points in history. Organising such an event is a major responsibility involving a great deal of work, and ASPO ESPANA deserves every credit for its initiative in hosting the next one in the beautiful and ancient city of Barcelona on the Mediterranean coast of Spain.

1035. Correction: Item 1030

As a correspondent makes clear with the following message, Item 1030 evidently got a title wrong although no offense was intended.

Roscoe Bartlett is a Representative, i.e., member of the House of Representatives, not a Senator, as described in the Newsletter. I know we Yanks don't merit much attention by you Old Europeans these days, what with the Dollar/Euro exchange rate being what it is, but you might at least take a passing interest in our governmental institutions. After all, we're more royalist than the Brits when it comes to the Royal Family. And we did bail you out during The Big One (Lend-Lease, D-Day, GIs), not to mention our post-war contributions to Europe's cultural (Euro Disneyland), culinary (McDonald's), and artistic (Britney Spears) betterment. Also, don't forget the score: Aircraft carrier battle groups - USA 12, Europe 0. (*Comment furnished by Ken Meyercord*)

1036. Power Cut

A paper by Michael Dittmar, who spoke at the ASPO Conference in Cork, discusses electricity supply in Europe, finding that spare capacity has been eroded, such that a cold snap or other incident could cause serious blackouts, (see arXiv:0803.4421v1 physics.soc.ph 31 Mar 2008). No major new power plants have been built for the past 10-15 years but electricity demand has been growing at 1-2% a year.

In the past, national governments accepted responsibility for the proper functioning of services in their countries, including for example rail systems, electricity supply and medical facilities, but such vaguely socialist policies have been largely supplanted by a new faith in flat-earth economics whereby the market reigns supreme. Indeed, it is obvious that spare capacity has little merit in market economics, and that profits might benefit hugely if prices soar in response to shortage, as the Middle East oil producers have discovered. In addition to the lack of spare generating capacity is the impact of declining indigenous gas supply due to depletion, meaning that Europe has to rely on ever more distant sources from which it is separated by transit countries that are also in a new position to extract profit.

There are even military overtones, as NATO, which has ceased to be a defensive pact, re-exerts itself in a new more offensive role. It already controls Turkey, an important transit country for Middle East and Caspian oil supplies, but now eyes the Ukraine, through which pipelines pass.

Ironically, a major power cut in Europe might be a blessing if it were to force governments to abandon outdated economic practices and address the new fundamental situation that unfolds as we enter the Second Half of the Age of Oil. Whereas the First Half gave rise to economic expansion, culminating in flat earth economic principles delivering great wealth to the privileged, the Second Half will be marked by economic contraction. The transition threatens to be a time of great tension, but the sooner the new policies are adopted, the less the strain. A devastating power cut for a few cold days might be just what Europe needs to trigger appropriate responses, which clearly point towards cutting demand and the introduction of some form of rationing.

These wider issues are addressed in *The Big Earth Book – Ideas and Solutions for a Planet in Crisis* by James Bruges (ISBN 978-1-901970-87-6) which gives a penetrating and very readable account of what unfolds.

1037. A Call for a return to the Rail System

The following contribution by Gunnar Henriouille looks at the past and future roles of the railways, especially in America.

"Post Roads"

The creation of the new American Union saw the passing of the "Post Roads Act" by the US Congress on July 10, 1838. The new technology of railways was seen as a tool for efficient transport: in fact it was described as a Guarantor of Societal & Commercial Cohesion. Refinements of time zones and gauge compatibility came later. Abraham Lincoln's Pacific Railroad Bill of 1862 was a 100+ year legacy on a par with the Emancipation Proclamation, in the context of maintaining and strengthening the viability of the Union of States.

In America, the railways were an indispensable partner with entrepreneurial activity, enabling a century of commercial development and energy independence, when the country's economy was based on lending, not borrowing. This changed after the Second World War, when policymakers, fearing underemployment, elected to orient US transport and economic policy to the less energy efficient and more labour intensive rubber-tyre transport. The matrix of railroad trunk and branch-lines, supplemented by electric inter-urban systems and electric street railways, all but disappeared. The final nail in the coffin was driven in 1956, with President Eisenhower's freeways, the so-called *Interstate Defense Highways*, which forced drastic consolidation of the railways to the present merged main lines, having about one-third of the mileage existing prior to WWII. With cheap oil and friendly relations with the Arab suppliers, why not?

This background is important to bring forward the visualization of an operating economy that will deliver the goods as the *Oil Interregnum* envelopes our cherished *Just-In-Time* global Village. We know

that railways are 100-year veterans of electric operation, and so, will be able to thrive on electricity from renewable sources. In fact, there is no need to perfect fuel cells or super efficient batteries to rehabilitate the railways. The expansion and extension of main lines and branches will require replication of existing track-work and construction techniques, not decades to research into new methodology.

But USA railway rehabilitation is, paradoxically, difficult in political terms, because the mental connection and present national identity with rubber tires is so complete. Other less developed countries will suspend the rush into automania with minimal angst, and more readily emplace the pre-WWII American transport formula; in other words, they will find a balance of modes weighted towards the railway to match the new energy paradigm.

The 3066 County Planning Bureaux in the United States will need to consult past and present railway maps to begin the job of prioritizing the rehabilitation and extension of lines to meet the dots on the map where people will try to maintain a post-carbon existence. Historical sources will help the planning process. Existing commuting and *light rail* lines will be made more useful with the addition of food distribution facilities. That was already a feature in past US practice when famous railways like the Southern California Pacific Electric network, and even the New York Elevated Railways had downtown freight and perishable goods facilities, which were replenished during off-hours.

As we face financial meltdown commensurate with Peak Oil, commercial railway expansion on a local scale actually can be capitalized with alacrity by the use of equipment and corridor collateralization with the return on investment coming from goods movement and passenger fares over time. The beneficiaries are local communities having most to gain from the very direct investment they have made. These are not paper investments, but productive and essential infrastructure. Places having an evolving rail infrastructure will survive better than those without it. Railway atlases, with lines past and present, for the entire USA can seen on the website spv.co.uk. If all this seems costly, it will nonetheless be worthwhile; the morale value of this railway renaissance will be priceless - and not only in America.

The Universal Postal Union, an affiliate of the United Nations, can act as a clearing house for assisting countries and apolitical responsible organisations and local governments abroad as they look for standard practice information regarding the future role of railways role throughout the Third World. The renewable energy component, applicable to railway, is now well established. Off-the-shelf wind turbines can provide average electric locomotives' power consumption.

Once we and our planners understand the fungibility of electricity, and wean ourselves from the unhealthy dependence and expectation of a private car for everyone on earth at puberty, the human race will gain a quantum leap in life expectancy. Renewable electricity considered on a scale to operate railway networks, not a billion private cars, is do-able, and with near zero emissions. A helpful book for planners is *ELECTRIC WATER*, by Christopher C. Swan (New Society Press, 2007).

Swan's book is useful in the localization process because it explains the great benefits from photovoltaic/solar and wind generation as a local enterprise, with huge investment in grids and central power plants gradually being phased out as they reach obsolescence. When transmission losses are fairly represented, renewable energy has much more favourable EIOER numbers. And, when you have an electrical engineering student explain the electric railway locomotive's regenerative braking system, you will see why the rails carried the first hybrids, over a hundred years before the Prius...

1038. An oil company tranquiliser

Mr Mike Daly, a Group Vice-President of BP, gave a revealing talk at a debate on Peak Oil hosted by the Geological Society in London on April 15th. The title of the talk was *Peak Oil : a Metaphor for Anxiety*. It tacitly accepted the reality of peak oil, confirming the discovery profile as given on Page 2 above, which clearly has to deliver a corresponding peak in production, but urged people not to worry as new efficiency might cut demand and large amounts of non-conventional oil could be tapped.

Those who recognise Peak Oil are concerned to stress that the peak in the production of this critical energy source, which has changed the world so greatly, marks a turning point of historical magnitude. This may earn them the sobriquet of the Doom Merchant, but at the same time they are right to draw attention to the gravity of the situation in order to prompt appropriate plans and preparations.

The oil companies are in a difficult position. They face a certain embarrassment from high oil prices for which they are wrongly blamed by the flat-earth community which accuses them of not investing enough. The companies for their part see little merit in drilling more dry holes, and prefer to buy their own shares to prop up their valuation on the Stock Market.

1039. A Matter of Time

It is well said that time flies. The grandfather, or great-grandfather, of an old man living to-day would have known the pre-Oil Age, when the planet managed to support about one billion people. The people in

those days had to work hard to make ends meet. Land was at a premium, and it was difficult to feed even that population. The desperate need to increase soil-fertility led Europe to import *guano* (bird excrement) from South America in sailing ships, and in France they had *pigeonniers*, which were beautiful small rural towers to house pigeons for the same purpose. Even so, there was massive emigration to North America, prompted in many cases by dire necessity from privation at home. An extreme example was the Irish famine of the 1850s when the potato crop failed from an imported fungal infection causing the population to fall by one half from death and emigration. The immigrants effectively replaced the indigenous people of North America who almost died out on the loss of their lands.

Rising oil production changed the situation, providing a flood of new energy, which, as it approaches its peak, is equivalent to that supplied by 22 billion slaves working round the clock. It is noteworthy in this connection that the arrival of oil-based energy more or less coincided with the end of the slave-trade.

Oil-based energy has allowed the population to grow six-fold in what was evidently a most exceptional epoch in human history. Logic suggests that the grandson of a young man to-day will, if he is lucky, live to see a world reverting to its previous condition. Life will no doubt be as difficult as it was, with emigration no longer being an option by which to drain off the surplus. Already food prices are soaring as shortages appear, which have led to food riots and political disturbances in many places. Even the financiers begin to speak of *The Second Great Depression*, triggered by a financial crisis as debt premised on economic expansion loses its collateral.

Over all, the Oil Age can last about 250 years, which is a relatively short span of history. It ravaged the planet, changing the natural environment in many ways and causing a massive extinction of species. It may even have affected the climate, leading to rising sea-levels, as have occurred many times the geological past. Frankly, it is not entirely sure that good old *Homo sapiens* will make it. Unless he moves fast to plan and prepare for the changes. Will he be as wise as the name he gave himself implies?

1040. Revision of Depletion Model

The Depletion Model, used herein, is subject to continual revision as new information, however unreliable, and insight come in. It does not pretend to offer a definitive picture but rather an evolving approximation. Nevertheless, despite the uncertainties of detail, the overall pattern can be presented with some confidence.

This revision (see table and graph on Page 2) is based on an update of the deepwater situation, revising the previous version made in 2005. The model considers the four main deepwater countries (Angola, Brasil, Nigeria and USA) and lumps the remainder together. The previous version came to a total ultimate production of 68 Gb, which has been increased to 85 Gb. The earlier model was based on Hubbert depletion profiles, but this has been abandoned in better recognition that the rate of deepwater production is likely to be constrained by the capacity of floating production facilities delivering more of a plateau than a peak. Deepwater oil is very costly to produce, and investment limits are a constraint.

The new deepwater model has the effect of advancing the date of the overall peak of all liquids from 2010 to 2007, and is actually good news insofar as the lower and sooner the peak, the gentler the subsequent decline. The precise date is of no particular significance since it is not a high isolated peak, being no more than the maximum of a fairly gentle curve. But if correct, it might carry a certain psychological impact to recognise that the *Second Half of the Oil Age* has begun. Certainly this is consistent with the current world financial crisis, soaring oil and food prices, deepening recession, and consequential riots and political tensions in many countries. New military threats are being made against Iran, as the consumers become increasingly desperate for access to oil supply, much of which lies in the Middle East.

Mr Malthus must be turning in his grave.

1041 Saudi Arabia worries about the impact of Renewable Energy

As is well known, Saudi Arabia has some of the world's largest oilfields, but their geology is far from straightforward. Two key factors are : first, the steady growth of structural traps over geological time has meant that they tapped all the oil generated in the vicinity ; and second, the presence of very effective seals above the reservoirs prevented the escape of oil. They have combined to give what is known as a concentrated habitat.

But the reservoirs themselves are complex in which beds of very high porosity and permeability are sandwiched between less permeable fractured carbonates. Much of the oil lies in the fractures, which are replenished only slowly by the flow seeping out of the intervening tight rocks.

It is difficult to assess how much oil the country has, as published data are unreliable, to put it mildly. The estimates preferred here are that 110 Gb (billion barrels) have been produced to-date and that 170 Gb remain

to be produced to the end of the Century, of which 153 Gb lie in known fields. Present production stands at 3 Gb a year, which gives an exceptionally low Depletion Rate (annual as a percent of future) of 1.8%. On this basis alone, it might be concluded that there is scope to step up production in the near term, but that may not be feasible in reality due to the particular conditions of the reservoir. In this connection, it is worth mentioning that a mat of tar has formed at the oil-water contact on the eastern flank of Ghawar, the largest field, which inhibits the natural water drive, meaning that about as much water has to be injected as oil extracted.

The country is now investing \$15 billion on the most complex development in its history, including deep multi-branch horizontal wells and water injection, to increase production from the Khurais Field which was found in 1957, holding some 8.7 Gb. Production to-date has been limited due to the difficulties.

The investment suggests that this new production will be needed to offset the natural decline in other fields, especially Ghawar. But whether the country will actually increase overall production remains to be seen. Technical obstacles apart, the Saudi royal family supports a lot of children, and may wish to provide them with a livelihood for the future, which would not be served by rapid depletion.

Mr Abdullah S. Jum'ah, the Chief Executive of Aramco, is however evidently worried that the world might turn to renewable energies, and echoes the position of BP, as described in Item 1037 above. Speaking at a conference organised appropriately by the CERA cornucopian consultancy, he claims a world in-place endowment of 13-16 trillion barrels of combined *conventional* and *non-conventional* oil, of which he expects 3-6 trillion might be recoverable. Indeed, no one disputes that the in-place resources of *Non-Conventional* oil in tarsands and oil shales are large. The issue is the rate of extraction and net energy yield, which are low. These sources can ameliorate the post-Peak decline, but have a negligible impact on peak itself. It seems to make good sense to develop renewable energy sources while relatively cheap energy from conventional oil is still available to cover the manufacturing and installation costs. Mr Jum'ah seems to be worrying unnecessarily. *(see E&P April 2008, reference furnished by Walter Youngquist)*

1042. Words of Wisdom from Bolivia

Speaking at the United Nations Economic and Social Council, the President of Bolivia has enunciated what seem to be eminently sensible guidelines. Note in particular the references to the depletion of fossil fuels:

First: is a call to end the capitalist system. It was inhuman and encouraged unbridled economic development. The exploitation of human beings and pillaging of natural resources must end, as should wars aimed at securing access to those resources. Also, the world should end the plundering of fossil fuels; excessive consumption of goods; the accumulation of waste; as well as the egoism, regionalism and thirst for earnings where the pursuit of luxury was taking place at the expense of human beings. Countries of the south were heaped with external debt, when it was the ecological debt that needed paying.

Second: the world should denounce war, which brought advantage to a small few. In that vein, it is time to end occupation under the pretext of "combating drugs", such as in South America, as well as other pretexts such as searching for weapons of mass destruction. Money earmarked for war should be channelled to make reparations for damage caused to the Earth.

Third: there should be a world without imperialism, where no country is dependent upon or subordinate to another. States must look for complementary relationships rather than engage in unfair competition with each other. Member States of the United Nations should consider the asymmetry that exists among nations and seek a way to lessen deep economic differences. Moving along those lines, the Security Council - with its lifelong members holding veto rights - should be democratized.

Fourth: access to water should be treated as a human right, and policies allowing the privatization of water should be banned. Indigenous peoples have had a long experience of mobilizing themselves to uphold the right to water. It is necessary to form an international convention on water to guarantee it as a human right and to protect against its appropriation by a select few.

Fifth: the world should promote clean and eco-friendly energies, as well as end the wasteful use of energy. Fossil fuels are nearing depletion, yet those who promote biofuels in their place are making "a serious mistake". It was not right to set aside land not for the benefit of human beings, in order that a small few could operate luxurious vehicles. It is also because of biofuels that the price of rice and bread has risen; and the World Bank and the International Monetary Fund (IMF) are now warning that such policies must be prevented. The world should explore more sustainable forms of alternative energy, such as geothermal, solar, wind and hydro-electric power.

Sixth: there should be more respect for Mother Earth, and the indigenous movement must bring its influence to bear in fostering that attitude. The world must stop thinking of Mother Earth in the capitalist sense -- which was that of a raw material to be traded. For who could privatize or hire out his mother?

Seventh: is the importance of gaining access to basic services for all. Services such as education and transport should not be the preserve of private trade.

Eighth: is a call that the consumption of only what is necessary and what is produced locally. There is a need to end consumerism, waste and luxury. It is an irony that millions of dollars are being spent to combat obesity in one half of the globe, while the other is dying of hunger. The impending food crisis will necessarily bring an end to the free market, where countries suffering hunger are being made to export their food. There is a similar case with oil, where the priority lies in selling it abroad, rather than domestically.

Ninth: is the importance of promoting unity and diversity of economies, and that the indigenous movement should put forth a call for unity and diversity in the spirit of multilateralism.

Tenth: the world should live under the tenet of "trying to live well", but not at the expense of others.

(Reference furnished by William Tamblin)

1043. Does Britain face the onset of the Second Great Depression?

Old men can remember the economic hardship in Britain that followed the Second World War. The response was to elect a Labour Government with socialist principles by which to try to respect all sectors of the community. It was not entirely successful however as there were periods of inflation and economic recession, and industrial workers were given to strike action.

Then in 1979 came a swing to the Right with the Government of Mrs Thatcher, known as the Iron-Lady, who moved to a free market economy, privatisation and a curb on the power of trades unions. In particular she moved against the coal miners union which took strike action to oppose the closure of State-owned coal mines. The closure of the mines was in part made possible by the growing supplies of North Sea oil and gas.

Mrs Thatcher somewhat distanced Britain from the rest of Europe but strengthened her ties with the United States. She eventually fell from power in 1990, to be replaced by a more conciliatory government under Mr Major. In general it was a time of economic prosperity, which in due course allowed Mr Blair, who came to power in 1994, to persuade the Labour Party to abandon its socialist principles. Cartoons carried pictures of him in a pram being pushed by Mrs Thatcher.

His administration was also marked by massive immigration that could be absorbed in the booming economy, of which the financial community was pre-eminent.

He was in turn succeeded by Mr Brown, who had been Chancellor of the Exchequer or in other words the minister of finance, and came to power in June 2007, with broadly similar objectives.

But soaring oil prices have changed the economic climate, seeing the reappearance of industrial disputes. The school teachers have gone on strike demanding recommence for the soaring cost of living, and now the oil workers at a major oil refinery have done so too, objecting to a radical change in their pension rights. This itself reflects a decision by the company to base pensions on the stock market performance of the Pension Fund, rather than accept direct responsibility. Although the strike itself is planned to last no more than 48 hours, it has led to a month-long closure of the refinery. That in turn has prompted the closure of a major North Sea pipeline carrying 700 kb/d from some 70 oilfields.

It seems that many other trade unions representing health workers, post office workers, civil servants and even nuclear power workers are taking initial steps to ballot their members in relation to various forms of industrial action in response for inflationary pressures increasing their cost of living. Historians may look back and see these as the opening stages of the Second Great Depression in Britain. It is however easier to be a historian than to forecast the future.

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.

2008

May 3rd – Conference : ASPO ITALIA, **Torino** [Bardi]

May 12th -13th Securing Benchmarks and Supply – the Challenges for Crude Oil, **Vienna** [Aleklett]

May 18th – Conference : ASPO-CHINA

May 19th 22nd – Heavy Resources Technology Forum, Amsterdam [Aleklett]

May 24th – Meeting : ASPO Switzerland, **Basel**.

May 28th-30th – International Transport Forum, **Leipzig** [Aleklett]

June 13th – EDA Conference, **Cork** [Campbell]

June 16th-17th – Annual Optimising Recovery in Mature Oil and Gas Fields, **Amsterdam** [Aleklett]

June 13th Oil & Gas Conference, 2005, **Kuala Lumpur** [Aleklett]

June 25-29 - Tällberg Forum, Tällberg, Sweden [Aleklett]

August 10th -14th – Geological Conference, **Oslo**, Norway [Campbell, Laherèrre]

Oct 23rd -24th 7th International ASPO Conference, Barcelona, Spain [ASPO-ESPANA]

NOTE

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Multi-Science Publishing Co. (Sciencem@hotmail.com) wishes to advise that copies of the book *Oil Crisis* by C.J.Campbell, providing background reading, are still available for purchase.

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A privately printed booklet entitled *Living through the Energy Crisis* by C.J.Campbell and Graham Strouts is available from zone5.org (price €10 plus postage)