NEWSLETTER No. 67 – JULY 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, Austria, Canada, Egypt, France, Germany, Ireland, Israel, Italy, Japan, Mexico, New Zealand, Norway, Portugal, 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 for Mankind.

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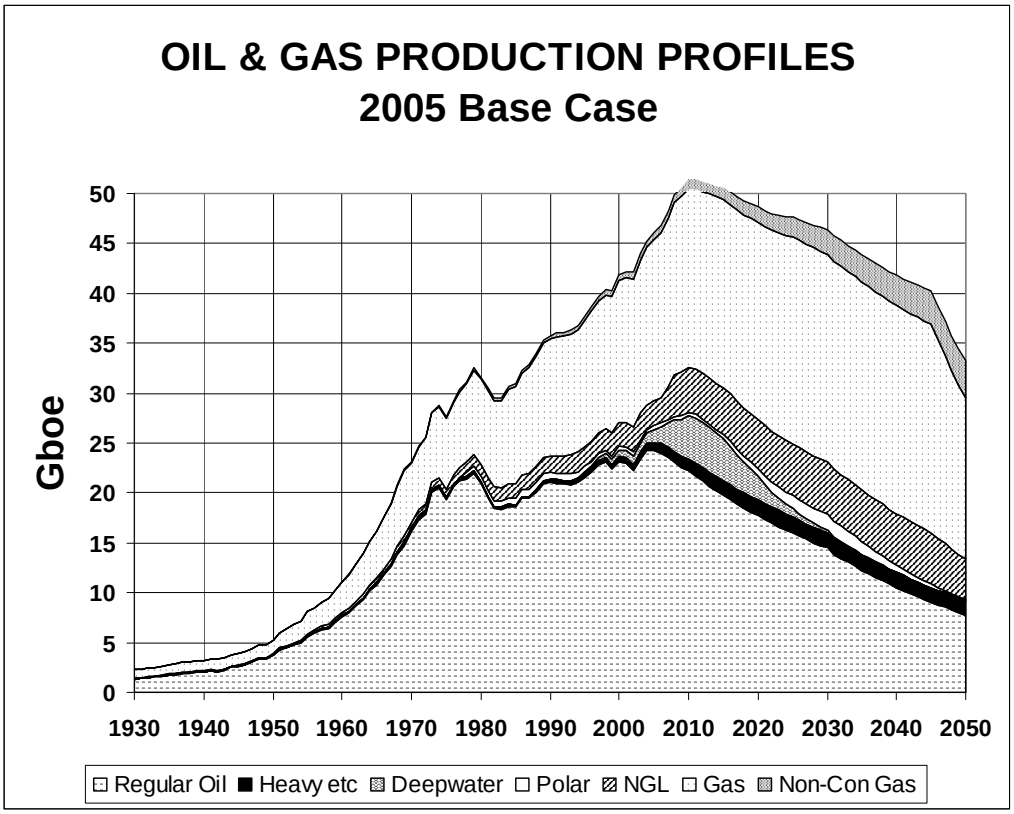
The General Depletion Picture

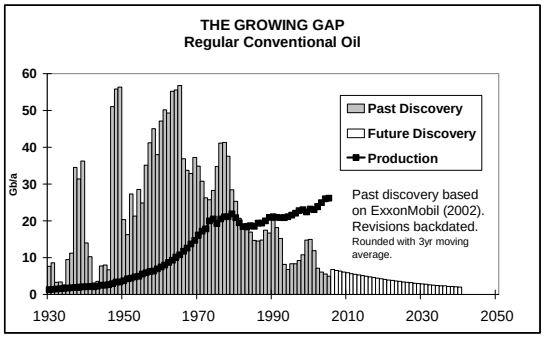


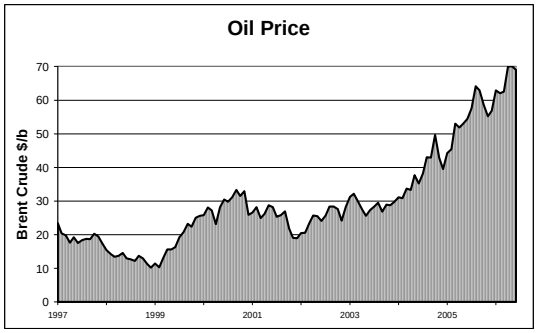
ESTIMATED PRODUCTION TO 2100 End 2005

Amount			**Gb**
Regular Oil			
Past	**Future**		**Total**
Known Fields		New	
968	790	142	1900
	932		
All Liquids			
1043	1407		2450

2005 Base Scenario
M.East producing at capacity (anomalous reporting corrected)
Regular Oil excludes oil from coal, shale, bitumen, heavy, deepwater, polar & gasfield NGL
Revised 20/06/2006

Annual Rate - Regular Oil						**Gb**	**Peak**
Mb/d	**2005**	**2010**	**2015**	**2020**	**2050**	**Total**	**Date**
US-48	3.6	2.8	2.2	1.7	0.4	200	1971
Europe	5.0	3.4	2.3	1.6	0.2	75	2000
Russia	9.2	8.5	6.9	5.7	1.5	220	1987
ME Gulf	20	19	19	19	11	680	1974
Other	29	27	23	20	8	725	2004
World	**66**	**61**	**54**	**48**	**21**	**1900**	2005
Annual Rate - Other							
Heavy etc.	2.3	3	4	4	4	151	2021
Deepwater	3.6	12	11	6	4	69	2011
Polar	0.9	1	1	2	0	52	2030
Gas Liquid	6.9	12	13	14	11	276	2035
Rounding					-1	2	
ALL	**80**	**89**	**83**	**75**	**40**	**2450**	2010





724. Venezuela Revisited

It is perhaps time to take another look at Venezuela which was last described in Newsletter No.22 in 2002. (Note that the re-evaluation has led to a minor revision in the table given on Page 2 of the newsletter).

Venezuela

Venezuela is a very beautiful country with a diverse terrain. In the south, lie the tropical rain forests of the high Roraima hinterland and the Orinoco River basin, passing westwards into the grasslands of the Llanos. Several spectacular Andean ranges, capped by Pico Bolivar, at an altitude of 5007m., follow to the north, before giving way to the badlands of Falcon and the deserts of Paraguana, complete with sand dunes and cactus. To the West, lies Maracaibo, an inland shallow sea, while to the East is the Orinoco delta and the Gulf of Paria, which separates Venezuela from Trinidad.

Little is known about the early history of the country before it was sighted by Chistopher Columbus in 1498 on his third voyage to the New World. Spanish settlement began in 1520, when Caracas, the capital, was founded in an Andean valley, being administered jointly until 1819 by the Spanish Vice-Royalty of Peru and the Audencia of Santo Domingo. It was the birthplace of Simon Bolivar, known as the Liberator of South America, who, after several years of struggle, brought independence to Venezuela in 1829, only to die in the following year, a disillusioned man, with his notion of a united Latin America having been destroyed by factional disputes. Hugo Chavez, the present President, is doing his best to fulfil Bolivar's dream.

The subsequent history has been characterised by revolution, counter-revolution, and dictatorship, interspersed by brief periods of not very successful democratic government. The population amounts to some 27 million, mainly living in the Andean and coastal regions, who are predominantly of mixed European and Negro extraction.

Venezuela has rich natural resources, with substantial iron-ore deposits in the interior, in addition to its ample oil endowment.

The Pitch Lake of Trinidad, which has been known since 1595, attracted early interest to the island's oil potential. The first successful wells were drilled there in 1866, only seven years after Colonel Drake's drilled his famous discovery in Pennsylvania, which is generally held to be the birth of the modern oil industry. The early explorers looked across the limpid waters of the Gulf of Paria to wonder what Venezuela might offer, as it too had a pitch lake. The first well was in fact drilled in 1878 to the south of Lake Maracaibo, but it was not until 1907 that local interests secured concessions, which eventually passed into the hands of the foreign oil companies. They began exploration in earnest in the years preceding the First World War. Shell Oil was one of the pioneers, being introduced to the country by no less than the legendary Armenian oilman, Calouste Gulbenkian, who probably understood how to deal with General Gomez, the then dictator. These pioneering efforts were rewarded when a well on the shores of Lake Maracaibo blew out with a flow rate of over 100 000 b/d, having penetrated a highly fractured Cretaceous limestone reservoir in what became the La Rosa Field. Standard Oil of Indiana (now BP) also had substantial early rights to Lake Maracaibo, but its Mid-West management in Chicago got cold feet for foreign ventures after expropriations in Mexico in the 1930s, selling out to Exxon in exchange for a block of its stock. Gulf Oil of Pittsburgh was the third principal operator. Venezuela was for many years the jewel in Shell's crown, which by 1932 had made it Britain's largest supplier. The industry went from strength to strength between and immediately after the two world wars, with production rising from 300,000 barrels a day in 1930 to two million by the mid-1970s.

The expropriation of BP's Iranian interests in 1951 did not pass un-noticed in Caracas, where the government was already in dispute with the companies over the split of oil revenues. It led Perez Alonso, an idealistic oil minister, to open discussions with the major Middle East producers, to try to form a world equivalent of the Texas Railroad Commission, which had successfully regulated US over-production to support price. He eventually succeeded with the formation of OPEC in 1960. The government started passing laws imposing stiffer terms on the existing concessions, which paved the way both for a full nationalisation in 1976, and the creation of a national company, Petroleos de Venezuela (PdVSA). By now, exploration was at a mature stage, so the main challenge became to develop the extensive heavy oil deposits that had long been known, and to work in the corridors of power at OPEC to obtain the best price.

VENEZUELA		*Regular Oil*
Population		26M
Rates		Mb/d
Consumption	2005	0.58
per capita b/a (Mcf/a)		7.9
Production	2005	1.8
	Forecast 2010	1.8
	Forecast 2020	1.6
Discovery 5-yr average Gb		0.05
Amounts		**Gb**
Past Production		48
Reported *Proved Reserves**		80
Future Production - total		32
From Known Fields		25
From New Fields		7
Past and Future Production		80
Current Depletion Rate		2.0%
Depletion Midpoint Date		1995
Peak Discovery Date		1941
Peak Production Date		1970

*Oil & Gas Journal

Venezuela's great oil wealth springs from a happy circumstance, some 90 million years ago, when the continents of North and South America began to move apart at a time of intense global warming. Algal growths proliferated, poisoning the seas and giving rise to vast quantities of organic material that sank to the stagnant depths of the opening rifts. It formed the *La Luna Formation*, a black shale with large ellipsoidal calcareous concretions, known to early geologists as *wagon wheels*. It is one of the world's richest hydrocarbon source rocks, also responsible for oil in Mexico and the Gulf Coast of the USA.

In structural terms, a branch of the Andes divides the country into two provinces: the Maracaibo and the East Venezuela Basins, both of which are prolific oil producers from the same source. The oil has accumulated both in Cretaceous limestones in juxtaposition with the source rocks, and in overlying Tertiary sandstones. The East Venezuela Basin is asymmetrical with a long, gently-dipping, southern flank. Oil has migrated up this flank to shallow depths where it has been weathered and affected by bacterial action, giving rise to extensive heavy oil deposits at depths of 500 to 1500 m along the Orinoco River.

Lake Maracaibo has been subsiding with the extraction of oil, which led the oil companies to build an earth dyke to protect the growing population around the town of Lagunillas, which is sinking below sea-level. Consulting engineers reported that it was safe enough unless there was a major earthquake, when the pebbles in the dyke would flow like marbles. When asked about that risk, they reported that the greatest danger came from transcurrent faults. The oil companies whereupon sponsored research to show that the major faults crossing Maracaibo, which had the hallmarks of lateral movement, had been long dormant, with only minor vertical displacements. They were dismayed when a young geologist published a paper on the Santa Marta Fault in neighbouring Colombia with a recent lateral offset of 116 km. (Campbell C.J. 1965, *The Santa Marta wrench fault of Colombia and its regional setting*; 4th Carib. Geol. Conf), and went to considerable lengths to try to discredit it. Transcurrent faulting in Venezuela has since been established beyond doubt, making this a catastrophe waiting to happen, but following nationalisation, the foreign oil companies no longer have responsibility for the fate of the many people living below sea-level in Lagunillas.

So far as new discovery is concerned, Venezuela has to rely primarily on tail-end work in the existing producing basins, finding small traps and secondary reservoirs. But there is some chance of deep gas-condensate in the foothills of the Merida Andes to the south of Lake Maracaibo; and in the depths of the East Venezuelan Basin. There is also some possibility of new discovery of mainly gas on the Venezuelan side of the Gulf of Paria and on the shelf to the south, depending on whether the Cretaceous source rocks extend south of the latitude of the Orinoco, which is rather unlikely. Another new opportunity is for gas in rifts off the northern coast, one of which has been found to be productive, although with the large existing gas reserve base, there is little incentive to look for more.

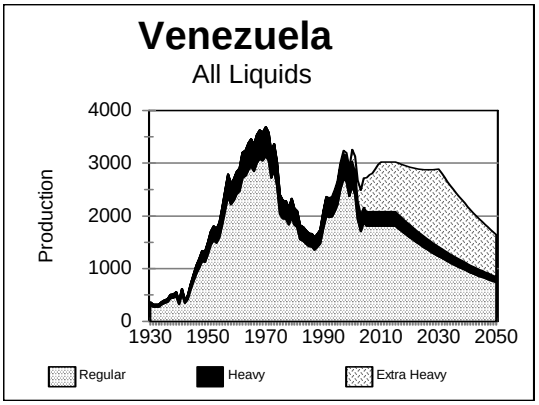
The main potential is for the development of *Non-Conventional* heavy oil along the southern flank of the East Venezuela basin.

Reported reserves grew from 18 Gb in 1980 to 25 Gb in 1985, when they jumped overnight to 56 Gb, being now reported at 79.7 Gb. It is difficult to assess the reserves and past production of *Regular Conventional* as herein defined with a cutoff at 17.5° API. The ultimate recovery of this category is here estimated at 80 Gb, of which, 48 Gb have been produced, leaving Reserves of 25 Gb and 7 Gb yet-to-find. About 60 Gb lie in the giant fields listed below.

Field	Disc.	Gb	Field	Disc.	Gb	Field	Disc.	Gb
Lagunillas*	1926	14	Centro	1957	2	Tejaro	1988	0.75
Bachequero*	1930	8	Lamar	1958	1.75	Ceuta SSE*	1985	0.75
Tia Juana*	1928	5	Ceuta*	1957	1.5	Santa Rosa	1941	0.75
Carito	1988	4.5	Ceuta-Tomo*.	1986	1.5	Mene Grande	1914	0.75
Lama*	1957	4	Lago	1958	1.25	Jobo	1953	0.75
Furrial	1986	3.5	Quirique	1928	1	Oficina	1937	0.5
Boscan	1946	2.5	La Paz	1924	1	Mata	1951	0.5
Pueblo Viejo*	1939	2	Cabimas*	1917	0.75	Mara	1945	0.5

* Part of the super-giant Bolivar Coastal Field complex, found in 1917.

On this basis, the depletion rate of *Regular Conventional* production stands at no more than 2%, suggesting that even the present reserve assessment may be too generous. It is here assumed that production can be held at 1.8 Mb/d until around say 2015 before a gentle decline sets in. As already mentioned, the East Venezuela Basin has substantial reserves of *Non-Conventional* heavy oil, lying at depths of between 500 and 1500m. The traditional method of extraction involved drilling patterns of five closely spaced wells. Steam was then pumped into the peripheral wells to



mobilize the heavy oil and drive it to a central producing well. Long-reach horizontal wells are now being used to good effect, managing to extract the oil at a slow rate even without steam stimulation. Six projects, involving investments of some $13 billion, are in operation. Production commenced in 1990 and has risen to about 650 000 kb/d. It is assumed here that production will be flat to 2015 rising thereafter at 3% to peak in 2030 before declining at 2% a year. This is no more than an approximation, as the increase will be stepped rather than smooth as depicted because the process involves the periodic construction of massive upgrading plants. Also it may be concluded that the more favourable deposits were exploited first, so that tapping the remainder will be progressively more difficult. On the one hand, the Government needs to offset the decline of *Regular Conventional* but its nationalistic policies may inhibit the required investments. It is already imposing stiffer terms on foreign companies operating in the country.

Gas production stands at about 1.4 Tcf/a, which with reported reserves of about 180 Tcf suggests that they are greatly under-exploited, (assuming the reserve reports to be valid).

The present President, Hugo Chavez, is an ex-paratrooper who won a landslide election in 1998, but follows a long tradition of dictatorial rulers. Venezuela, like many countries, has been run by a wealthy elite of so-called oligarchs, many of whom, no doubt, shift their money overseas, leaving the poor with only a minor share of the country's great oil wealth. President Chavez has tried to change this relationship with a decidedly anti-globalist policy, having made well-publicised visits to Cuba. He is successfully using his oil wealth to forge a new alliance of Latin American countries with a view to breaking free from what has been described as dollar imperialism. Plans to starts trading oil in euros have been announced. He was almost ousted from power in 2002 in a coup, which was welcomed, if not orchestrated, by the United States, but he outwitted the conspirators. No doubt, further attempts to remove him will be made, despite his popular mandate. The United States imports about 10% of its oil from Venezuela, which is causing concern to the Senate Foreign Relations Committee (see Wall St Journal 14th June).

Gasoline is sold to the domestic market at extremely low prices, being effectively subsidized. The government may face political difficulties in raising these prices which have come to be accepted as a norm, if not a popular right. It may have to consider following the example of a marketing company in Ecuador which overcame a similar problem in the 1970s by keeping the price the same but reducing the size of the gallon. The following article gives a telling personal account of what happens when supply is interrupted even in such a well endowed country as Venezuela.

Soaring oil prices are bringing new wealth to the country, strengthening its currency and influence, and are also giving it every motive to conserve its petroleum resources, despite external pressure.

Famine amongst Feast – The 2002/3 Venezuelan Oil Strike
A Personal Perspective
Stephen C. Grimmer PhD, © 2006.

Few under the age of 40 have any memory of actual shortages of oil and its retail products, as were last experienced in the oil shocks of the 1970's. The visceral impact of an absence of oil and petrol from our daily lives, and the effect on daily life and economic activity, is only an abstract. So too, for the people of Venezuela, the principal member of OPEC outside the Middle East, and incidentally its founding member. It remains a major producer, with 3+M.b/d of production and 70+ Gb of *reported* reserves.

Refined product has always been cheap and plentiful in Venezuela, to the point that it is considered a birth-right by most citizens. The minority rich and upper classes drive their 8 litre SUV's to their 1,200 HP speed-boats at the marinas, but even for the common man and *campesino* the barrier to mobility is only the ability to scrape together $500 or so for an ancient Buick gas-guzzler or Chevy pick-up, and then to maintain it in back-street *Tallerias*. At an effective 5¢ for *sin-plomo* and 2¢ for *leaded* and diesel, they are giving the stuff away below cost. It's a way of life; even the rural gas stations, spaced every 250 km or so, were a comfortable ¾ tank-full apart for my (by local standards *economical*) 4.8 litre Toyota Landcruiser with the air conditioning full on.

Woe betides the government of the day that tries to raise prices – regardless of its political makeup. The current President, Hugo Chaves, was catapulted onto the political scene, when following the 1989 *Carazao* riots sparked by a 20% price increase and 300 deaths, he led his parachute regiment in an abortive coup attempt in 1992. Making a transition to democratic politics, he has been the elected President (by majorities as high as 85%) since 1998. Petrol prices have only been increased modestly since.

With state-coffers still lean, at oil prices in the $25-40/b range, Chavez pushed ahead with political, economic and social reforms, to the ire of a well organized, business-led opposition, who dominated the media, and were allied with State oil company PdVSA's technocratic elite. Following the failed coup attempt of April 2002, the opposition regrouped and launched a well-publicised *general* strike in December 2002. Private business, assuming it would be all over in days, contributed by way of management lock-outs, while shops and restaurants rapidly closed. The big guns

were, however, the management walk-outs from PdVSA, and the rapid withdrawals of staff by multi-national oil companies.

Within days, Caracas was on rationing, with the army escorting convoys of fuel trucks from the still-full holding tanks in the major refining centres (Venezuela exports over 35% of its total production as refined product, and has some of the world's most modern refining capacity). Oil exports dwindled rapidly to zero, with the inbound tankers lining up along the coast, either waiting, or refusing (in the case of the home fleet), to be loaded. Just as well, as the skeleton staff still manning the refineries would soon need all the stock-piled crude to maintain limited domestic production.

Shops were stripped of imported and luxury goods, and small business that had voluntarily closed their shutters now found their closures self-enforcing, as the market for services, particularly with the busy holiday season approaching, dried up. Customers stayed away through lack of transport or self-imposed husbanding of cash; the banking system was reduced to emergency mode, with short opening hours, extensive queues and limits on withdrawals. The Government imposed exchange controls to prevent the flight of funds overseas. Basic food-stuffs rapidly began to run short in the cities, prompting government intervention. The National Guard provided fuel, and armies of small farmers in fleets of beat-up pickups ferried tonnes of locally-grown fruit, vegetables and meat to the rapidly emptying supermarket shelves. Local fishermen set up stalls on the beaches of coastal cities. Price regulation was introduced to limit profiteering.

By week two, the traffic-congested metropolis of Caracas (pop. 6+ million) was a ghost-town – eight-lane highways with a few abandoned cars where their tanks had run dry. Queuing for up to 8 hours became routine for the limited taxis, busses and official vehicles. International airlines chopped routes and internal air travel evaporated.

By the New Year of 2003 (subdued by Venezuelan standards), local fuel supplies were all-but exhausted and a fatalism had over-taken the foot soldiers of the general strike. The local business community knew they were largely ruined – whatever the outcome. PdVSA's management knew the game was up, with mass dismissals and Government re-organization facing the upper and middle management should the strike fail. Success would have to be an abdication of the President, the Government, 80% of elected representatives and the Judiciary, not be a negotiated settlement – there was only one end-game after Christmas 2002.

Government control intensified – the privately owned media continued to campaign unmolested, to the point of sedition per some international observers, but isolated ugly scenes occurred when the *Guardia Nacional* forcibly seized and distributed (with state compensation) basic and essential food-stocks, including Coca-Cola's bottled water (but <u>not</u> soft-drinks) stocks. Political solidarity, by Brazil's President Lula amongst others, saw barter trade in hydro-power (the lights never went off – 75% of Venezuela's electricity is hydro-generated) and future trade deals, in return for imports of refined products. It was a once in a life-time sight to see super-tankers arriving in Pozuela Bay off the José refinery fully laded, and departing in ballast.

By February 2003 it was all over except in name. In the frugal countryside, where the diet is beans and rice, transport is by donkey and where the majority live, the limited petrol needs had been more-or-less met throughout. Even at its height, it was always possible to drive 50km outside Caracas and buy 20 or 30 litres – about the same quantity the round trip would have required. As the nation returned to normal, oil production climbed to 1.5 Mb/d, then 2 Mb/d, and limited exports resumed after domestic needs had been met. The sting came when Caracas and other major cities were being "re-filled". Virtually the entire national tanker fleet was diverted to this task, starving the hinterlands, and bringing the worst rationing for a further six weeks.

Throughout the entire episode the majority of Venezuelans behaved in an exemplary manner – no doubt due to the ±80% support for *their* Government, and a determination not to see their electoral mandate vanquished. The military conscientiously upheld their constitutional duty to protect the interests of the State above any considerations of electoral politics. Discipline was firmly but tactfully enforced, and shortages borne stoically. Would we do as well?

The irony of human nature was exemplified by a well-dressed PdVSA executive (no-doubt since unemployed) ahead of me in the gas-queue, berating the pump-jockey in a Shell station for only offering leaded petrol for his new Chevy Blazer – *if El Presidente (another expletive was used) can bring petrol all the way from Brazil, then why this muck?*

Footnote:

The Venezuelans are still prolific domestic consumers of oil, although consumption is being reduced, despite 9+% annual economic growth. At a nominal 2¢ a litre, the Government doesn't even cover the delivery costs. Adjusted for GDP and population, the average Venezuelan consumes 60% more oil than the average American – the average European 30% less (EU consumption is more-or-less static). At a wind-fall US$70 a barrel, even after production costs, the exchequer is sacrificing US$10 billion a year. The Venezuelans, the US and the world in general still consider cheap oil a birthright. Even a minor and localised "shock" can concentrate the mind, and you won't miss it until it's gone.

	Population (millions)	GDP (US$ billions)	Consumption (Mb/d)	Consumption (Mb/d) (adjusted)	Consumption (b/d/person)	Normalized Consumption (per GDP;US=1)
U.S.A.	**298.4 ***	**12,360 ***	**20.030 ***	**21.900 ‡**	**0.07**	**1.0**
Venezuela	**25.7 ***	**154 ***	**0.530 ***	**0.449 †**	**0.02**	**1.6**
E.U.	**456.9 ***	**12,180 ***	**14.600 ¤**	**14.600 ×**	**0.03**	**0.7**

Data Sources:

* CIA Factbook 2005/6 - GDP is adjusted for purchasing power
¤ CIA Factbook 2001 - most recent available figures
‡ DOE/EIA 2005 - extrapolated current consumption
† PdVSA 2005 - alternate consumption from up-to-date source
× Europa.eu 2004 - alternate consumption from up-to-date source

Dr. Stephen Grimmer, a geochemist and petroleum geologist, was one of the few expatriate engineers who remained in Venezuela, in Caracas, Puerto la Cruz and Puerto Ordaz, throughout "el Paro".

725. British Ambassador admits to Peak Oil

Politics is the domain of the half-truth and gilded image, so it is very difficult to penetrate what the Governments actual know about Peak Oil. Some people think that they are fully informed and planning behind the scenes ; others think they are flat ignorant. It seems that denial of Peak Oil is becoming less tenable, but there is still scope for the half-truth on date. That itself rather misses the point, when what matters is the view of the long remorseless decline that comes into sight on the other side of it.

> *The scarcity of energy supplies and the energy imbalance between nations is a threat to our prosperity and national security. As resources contract, oil-hungry economies will compete for dwindling supplies of hydrocarbons. Competition for fossil fuels will increase.... Energy resources have long been a major strategic concern: access to secure sources, control over supply lines: these are issues of national security.... The energy challenge is now more pressing than ever.... Global oil production is apparently nearing its peak.... current estimates seem to be converging on some point between 2010 and 2020.... [there] are five factors which are changing the energy landscape: rising demand; dwindling supply; greater concentration of resource in the hands of a few; limited spare capacity; and the environmental impacts of energy use.....This is not a problem that can wait ten years."*
> Sir David Manning, British Ambassador to the United States of America
> Speech at Stanford University, 13 March 2006 *(Reference furnished by NLP Wessex)*

It may be significant that Britain now announces the eminently sensible new policy of rating houses on the basis of their energy efficiency, which may eventually determine their valuation. Perhaps the next step will be speed limits : if no one was allowed to drive at more than, say, 50 km/hour, smaller more energy efficient vehicles would find a new market and the slaughter on the roads would be reduced. No one need be in such a hurry, and if trains were quicker and more agreeable than driving, people would use them.

726. The airlines admit to Peak Oil too

The July issue of *Airways*, which is the journal of the international airline industry, carries a lead article entitled *Peak Oil – The Collapse of Commercial Aviation*. It is a long, perceptive and well informed article by Alex Kuhlman, suggesting that the industry must plan a profitable decline. The Middle East national airlines are identified as likely survivors, noting that Emirates Airlines have recently bought 43 Airbus 380s, a very large aircraft with a low fuel-burn per seat. Meanwhile airports are being expanded in many countries based on the false assumption that the past growth in traffic can continue.

727. Astrology

An entry in the ASPO Newsletter of June 2003, asking *Where are the Astrologers?* has prompted Douglas W.Smith of Ontario to evaluate Peak Oil in astrological terms with a paper entitled *The Barrel Half Empty – Cosmos and Crisis in the Age of Oil*. It relates the key events in petroleum history, such as Drake's discovery or Spindletop, with astrological elements, concluding: *As Saturn opposes Uranus in 2009 and 2010, there is likely to be widespread recognition that the solution cannot lie with technology alone. In this same period Saturn squares Pluto, while the Uranus/Pluto quadrature looms. With the forces of reaction and revolution so drastically polarized, the political focus may then fall on the profit obsessed corporate sector, or even upon the capitalist system as a whole.*

Those trying to determine valid national reserves within the maze of conflicting reports could be tempted to turn to the stars for inspiration. Several current political leaders claim divine inspiration for their actions : planetary juxtapositions are certainly no less plausible.

(Reference furnished by Douglas Smith PhD - djsmith@interhop.net)

728. It is not difficult to guess the motives

Companies wishing to make an acquisition, avoid windfall taxes or deter Russian expropriations have every good reason to try to talk down the price of oil. It would for example probably make good sense for BP and Shell to merge to better meet the contraction of the oil business in Europe.

BP boss says oil prices will fall

BBC News, 11 June 2006

> "Lord Browne, the chief executive of oil firm BP, has said he expects crude prices to fall from current near-record levels as more supplies are discovered. However Lord Browne, speaking in an interview with German magazine Der Spiegel, said there was not likely to be any dip in prices in the short term. He said prices will probably settle at an average of about $40 a barrel in the medium term, before falling lower.... Lord Browne said that companies were finding large oil deposits in the Caspian Sea, while there was good production potential in countries such as Russia and regions including Western Africa. He also said that improved efficiency would help boost crude extraction. 'In the past we managed to get out 20% to 30%,' Lord Browne said. 'At the moment it's maybe 40% to 45%. I can see no reason why we could not reach 50% or 60%.' *(Reference furnished by Mark Griffiths)*

The price of oil may indeed fall as Lord Browne suggests if economic collapse from soaring prices leads to a reduction in demand. But adding sufficient new world supply is not plausible in view both of the forty-year trend of declining discovery, which is hardly likely to change direction, and the increasing desire of countries, led by Russia, to conserve their resources for their own needs. Apparent improved recovery is more an artefact of reporting than a technological dynamic. Field developments tend to occur in steps, with the reserves of each being properly reported as committed, giving the illusion of reserve growth. The amazing technological advanced have served mainly to hold production higher for longer, which makes more money, without adding much to the amounts recoverable, as amply demonstrated in many giants fields. Besides, sucking a few extra barrels out of a field may extend its life, but is unlikely to affect the critical peak rate of production.

Meanwhile, BP has published the 2006 Edition of its Statistic Review of World Energy which is widely, but wrongly, taken as an authoritative source of data coming from an experienced and knowledgeable oil company. It is important therefore to note the key qualification stated in the following footnote

Statistics published in this Review are taken from government sources and published data. No use is made of confidential information obtained by BP in the course of its business.

BP's position is entirely understandable as it once had to withdraw the publication even after it had been printed under pressure from an important host government which did not wish it to reveal the truth.

The most glaring distortions in the BP Reserve data are for the OPEC countries, which are reporting about double the amount likely to be extracted from known fields, but in some other cases, such as the United Kingdom, the estimates are under-reported.

729 ASPO-5 International Conference in Italy

ASPO-ITALIA under Professor Ugo Bardi has now completed the arrangements for the fifth annual ASPO International Conference which is to be held on July 18th and 19th in the historic town of Pisa in Italy. A full programme has been arranged with distinguished speakers from many countries following in the tradition of last year's very successful event in Lisbon. A full range of topics is being covered as interest moves on to address not only the issue of Peak Oil itself, but the far reaching consequences which will affect virtually everyone on the Planet. The conference will also offer a chance from the growing number of ASPO organisations around the world to meet and give the conference the benefit of their experiences in raising awareness of this important subject in their countries.

The programme can be seen on http://www.aspoitalia.net/index.php?option=com_content&task=view&id=92&I
The registration form is on http://www.aspoitalia.net/index.php?option=com_content&task=view&id=73&I

730. Clinton raises alarm about oil depletion

It is very significant that mainline politicians are recognising that the benefits of denial have expired and that political advantage begins to accrue to those who state the true position and give the impression that they are working on solutions, which hopefully will not be confined to resource wars. Mrs Clinton, who may make the White House, if there is a regime change, will, we may be sure, have heard the message over the breakfast cereal.

Straight Talk

Clinton raises alarm about oil depletion

By Charlie Smith

Former U.S. president **Bill Clinton** has urged newspaper editors to focus more attention on the depletion of the world's oil reserves. In a June 17 speech to the **Association of Alternative Newsweeklies** convention in Little Rock, Arkansas, Clinton said a "significant number of petroleum geologists" have warned that the world could be nearing the peak in oil production.

Clinton suggested that at current consumption rates (now more than 30 billion barrels per year, according to the International Energy Agency), the world could be out of "recoverable oil" in 35 to 50 years, elevating the risk of "resource-based wars of all kinds".

During a question-and-answer period, the *Georgia Straight* asked Clinton if he believed that Saudi Arabia, Iran, Kuwait, and United Arab Emirates had exaggerated claims about their proven oil reserves. The four Persian Gulf states are among the six nations with the greatest listed proven reserves. (Canada and Iraq are the other two.)

"I don't know if they're overstating their reserves," Clinton replied. He added that he expects oil prices will reach US$100 per barrel "in five years or less".

Texas-based energy-investment banker **Matthew Simmons**, author of *Twilight in the Desert: The Coming Saudi Oil Shock and the World Economy* (John Wiley & Sons, 2005), told the *Straight* last October that 60 percent of all Saudi oil has come from one field, Ghawar. Simmons said that after the Saudis nationalized the industry, they increased their proven reserves by 100 billion barrels without making any new discoveries. In 1998, retired petroleum geologists **Colin Campbell** and **Jean Laherrère** wrote an article in *Scientific American*, claiming that Saudi Arabia and several other Oil Producing and Exporting Countries had also increased their proven reserves. This enabled those countries to export more petroleum under OPEC's quota system.

At the AAN convention, Clinton delivered a detailed scientific explanation of some of the problems with the Ghawar oil reservoir. Clinton echoed Simmons's claim that massive amounts of water have been injected into Ghawar to maintain oil pressure. "It implies less oil than we previously thought," Clinton said.

Clinton also recommended that everyone at the convention read *The Empty Tank: Oil, Gas, Hot Air, and the Coming Global Financial Catastrophe* (Random House, 2005), by Jeremy Leggett, a petroleum geologist and international campaigner for Greenpeace. (For more information on the book, see the *Straight*'s January 5-12, 2006, edition at *www.straight.com*/.) Clinton also emphasized the importance of developing the alternative-energy industry and weaning his country off its dependence on imported oil. He claimed that promoting renewable power would also stimulate the American economy.

"Unlike us, the U.K. has found a source of new jobs in this decade," he said, referring to the Blair government's efforts in this area. "The implications are dire if we don't do something."

(Reference furnished by N.L.P.Wessex)

731. Scientific evaluation of the Hubbert Curve

A useful and well reasoned scientific analysis of the so-called Hubbert Curve has been published (C.J.van der Veen, 2006, *Reevaluating Hubbert's Prediction of U.S.Peak Oil*; Trans. American Geophysical Union v.87 No. 20). It seems only common sense to expect that the production of a finite natural resource would reach a maximum when about half the total had been produced. Probably, the greatest contribution of Hubbert was to emphasise that there was a finite total, subject to depletion. The precise date of peak and shape of the curve are secondary issues, being obviously affected by political and economic factors causing minor departures from the overall pattern. *(Reference furnished by Walter Youngquist)*

732. ASPO International Audio Conference – July 6th 2006

ASPO Ireland would like to invite you to attend an Audio Conference chaired by Dr Colin Campbell with representation from ASPO International. The event is designed to bring you up to date on what is happening in each ASPO, we also have the facility of Q&A at the end of the presentation. Cost per person €20.00

We have local dial in numbers from the following countries;

France, Germany, UK, Ireland, Switzerland, USA, Australia, Japan, Switzerland, Austria, Denmark, Finland, Italy, Luxembourg, Netherlands, Norway, Portugal, Singapore, Spain

Please go to www.aspo-ireland.org to reserve your place, thank you

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.

June 27-July 2	Tällberg Forum 2006, **Tällberg,** Sweden [Aleklett]
July 8	Peak Oil Lecture, **Dingle**, Ireland [Campbell]
July 11	Inst. for International Research, Future Energy Supply, **Vienna** [Zittel]
July 18-19	ASPO-5 International Conference, **San Rossore**, Italy
September 13	Irish Countrywomen's Association, **Goleen**, Ireland [Campbell]
October	Peak Oil Debate, Limerick University, **Limerick,** Ireland [Campbell]
November 30	Air Transport & Energy Challenge, **Toulouse**, France, [Bauquis]

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