

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

**NEWSLETTER No. 77 – MAY 2007**

ASPO started as 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. Now, independent national associates are in existence or formation in Australia, Austria, Belgium, Canada, China, Denmark, Egypt, Finland, France, Germany, Ireland, Isle of Man, Israel, Italy, Luxembourg, Japan, Korea, Mexico, Netherlands, New Zealand, Norway, Portugal, Russia, Singapore, South Africa, Spain, Sweden, Switzerland, 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 of oil and gas decline for Mankind.**

Foreign language editions are available as follows:

Spanish: [www.crisisenergetica.org](http://www.crisisenergetica.org)

French: [www.oleocene.org](http://www.oleocene.org) (press “Newsletter”)

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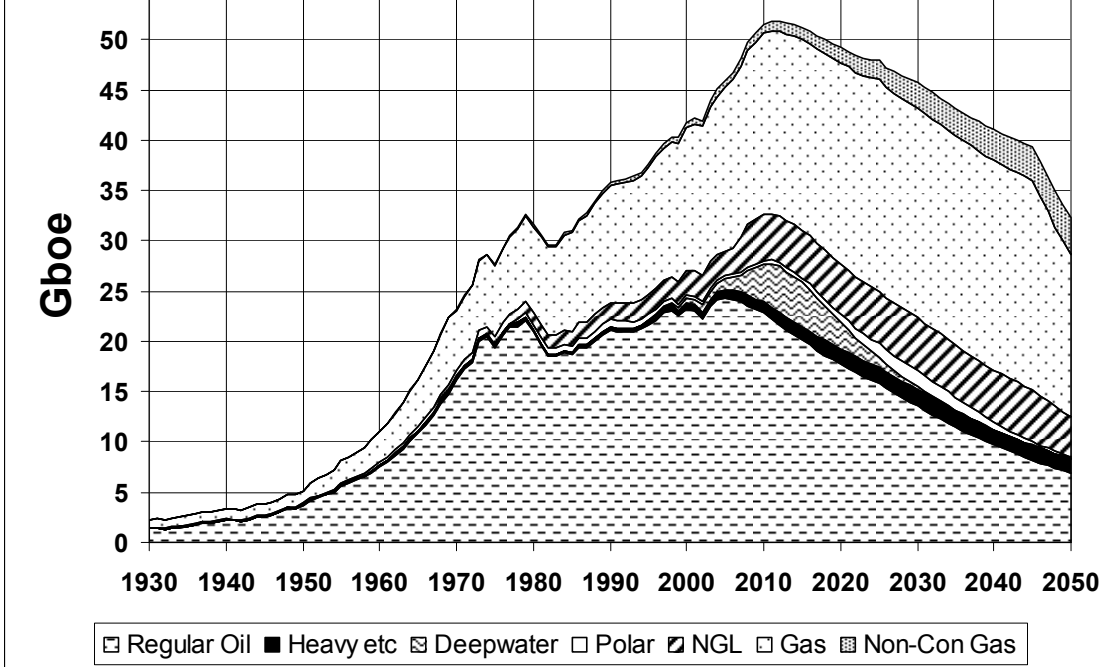
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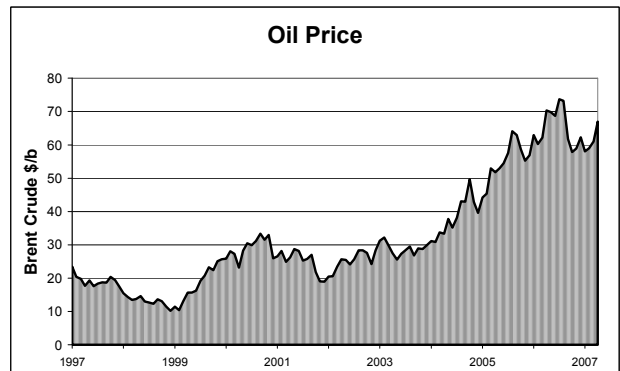
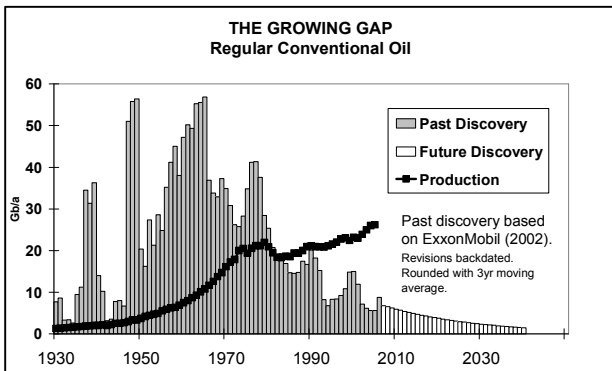
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*The General Depletion Picture*

**OIL & GAS PRODUCTION PROFILES  
2006 Base Case**



ESTIMATED PRODUCTION TO 2100										End 2006	
Amount			Gb	Annual Rate - Regular Oil					Gb	Peak	
Regular Oil				Mb/d	2006	2010	2015	2020	2050	Total	Date
<b>Past</b>	<b>Future</b>	<b>Total</b>		US-48	3.2	2.6	2.1	1.7	0.4	200	1970
Known Fields	New			Europe	4.5	3.6	2.5	1.7	0.2	75	1997
994	775	131	1900	Russia	9.5	9.5	7.7	6.2	1.7	230	1987
	906			ME Gulf	20	20	20	20	11	693	2015
<b>All Liquids</b>				Other	29	27	23	19	6	702	2004
1102	1448	2550		<b>World</b>	<b>66</b>	<b>62</b>	<b>55</b>	<b>49</b>	<b>19</b>	<b>1900</b>	<b>2005</b>
<b>2005 Base Scenario</b>				<b>Annual Rate - Other</b>							
M. East producing at capacity (anomalous reporting corrected)				Heavy etc.	2.4	3	4	4	5	152	2030
Regular Oil excludes Heavy Oils (inc. tarsands, oilshales); Polar & Deepwater Oil; & gasplant NGL				Deepwater	2.7	10	12	7	1	69	2012
Revised 13.2.07				Polar	0.9	1	1	2	4	52	2030
				Gas Liquid	6.9	12	13	14	14	355	2035
				Rounding		1	0	-1	-3	23	
				<b>ALL</b>	<b>79</b>	<b>90</b>	<b>85</b>	<b>75</b>	<b>40</b>	<b>2550</b>	<b>2011</b>



### **815. Peak Oil, Peak Food and Peak People**

There is a growing list of books and articles addressing the consequences of Peak Oil, some moving on to discuss the positive responses that could be adopted. Attention is drawn to four outstanding and very well written accounts:

- a) ***The Long Emergency* by James Howard Kunstler (ISBN 987654621)**
- b) ***Energy and the Environment* by Paul Robbins** in the Austin Environmental Directory (<http://environmentaldirectory.info>)
- c) ***The Last Oil Shock* by David Strahan (ISBN 978-0-7195-6423-9) ([www.lastoilshock.com](http://www.lastoilshock.com))**
- d) ***The Upside of Down* by Thomas Homer-Dixon (ISBN 13-978-1-59726-064-0)**

The first two items look at Peak Oil from a historical perspective, which does indeed deliver key insight; while the third is by an investigative journalist seeking to penetrate the corporate and political reactions to Peak Oil; and the fourth provides an excellent evaluation of the wider aspects of the oil age, seeing parallels with the rise and fall of empires.

It seems that the famous species, *H. Sapiens*, started on his path to the peak when he gave up hunting and gathering berries in the forests to turn to settled agriculture some 10 000 years ago. He became the first species ever to use external sources of energy, relying on oxen to plough his field, slaves to do his work, and mercenaries to defend the farm. Even a superficial glance at history everywhere seems to tell the same underlying story of conflict based ultimately on food supply. At first, it was a simple conflict between landlord and peasant, but it became ever more sophisticated as the energy supply increased first from coal and then from oil and gas, and as money supply replaced simple barter. Peasants became industrial workers and landlords became shareholders. Empires were built ultimately to create wealth and control food supply to meet the needs of expanding populations, and Empires crashed when they failed to do so. Were the Viking naturally predisposed to rape and pillage? Or was it rather that their numbers exceeded what their northern climes could support, leaving them with no other option but to set sail for somewhere else. The massive emigration from Europe to the New World in the 19th Century was less about an enterprising spirit, and more about raw necessity as the fields at home could no longer support the excessive numbers, despite efforts to lift soil fertility by importing bird excrement from South America in sailing ships (see Item 820).

The records in countries as diverse as Chile or Albania, Germany or Russia all seem to tell the same story. The underdog would try from time to time to improve his lot with appeals to democracy, whereby his voice might be heard and interests respected, but such moves would in due time prompt an authoritarian reaction to maintain control of wealth and power. A good example is the Labour Party in Britain that once represented the interests of the Trade Unions. The democratic process itself tended to lose its high ideals as political parties sought and exploited power, backed by financial interests to be duly rewarded. The financiers themselves moved in subtle hidden ways, beyond the ken of mortals, as they lent more than they had on deposit and succeeded in subjugating the poor with debt. This itself was imperial in nature as wealthy countries impoverished the rest, who found themselves exporting resources, product and profit, being ever more burdened by foreign debt, with their own elite being part of the process. Tax too played its part in indirect ways, with the allowances against it being in fact a form of subsidy. The managerial elite of to-day pay themselves magnificent wages, but such are treated as operating expenses deductible from taxable income. So who eventually pays them? and what is the purpose of their wealth? They cannot eat more cornflakes, so the money moves back into the financial system in effect creating more out of thin air. The market rules supreme with the quest for bargain motivating almost everyone as profiteering, once deemed sinful, becomes a laudable aspiration.

That said, the system has more or less worked over the past Century, which saw the population grow ten-fold in parallel with growing energy supply, led by oil and gas, as the oil-fired tractor replaced the plough-horse, and genetic engineering created new prolific crops dependent on synthetic nutrients and irrigation. It was however accompanied by two world wars of unparalleled intensity, in which some 50 million people lost their lives.

But now we face of the decline of the prime energy supplies. It speaks of contraction, as there are no longer new continents to populate, and it may mean resource wars, tribal wars and migrations, as desperate people try to find somewhere capable of supporting them. Already some 600 000 innocent citizens have been killed in Iraq, while teenagers of foreign origins are stabbed in the streets of London, and Polish beggars knock on the doors of Irish villages. The French are building a new centre in Calais to house immigrants desiring to illegally enter Britain by hiding in the back of a truck or clinging to the axle of a passing train on its way to the tunnel to England. Difficult and dangerous as that may be, it evidently has the edge over living in Ethiopia.

These may be signs of the times heralding the onset of the Second Half of the Age of Oil. It is all a bit odd and difficult to grasp: but logic suggests that radical change is on the way in what Kunstler calls the *Long Emergency*.

Writing in this vein sounds like the crazed raving of a doomsayer: yet, the notion of Peak Oil becomes widely accepted, with a proliferation of websites and articles in many places. A google-search turns up hundreds of references. Climate Change, too, is now accepted by the scientific establishment, and many governments begin to pay at least lip service to it. Whether we admit to it or not, both reflect changes of almost unparalleled magnitude in the Age of Man, as Nature reveals who is ultimately in command.

The following article by Jay Hanson tells the same message

### POSITIVE FEEDBACKS AND THE OVERPOPULATION PROBLEM

By Jay Hanson April 9, 2007

#### ABSTRACT

The fact that global oil production is *peaking* now, in and of itself, is not a problem. The problem will arise in the *behaviour* of Americans who can not get enough resources to feed their families. In other words, *our peak oil problem* is really *our overpopulation problem* (too many people chasing too few resources). Moreover, since American government was specifically designed to mitigate social problems by increasing economic activity – and all economic activity reduces available energy – all measures that our government take to mitigate our overpopulation problem will make our overpopulation problem even worse.

#### SAME GENES, DIFFERENT ENVIRONMENTS

Human behaviour is determined by genes and environment.[1]. Genetically, we are still the same as we were in the 16th century.[2] What HAS changed since the 16th century is our *environment*.

Given our present environment, the overwhelming majority of Americans *decide* that fitness is best served by *cooperation* instead of *confrontation*. This is because cooperation (working at a job for a pay check) works better than violence in our present environment.

When the day comes that most Americans can't feed their families by cooperation (as in post WW1 Germany), then they will *decide* to use violence and take resources from others by force. We know that this day is coming to the America for two fundamental reasons:

Ever-falling per-capita available natural resources.[3] . . . Sooner-or-later Americans will not be able to afford the fuel to drive to work. Sooner-or-later America's electrical grid will fail and our life-support system will collapse along with it (e.g., Katrina).[4]

- The design of America's political system.

Our Founders, for excellent reasons, didn't trust government, so they founded a government that was controlled by the rich via lobbyists.

It's based on a few core assumptions:

- Individuals know best how to improve their lives.
- The best way to solve social problems is through economic growth.

The best way to increase economic growth is to simply ask people who are good at it for advice. That's why lobbyists are absolutely necessary to the function of our government. Without lobbyists, our *corruptible-but-otherwise-unqualified* elected officials and their appointed cronies would have absolutely no idea what to do.

In other words, elected officials are forced (by design) to ask the factory owner what government can do to increase his profit, so he will build more factories, provide more jobs, and then individuals can make themselves better off.

Elected officials are to keep giving the rich people (factory owners) a greater fraction of the economic pie so they will keep increasing the size of the pie. That's how our Founders designed it, and that's how public policy is made today!

Since our country was specifically-designed to solve social problems via economic growth, the only remedy our government can offer for social problems is even MORE economic growth. Thus, everything our government does to mitigate the problem (stimulate economic growth) will make our *overpopulation problem* even worse because all economic activity reduces our dwindling natural resources.

#### THE NEW/OLD ENVIRONMENT

Thermodynamic laws inform us that sooner-or-later an *environment* which favors violence will emerge and Americans will become, once again, *red in tooth and claw*". As per-capita available energy continues to decline, more-and-more Americans will *decide* to feed their families via violence.

In the new/old environment, it will just make *good economic sense* to murder your neighbor, take his resources, and then invent a great excuse (hire an economist) to evade social responsibility for your actions.

References:

[1] "Environment" in this paper is everything that is not a gene.

[2] <http://www.warsocialism.com/ahistoryofviolence.htm>

[3] Not only does all economic activity reduce available energy, all manufacturing activity also reduces available minerals: *We must emphasize that every Cadillac or every Zim – let alone any instrument of war – means fewer plough shares for some future generations, and implicitly, fewer future human beings, too* –Nicholas Georgescu-Roegen <http://www.dieoff.com/page148.htm>  
 [4] <http://www.warsocialism.com/>

Kunstler too summarises his views as follows

### THE ENERGY PREDICAMENT

by James Howard Kunstler

Oil ended 2006 roughly where it began, at just over \$60 a barrel. This reassured the public that all talk about Peak Oil was hysterical blather from a lunatic fringe. It was reinforced by the publication of the mendacious Cambridge Energy Research Associates (CERA) report - a tragic document put out by a giant public relations firm representing the oil industry - with the mission of staving off windfall profits taxes and other regulatory moves that a true resource emergency might recommend.

But beyond this debate, in the background, another ominous trend can account for the stalling of oil prices in 2006 - totally unrecognized by the public and ignored by the news media: Prices on the oil futures market levelled off because the Third World has effectively dropped out of bidding for it - and using it. They cannot afford it at \$60 a barrel.

The Third World has entered an era of energy destitution and it is manifesting itself in symptoms like local resource wars, genocides, falling life expectancies, and in many places a near-total unravelling of the socio-political order. American mall-walkers and theme park visitors are oblivious to this tragic process, but it is perhaps the major reason why we are not now suffering from \$100 a barrel (or greater) oil prices (with the consequent unravelling of our socio-political and economic order).

The major trend on the oil scene for the past 12 months has been the apparent inability of the world to lift total production above 85 million barrels a day - with demand now rising above that line. It is unclear how much more demand destruction will come out of the Third World before bidding intensifies between the developed nations.

One commentator in particular, Dallas geologist Jeffrey Brown - a frequent contributor on the web's best oil debate site, TheOilDrum.com - is advancing the idea that we are entering an oil export crisis that will presage a more general permanent world-wide oil emergency. Brown holds that the major oil exporting nations are using so much of their own product, because of rising populations, that their net exports are falling at an alarming rate, perhaps as much as 9% annually. This trend combines with general depletion rates now said to be around 3% a year.

The question of total oil reserves around the world remains somewhat murky, but Brown, Kenneth Deffeyes of Princeton, and others using a straightforward mathematical model, have stated that the world is roughly at the same point in all-time production as the lower-48 United States was in 1970, when America passed its all-time production peak. We know for certain that three of the four super giant oil fields (Daqing in China; Cantarell in Mexico; Burgan in Kuwait) are past peak and there is plenty of evidence that the greatest of them all, 50-year-old Ghawar in Saudi Arabia, is not only past peak but perhaps "crashing" into a super-steep decline.

Discovery of new oil to replace the production from declining fields remains paltry. Chevron announced it's "Jack" discovery in the deepwater Gulf of Mexico with great fanfare this year, but neither conclusively demonstrated that all the wished-for oil was down there (between 3 and 15 billion barrels, Chevron said) nor that they could get it out of there in a way that made sense economically, since the oil was extraordinarily deep and difficult to lift up.

Meanwhile, companies developing tar sand production in Alberta announced that their costs of production were rising substantially, while a reckoning lay ahead as to how much of Canada's fast-disappearing natural gas reserves will be squandered in melting tar. The oil shale project is going nowhere. American corporate farmers have entered into a racket with Congress to subsidize ethanol production from corn and biodiesel fuel from soybeans.

But the American public remains ignorant of the tragic futility of this project, which depends on oil-and-gas "inputs" to keep the crop yields up and ultimately is a net energy "loser." As the world crosses into the uncharted territory of "The Long Emergency," Americans will find themselves having to choose between eating food and making fuel to keep the car engines running.

The signal failure of public debate in this country is embodied in our obsession with this particular theme - how to keep the cars running by other means at all costs. Everybody from the greenest enviros to the hoariest neo-liberal free market pimps believe that this is the only thing we need to worry about or talk about. The truth, of course, is that we have to make other arrangements for virtually all the major activities of everyday life - farming, commerce, transport, settlement patterns - but we are so over-invested in our suburban infrastructure that we cannot face this reality.

The bottom line for oil in 2007: Expect the bidding on the futures markets to regain intensity between the United States, China, Europe, and Japan. A contracting U.S. economy could take some demand out of the picture, but the sad truth is that we burn up most of the oil we use in cars, and American life is now so

hopelessly based on incessant motoring that citizens cannot even go down to the unemployment office without driving. Geopolitical events can only make the oil supply situation worse and probably will.

We are probably also in the early stages of a natural gas crisis in the United States. Over the next decade, the gap between U.S. demand for natural gas and dwindling supply may amount to one-and-a-half times the current equivalent of our oil imports. This is a staggering deficit. Natural gas is used for heating in more than half the houses in the United States and accounts for just under 20 percent of our total electricity production. Domestic supply is crashing. We are drilling as fast as we can, with more and more rigs each year, just to keep up.

And to make matters worse, the means of gas delivery - through a vast web of pipeline networks around the nation - makes "just-in-time" delivery the norm and, tragically, also makes "just-in-time" pricing normal, too. Thus, gas prices are responding only to the shortest-term signals - for instance, unusually mild winter weather - rather than to the catastrophic long-term reserve picture.

Finally, we are unlikely to solve our natural gas problems with imports for technical reasons having to do with the cost and difficulty of moving the stuff by means other than pipelines and for geopolitical reasons, namely that most of the remaining gas in the world is in Asia.

Despite the mounting acceptance of the inevitable nature of Peak Oil, the flat-earth community continues its rearguard action in ever more shrill terms, speaking dismissively of Peak Oil as if it were a *Theory*, not a fact imposed by nature as readily observable in some fifty countries, which are producing less oil today than at some point in the past.

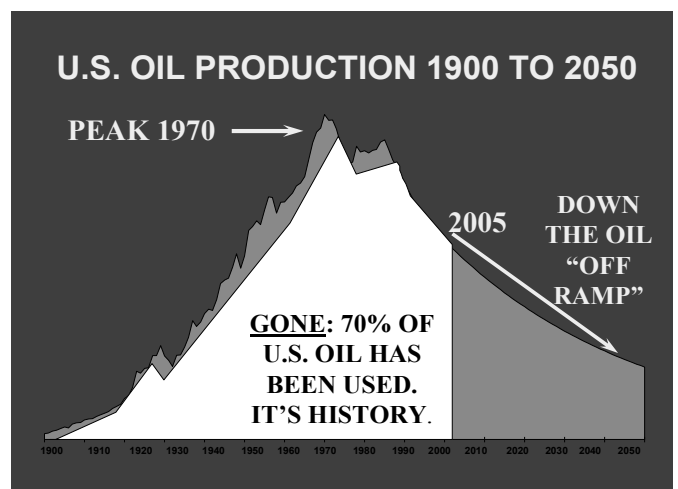
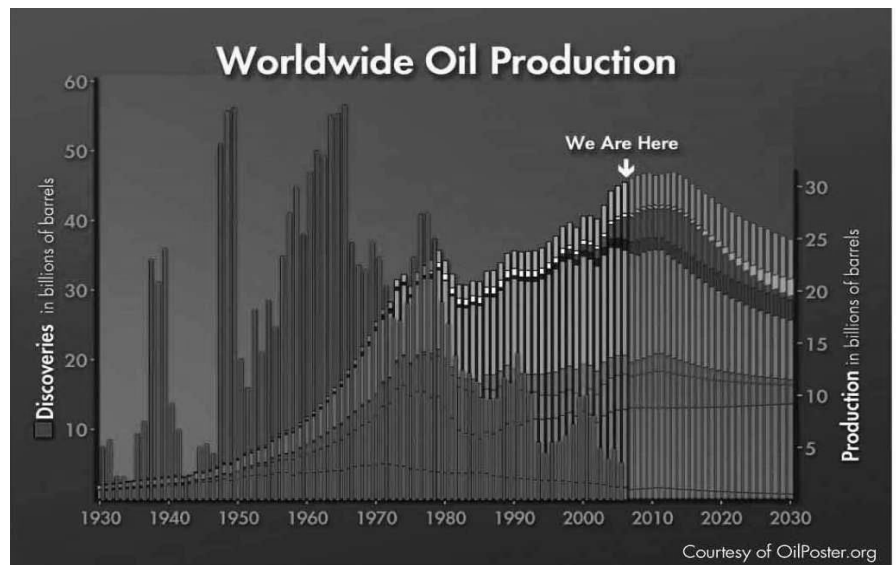
The fact that the dollar devalues and inflation returns to Britain are signs of change widely attributed to high oil prices.

### 816. ASPO-USA.

Consistent with the new policy of broadening the scope of the Newsletter to comprise contributions from member associates, we include the following article from ASPO-USA.

#### TOP TEN REASONS FOR PEAK OIL

1. **Geologic limits *and* non-geologic factors** will impact the timing of peak oil. Non-geologic factors include timing of investments, system tightness, shortage of skilled manpower, extreme weather events, geopolitics and violence.
2. **Oil is concentrated—the top 20 countries produce 85% of the world’s oil—and about half of the leading producers have reached peak oil production and are in decline:**
  - a. *Geologic limits:* USA, Indonesia, UK, Norway (China soon)
  - b. *Political/geologic:* Mexico, Kuwait, Russia (1988; re-peaking in a few years)
  - c. *OPEC/political:* Iran, Venezuela, Iraq (Iraq also includes a violence factor)
3. **Non-OPEC oil production peaks soon**, between now and roughly 2010. Groups which generally support this view include ExxonMobil, Chevron, OPEC, Cambridge Energy Research Associates, ASPO-Ireland, plus government agencies (IEA and US-EIA); all shared this view in October 2005 in Washington D.C.
4. **Most oil is located in the Middle East where risks abound:**
  - a. It’s a cauldron for geopolitical, religious, cultural and military conflict.



- b. Muslim countries control 2/3 of the world's oil and bitterly oppose US policies.
  - c. Resources for expanding production appear stronger than the desire/ability to do so.
5. **Production from the non-Gulf OPEC is vulnerable and variable**, especially in Nigeria, Venezuela and post-peak Indonesia. This group won't be able to offset world oil production declines from non-OPEC nations.
  6. **Depletion is relentless**. If the rate is 5%/yr, we need 20 million b/d by 2015 *just to keep world oil production flat*. Sadly, it's no one's job to "follow the depletion" Three of the world's four largest oil fields (in Kuwait, Mexico and China) are in decline; the fourth — Saudi Aramco's Ghawar, the world's largest oil field — also appears past peak.
  7. **National oil companies hold all the cards —75% of the oil**—and their interests are diverging from those of consuming nations. Delays of new large projects are now the norm. ExxonMobil is only the world's 12<sup>th</sup> largest oil company.
  8. **Discovery rates are falling**: world oil discovery rates peaked during the 1960s. We now find only one barrel for every three we produce. Today's new generation of the best oil fields—in Brazil, West Africa, Kazakhstan, and the deepwater Gulf of Mexico—are more complex and cost more than the previous "cavalry:" Prudhoe Bay, Cantrell and North Sea.
  9. **Domestic consumption by oil exporters is a key factor** in Russia, Iran, Venezuela, and Mexico. "Peak exports" will impact our economy before peak production lands.
  10. **Unconventional petroleum resources won't substantially impact the peak**. They are more expensive, slower to come to market, flows build slower, net energy is poor; there are environmental footprint issues (esp. carbon), and infrastructure issues.

\* **World oil production is highly likely to peak and plateau between now and 2015**

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### **817. ASPO-Australia Progress Report**

ASPO-Australia is a network of professionals working to reduce oil vulnerability. It was formally launched by Prof Kjell Aleklett in Perth (in the media room of the Royal Automobile Club of Western Australia) on his Australian visit in November 2005 and we have an active and effective website, created and maintained by Dr Sherry Mayo in Melbourne.

We have considerable strengths nationwide in transport planning, having been formed under the auspices of the Sustainable Transport Coalition which had held Peak Oil conferences in 2003 and 2004. In Australia, as elsewhere, transport use dominates oil demand, so Peak Oil mitigation and adaptation depends on a good understanding how the transport and urban systems can become less oil-vulnerable.

The proven "Individualised Marketing" TravelSmart demand management strategies used in several Australia cities have quickly and cheaply reduced car use (kms travelled) by some 12-13%. This is without pricing signals, or rationing, or publicity campaigns. Many Australian cities now have serious water restrictions, which provide a good model for petrol rationing if needed, and is the analogy that we should be preparing for petrol droughts as well.

ASPO-Australia has active groups in major Australian cities, and a structure of many separate working groups focusing on the impacts of Peak Oil on various community sectors. Looking in detail at the oil-vulnerability of segments of society, either geographical or by industry, or other ways, offers the chance to avoid being overwhelmed by the big picture and to see the many opportunities to reduce oil use, and to understand the advantages that Peak Oil will bring in different areas, as well as the problems. The Health sector, the Social Services sector, and the Finance sector are areas affected by Peak Oil, but often overlooked. For instance, overall health levels in Australia will be improved with less automobile dependence as the physical and mental health benefits of active transport are large and well known now. However, trends to fewer larger hospitals should be reversed to prepare for oil shortages. We have been concentrating on the corporate sector, and particularly the superannuation funds that have enormous resources to invest. Investments now in airports and toll-roads may not be sound way of financing pensions in 20 years, and superannuation is a useful link between ordinary people and the corporate sector. Oil-vulnerability risk assessment and risk management is an area with a lot of potential, and there is one study under way centred on Cairns in Far North Queensland.

We have arranged very successful visits by international speakers, Kjell Aleklett, Ali Samsam Bakhtiari and Chris Skrebowski, with Roger Bezdek coming in June. Richard Heinberg also completed a whirlwind tour organised by Permaculture advocates.

A highlight of the last year has been the Australian Senate Inquiry into Australia's Future Oil Supplies and Alternative transport fuels. ASPO-Australia made some 15 separate submissions from most of our working groups and as well ASPO people round the world also put in valuable submissions including from Sweden, Ireland, Italy, USA, and China. The final report was tabled in the Senate on 7th February, but received little media coverage due to an overdue flurry of Climate Change political activity in Canberra. It is the first time any Australian Parliament has recognised Peak Oil, and it has a lot of information hidden away in the report.

ASPO-Australia was invited late last year to present papers at the China University of Petroleum in Beijing and with Prof Aleklett at a conference in Kyoto and at a meeting of the Mottainai Society at the University of Tokyo. We have concentrated on the policy options available to Australian governments to reduce oil vulnerability. Many of these are "No-regrets" options already justified on grounds of equity, environment or economics. Moving towards European levels of bicycle and public transport usage, and towards European fuel tax levels are obvious steps. Demand management strategies, and tradeable gasoline rights (or equitable preparation for fuel rationing) are other areas with considerable promise to help Australia prepare for further oil shocks and for Peak Oil.

We are very keen to work with other ASPOs and to arrange for further peak oil speakers to visit Australia.

### **818. Ownership of national energy resources**

The following article raises the issue of the ownership of national energy resources, which Britain will sorely need as its oil and gas supplies decline steeply in the future. Other reports however suggest that the recycling processes at Sellafield have been less than effective and would not be up to delivering the amounts indicated.

#### **Uranium Asset Stripping**

PRESS RELEASE

April 26, 2007

The value of the depleted Uranium stored at Sellafield is currently seen to be negligible. There will be some 106,000 tonnes in store by 2020. The only current use is for making armour piercing munitions. This is fertile nuclear material with an energy content of 1000 MW-thermal days/tonne, enough to run a one Gigawatt reactor for a year. At a wholesale price of 5p/kWh of carbon free electricity, each tonne is worth £600M and the whole store has an eventual commercial value of 64 trillion pounds and could supply all UK homes, industry, and electrified transport for 600 years. In units of Billions of Barrels of oil Equivalent, this Uranium has the energy content of 1500 BBOE, which is five times the oil reserves in Saudi Arabia or 75 times the amount extracted from the North Sea. We are likely to use a trillion pounds worth by the end of this century.

Clearly, ownership of this enormous energy asset should always remain with the UK Government. The imminent final sell off of British Nuclear Fuels, now owned by the Nuclear Decommissioning Authority, to one of six international consortia must not transfer ownership of this resource to the new contractors. This would be a bargain not seen since the Louisiana Purchase from Napoleon. Will the coming UK Energy White Paper recognise this or the underlying weapons proliferation possibilities?

(By Brendan McNamara)

### **819. The link between oil and climate**

A brilliant TV programme, entitled *Crude*, explaining the link between oil and climate, has been produced by Richard Smith of ABC Television in Australia. It explains that there were rare epochs of extreme volcanic activity in the geological past that pumped huge amounts of carbon dioxide into the atmosphere. That led to global warming which encouraged the proliferation of marine life, especially plankton and algae in the warm sunlit waters. As warming continued, the ice-caps melted, in turn causing the ocean currents to slow or cease. As a result, the ocean depths became anoxic and fetid with the proliferation of hydrogen sulphide and bacteria that can live in such environments, but normal life expired. The organic debris collected in the stagnant depths to form a rich oil source, when duly cooked on burial beneath younger sediments.

The programme notes that hydrocarbon emissions are presently causing global warming, which is melting the ice-caps, possibly representing to first steps towards another anoxic event.

### **820. Did she peak?**

The Energy Information Agency (an arm of the US. Department of Energy) publishes a monthly report on energy statistics. Table 11.1b of the April issue shows that the global supply of crude oil (excluding NGL) reached 74.151 million barrels a day in May 2005, but had fallen to 73.1 by January 2007.

(Reference furnished by Matt Simmons).

The current database and forecast used by this Newsletter show the peak of *Regular Conventional Oil* in 2006 at 65.7 Mb/d, and of *All Liquids* in 2011 at 89.39 Mb/d. The Oil & Gas Journal for its part reports world production in 2005 at 72.36 Mb/d and estimates that 2006 at 72.49 Mb/d

This information highlights the confusion arising from differing definitions of what is measured. Arguing endlessly over the precise date of peak also rather misses the point, when what matters is the vision of the long slope that comes into sight on the other side of it.

The flat-earth community, which denies resource limits, are rightly and forever shrieking that *forecasts* of the date of peak have proved wrong in the past. What is a *forecast*? It can be an arbitrary number, which is

considered reasonable on certain criteria, or it can be the outcome a large number of input estimates regarding how much oil is left, how to define it and what depletion profile to adopt by individual oilfield, basin, country, region, summed to give a world total.

Let us consider, for example, the landlocked and isolated mountainous country of Bolivia. The records suggest that 480 Mb of *Regular Conventional* oil have been produced since exploration began in 1914, and published reports indicate that about 450 Mb remain in known fields, with rather more suggested by industry sources. Extrapolating the discovery trend suggests that about 150 Mb are left to find. Current production stands at 45 kb/d delivering a depletion rate of almost 2%, which is a relatively low one. The explanation is probably that the domestic market is small and that pipeline capacity to the remote fields is limited. It might therefore be reasonable to assume a plateau of production at this level, lasting until half the estimated total had been produced, and followed by terminal decline at the then depletion rate. There is still another difficulty, relating to definition. Bolivia has a substantial amount of gas, from which liquids condense naturally and can also be extracted by dedicated plants, posing the question of how much of these liquids should be included in the oil model, and what their depletion profile might be. If that was n't enough, recent political developments have led to the nationalisation of the rights of foreign oil companies, no doubt affecting the rate of extraction. Looking ahead, there may also be international pressures, similar for example to the Nitrate Wars of 1879-84, when Chile took the coastal regions of Bolivia for its nitrate deposits which British companies were exporting to meet Europe's desperate need for fertiliser to improve crop yields and feed its expanding industrial population.

Clearly there are many uncertainties relating to the depletion of Bolivia's oil, which in turn feed into the global assessment, including the date of overall Peak. It would be more useful to debate the underlying assumptions than make bald unsubstantiated assertions regarding the date of peak. That said, a general consensus does seem to be building that the global peak of discovery in the 1960s is indeed delivering a corresponding peak of production.

### ***821. ASPO-6 International Conference in Ireland***

Good progress continues to be made on organising the 6th International Conferences, which will be held in the city of Cork in Ireland on September 17<sup>th</sup> and 18<sup>th</sup>. The details are coming together well: Day One will address the issue of Peak Oil itself; and Day Two will cover the responses in political, economic and social terms. ASPO-IRELAND is grateful for the commitment from the prestigious speakers who have agreed to participate, and for the generous local support and sponsorship.

The Post-Conference event in Killarney has also received much interest. It will give participants a chance to see something of the scenic beauties of the west of Ireland as well as to meet and converse in a relaxed and convivial lake-side atmosphere. Golf, fishing and other tourist attractions are available, but places are limited.

Details of both events are available on [www.aspo-global.org/asp06/](http://www.aspo-global.org/asp06/). Those planning to attend are urged to so advise at an early date, as to know the approximate numbers in advance would greatly facilitate the organisation.

### 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.

#### 2007

May 17           Cork Chamber of Commerce **Cork**, Ireland [Campbell]  
 May 28-30       Planning for Oil Depletion ASPO-SOUTH AFRICA Conference **Cape Town** [Ratcliffe]  
 Sept. 11-12     Geological Society bi-Centennial Conference, **London** [Campbell]  
 Sept. 17-18     ASPO-6 International Conference, **Cork**, Ireland

#### 2008

ASPO-7 International Conference, Norway

### NOTE

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