THE ASSOCIATION FOR THE STUDY OF PEAK OIL AND GAS

"ASPO"

NEWSLETTER No. 95 – NOVEMBER 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 **Argentina, 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")

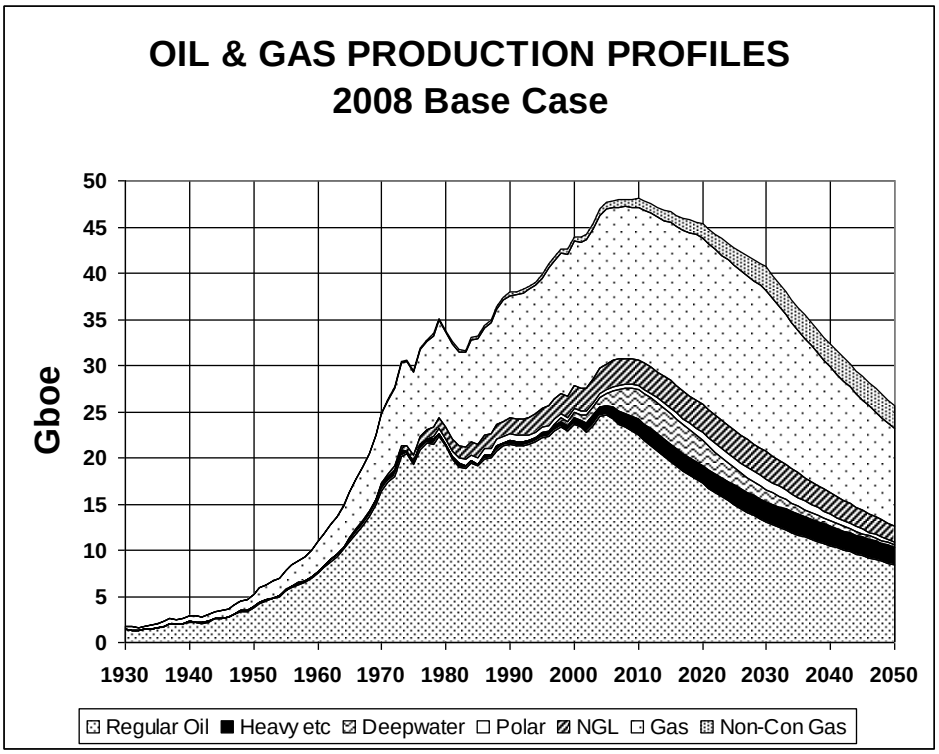
CONTENTS

1093. Hubbert's Line
1094. Is it deliberate ?
1095. Some encouragement
1096. USA Re-evaluated
1097. A King's Response
1098. ASPO-7 Conference in Barcelona
1099. Oil Depletion Database

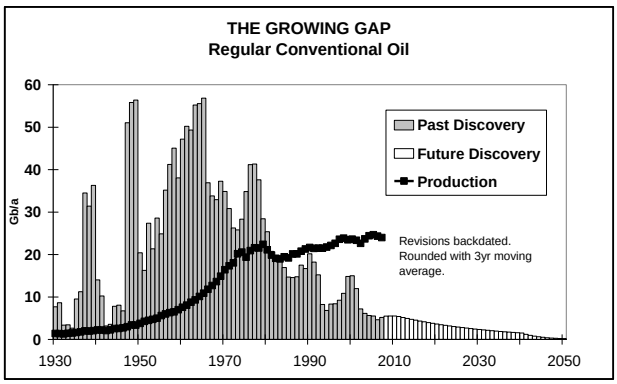
Index of Country & Regional Assessments with Newsletter Reference (*revised)

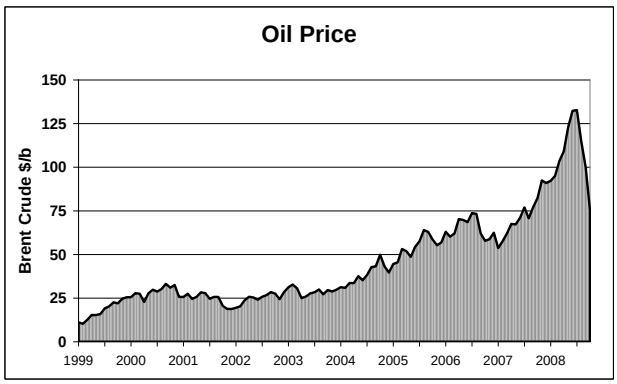
Abu Dhabi	42	China	*89	Kazakhstan	49	Qatar	58	**REGIONS**	
Algeria	41	Colombia	*62	Kuwait	38	Romania	55	AFRICA	68
Angola	36	Denmark	47	Libya	34	Russia	*93	EURASIA	69
Argentina	33	Ecuador	29	Malaysia	51	Syria	*60	EUROPE	70
Australia	*94	Egypt	30	Mexico	35	S. Arabia	*66	L.AMERICA	71
Azerbaijan	44	Gabon	50	Netherlands	57	Trinidad	37	N.AMERICA	72
Bolivia	56	India	52	Neutral Zone	84	Turkey	46	THE EAST	73
Brasil	*85	Indonesia	*61	Nigeria	*92	UK	*68	M.E. (Minor)	74
Brunei	54	Iran	32	Norway	*87	USA	*95	M.E.GULF	75
Canada	48	Iraq	24	Oman	39	Venezuela	*67	Deepwater	76
Chad	59	Italy	43	Peru	45	Vietnam	53		

The General Depletion Picture



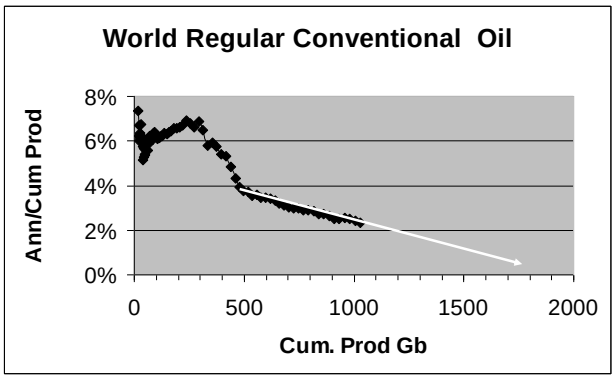
ESTIMATED PRODUCTION TO 2100										End 2008
Amount			**Gb**	**Annual Rate - Regular Oil**						**Gb**	**Peak**
Regular Oil				Mb/d	**2007**	**2010**	**2015**	**2020**	**2030**	**Total**	**Date**
Past	**Future**		**Total**	US-48	3.0	2.6	2.1	1.7	1.1	200	1970
Known Fields		New		Europe	4.3	3.5	2.5	1.8	0.9	75	1999
1053	734	114	1900	Russia	8.7	8.2	6.8	5.7	4.0	230	1987
	848			ME Gulf	20	20	20	19	16	673	1974
All Liquids				Other	28	27	23	19	14	722	2005
1176	1274		2450	**World**	**65**	**62**	**54**	**47**	**36**	**1900**	2005
2008 Base Scenario				**Annual Rate - Other**							
M.East producing at capacity				Heavy etc.	3.9	4.6	5.2	5.5	6.2	184	2030
(anomalous reporting corrected)				Deepwater	5.2	6.6	8.0	8.1	3.9	80	2013
Regular Oil excludes Heavy Oils				Polar	1.2	1.3	1.7	2.2	3.0	52	2030
(inc. tarsands, oilshales); Polar &				Gas Liquid	7.9	7.9	8.1	8.5	8.0	230	2020
Deepwater Oil; & gasplant NGL				*Rounding*				-1	-2	4	
Revised 09/09/2008				**ALL**	**83**	**82**	**77**	**70**	**55**	**2450**	2008





1093. Hubbert's Line

Mortals have difficulty in grasping the meaning of such arcane concepts as *logistic*, *derivative logistic*, or *Gaussian* curves, but without understanding the mathematics behind it one can readily observe a clear trend in what is now popularly referred to as Hubbert's Line. It plots annual production as a percent of cumulative production against cumulative production, a concept which is by all means hard to fathom. The result is, however, convincing for the World profile. The trend after some earlier irregularities now points clearly to an ultimate recovery for *Regular Conventional Oil* of about 1900 Gb, which is precisely the estimate derived from summing independent estimates for some 65 producing countries (see Table above).



It does not work well for many individual countries where production did not follow a natural pattern for political and other reasons, but gives plausible results for regions and the world as a whole, presumably because local anomalies are smoothed out. *Ultimate Recovery* refers to the amount that will have been produced when production ends on the depletion of what is, after all, a finite resource, formed in the geological past. Subtracting what has been produced so far gives the status of depletion. The database, unreliable as it is, gives past production of *Regular Conventional* at 1053 Gb, meaning that we have used just over half of what is there, speaking of the onset of decline in more senses than one, given the modern world's dependence of oil-based energy.

1094. Is it deliberate ?

BP is one of the world's largest oil companies with a long and glorious history, having pioneered the discovery of oil in the Middle East and North Sea, as well as bringing in the largest field in North America. It is therefore surprising to find the company's Chief Economist make the following statement that appears to deny any knowledge of natural depletion which must be more than evident in the company's own fields.

It is hard to accept that even the flattest of flat-earth economists can have failed to observe the depletion of oil in BP's mother country, where the peak of discovery in 1974 delivered a corresponding peak of production in 1999 despite the application of the most advanced technology and an open market environment. The World is made up of many different producing countries at differing degrees of depletion, but as many as 52 are now producing less than at same date in the past, which suggests that many have passed their natural peak, as imposed by the limits of Nature and the immutable physics of the reservoir.

It is true that we may never find and produce the last gallon, hidden behind some rock in a remote corner of the Planet, but it is extremely irresponsible for an oil company spokesman to say that Peak production will *never* happen. While he may be ignorant of the world situation, he should at least know that his own company passed the peak of its discovery long ago, even if it has managed to acquire reserves by merger. Since oil has to be found before it can be produced, peak discovery must inevitably deliver a corresponding peak of production, notwithstanding all the remarkable advances in technology.

> **Question**: But isn't the result the same in terms of economic impact, whether it is peak oil or severely restricted access?
>
> "No, the result is not the same. Because this situation will react to prices and other fuels becoming available, and it will react to low prices and to these barriers coming down again. Physical peak oil, which I have no reason to accept as a valid statement either on theoretical, scientific or ideological grounds, would be insensitive to prices. In fact the whole hypothesis of peak oil – which is that there is a certain amount of oil in the ground, consumed at a certain rate, and then it's finished - does not react to anything.
>
> Whereas we believe that whatever can be turned into oil strongly depends on technology and technology depends on prices as well. Therefore there will never be a moment when the world runs out of oil because there will always be a price at which the last drop of oil can clear the market. And you can turn anything into oil if you are willing to pay the financial and environmental price. It is more likely that demand will peak, which is what we are seeing in Japan and in Europe. And then of course there is another constraint. The human capacity of digging hydrocarbons out of the ground and burning them and turning them into energy seems to be much larger than the atmospheric capacity to absorb the resulting CO2. That is likely to be more of a natural limit than all these peak oil theories combined. Peak oil has been predicted for 150 years. It has never happened, and it will stay this way."
>
> http://www.euractiv.com/en/energy/bp-see-volatility-increase/article-175922

1095. Some encouragement

Modelling depletion is far from easy, and many mistakes are made in working the multiple spreadsheets that themselves rely on often unreliable national data. But it is encouraging to find that some of the past forecasts have proved correct, even if we might wish otherwise. For example, an article written in the journal *Soundings* (Issue 14 Autumn 2006) contains an article entitled *The Dawn of the Second Half of the Age of Oil* which includes the following conclusion regarding the impact of Peak Oil:

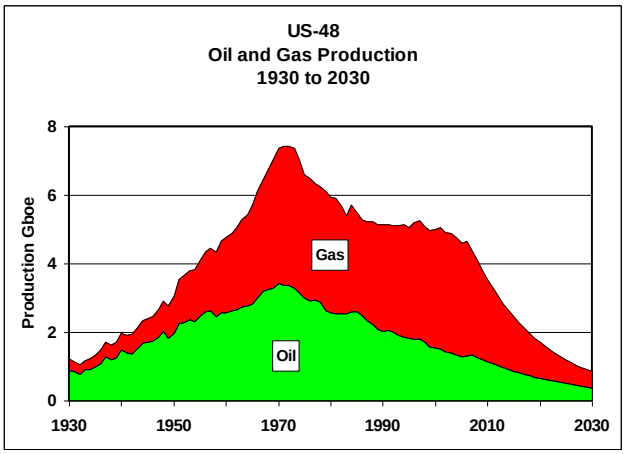
> The World accordingly faces a discontinuity of unprecedented magnitude, undermining the very fabric of society and economic wellbeing. In short, the decline of oil, as imposed by Nature, removes the confidence in *Tomorrow's Expansion*, which spells the collapse of the present Financial System. It may well usher in a Second Great Depression. The Financial Community begins to become aware of the situation but is ill-prepared for the consequences.

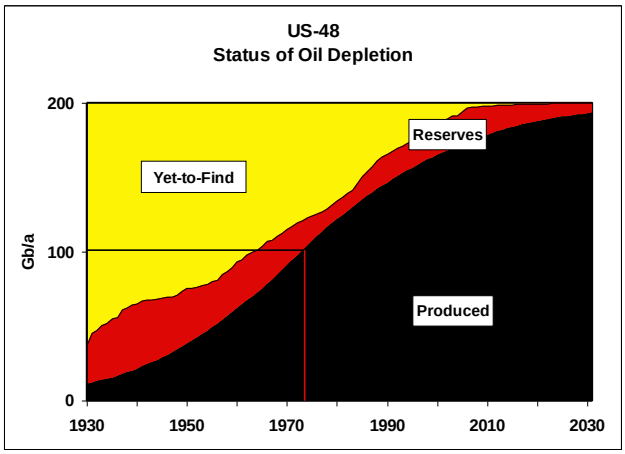
Banks are failing around the world, and Governments are trying to bail them out even if many governments are themselves in deficit. Logic suggests that an epoch of rampant inflation may prove the simplest mechanism by which to remove the base-less money that was created on false premises. The social and political consequences are evidently considerable but there will be winners as well as losers. It is noteworthy in this connection that the commander of British forces in Afghanistan has said that the war against the poppy farmers is not being won, which perhaps signals a timely withdrawal thereby reducing the motives for terrorism. Even Mr Olmert, the retiring leader of Israel, now recommends withdrawal from occupied territories, possibly having concluded that foreign financial support for the regime is likely to diminish, such that peace becomes a better option.

1096. USA Re-evaluated

It is perhaps timely to review the depletion situation in the United States, which was last evaluated in Newsletter No. 23, difficult and sensitive as it is. (The following is based on the *Atlas of Oil & Gas Depletion*).

USA						**NORTH AMERICA**			**2007**	
Production						**Peak Dates**			**Area**	
Amount	*Oil*	*Gas*	**Rate**	*Oil*	*Gas*		*Oil*	*Gas*	'000 km^2	
	Gb	Tcf	Date	Mb/a	Gcf/a	Discovery	1935	1930	Onshore	Offshore
PAST	177	1102	2000	1538	19182	Production	1970	1973	9631	975
FUTURE	23	198	2005	1218	18074	Exploration	1956		**Population**	
Known	21	178	2010	966	14584	**Consumption**	Mb/a	Gcf/a	1900	85 M
Yet-to-Find	2.3	20	2020	621	5753	2008	7539	23000	2006	302 M
DISCOVERED	198	1280	2030	399	2269		b/a	kcf/a	Growth	3.7
TOTAL	200	1300	**Trade**	-6462	-5500	Per capita	25	74	Density	31
Refers to *Regular Conventional Oil and Gas* only										





Essential Features

The United States of America covers an area of 9.6 million km^2, comprising the southern half of the North American Continent, being bordered to the north by Canada and to the south by Mexico. It also owns Alaska and Hawaii, as well as a number of islands in the Pacific and Caribbean, which are not included in this assessment. The central plains are flanked to the west by the Rocky Mountains, rising to 4300 m, and to

the east by the older Appalachian Range, rising to 2000m. The Mississippi River flows southwards to the Gulf of Mexico at New Orleans, while a number of large lakes on the Canadian border drain into the Atlantic through the Hudson River.

The country comprises fifty States that started to come together as a union in the 18th Century, and currently support a population of some 300 million. Most arrived as immigrants over the past Century, coming first mainly from Europe and later from Latin America. An estimated 12 million are illegal immigrants. The indigenous people, known as *Red Indians*, were virtually eradicated, now amounting to less than 1% of the total population, while some 12% of the population are descended from slaves brought from Africa.

Geology and Prime Petroleum Systems

The key elements of this large diverse region are summarised here, excluding the deepwater and Polar regions of Alaska, which do not qualify as *Regular Conventional Oil and Gas* by definition.

Prior to the opening of the Atlantic, some 200 million years ago, North America formed the western part of the Continent of Laurasia. The ancient Appalachian chain and much of the interior is built of Palaeozoic rocks, laid down in geosynclinal troughs, being locally intruded by volcanic rocks, and deformed in mountain building movements in the late Silurian and Permian.

The Mesozoic Period opened with the development of continental deserts and massive volcanic activity, responsible, for example, for the 100m thick Palisades volcanic sill which borders the Hudson River. It was followed by gradual subsidence during the Jurassic and Cretaceous and the deposition of mainly shelf deposits. The western margin was however deformed and intruded in both the late Jurassic Navadan Orogeny and the late Cretaceous Laramide Orogeny, the latter seeing also the emplacement of granite massifs.

Most of the interior was emergent during the succeeding Tertiary period, which saw much volcanic activity which has left thick lava flows and ash beds over vast areas. Marine deposition was confined to the Gulf Coast, bordering the Caribbean, and the Atlantic and Pacific margins.

In terms of Petroleum Systems, the following areas stand out:

The **Rocky Mountain Foredeep** contains several productive basins, of which the most prominent is the Permian Basin of West Texas, where Palaeozoic source-rocks have charged Permian reservoirs.

The **Gulf of Mexico Basin,** both onshore and offshore, relies on Mesozoic source-rocks which charged reservoirs in the overlying Tertiary deltaic sequences. The geothermal gradient is low, meaning that oil was generated at great depth. Slump-faults and salt diapirs form the main trapping mechanisms in an environment of complex pressure systems, which gave rise to secondary migration. Extensive Jurassic salt deposits play an important role in the structural development, and interest now turns to sub-salt prospects, primarily for gas. Mesozoic carbonates form an additional reservoir along the eastern margin of the basin.

The **Mid-Continent** province, running northwards from Texas through Oklahoma, relies on Palaeozoic source-rocks and reservoirs, which have yielded a large number of generally small fields.

The **Pacific Margin of California** has provided a number of fields relying on Tertiary source-rocks and reservoirs in generally complex structures, some of which are related to the major San Andreas transcurrent fault.

Exploration and Discovery

The United States is almost unique in that its mineral rights generally belong to the landowner, based on legal principles inherited from the Spanish Empire of Latin America. As a result, oil operations were highly diversified with individual fields being subdivided amongst many owners. Reserve reporting was subject to strict Stock Exchange rules, based primarily on what individual wells were expected to yield. Tax considerations also influenced what was deemed to be an exploration borehole. For all these reasons, it is a unique environment which is difficult to analyse in world terms.

The first discovery was in 1859 in Pennsylvania: an event that is widely regarded as the birth of the oil industry. The other provinces were opened up later, but the overall peak of discovery is attributed to the 1930s, when the East Texas province was brought in. The country has been exhaustively explored and developed.

It is reported that over 400,000 exploration boreholes have been drilled, but in international terms most would probably be considered out-steps to existing fields. The overall peak was in 1981 when over 9000 were drilled, and the number has now fallen to about 1600, as the list of remaining viable prospects falls, even though the economic threshold is extremely low.

The country also had a substantial endowment of natural gas. It was widely flared in earlier years before a market was developed, but is now treated as a prime fuel, especially for electricity generation. Discovery peaked around 1950, giving a corresponding peak in production twenty years later.

The country also has substantial deposits of *Non-conventional* oil and gas. The most important are the deepwater deposits of the Gulf of Mexico, but there are also a number of heavy oil deposits, such as responsible for the Midway Sunset field in California, as well as those in various so-called *tight* reservoirs that are now receiving much attention. There are extensive *kukersite* deposits (commonly termed *shale oil*), which may become commercial in the future despite giving a low to negative net energy yield.

Production and Consumption

The United States dominated world oil production in earlier years, being also the home to several of the world's major international oil companies. In 1930, it supplied about 65% of the World's production, but its share has since slipped, declining to 21% in 1970 and about 7% to-day. With its burgeoning domestic demand for oil, the country had become a net importer by 1950. Imports began to rise rapidly after peak production in 1970, such that they have now passed 60%. The irreversible decline of its production means that even if demand were to be held static, the country would be importing 90% of its needs by 2020. It explains why access to foreign oil has long been officially declared a vital national interest, prompting military intervention.

Different databases give different values, but based on that provided by the Energy Information Agency, it is assessed here that production of *Regular Conventional* oil commenced in 1859, passing 100 kb/d by 1890. It then rose to an overall peak of 9.4 Mb/d in 1970. It has since declined to 3.4 Mb/d, and is set to continue to decline at about 5% a year, the current depletion rate.

Gas production commenced in the 1930's as a market developed. It depletes differently from oil, with production being generally capped below capacity by the pipeline infrastructure. The resulting plateau of production is now coming to an end, giving rise to higher prices, which has prompted a new drilling boom. But the new wells are produced at maximum rate and, as a result, are depleted within a matter of months. Some extra late-stage gas is being obtained by the tapping of the gas caps of oilfields during their dying days. Gas production reached a peak of 22 Tcf/a in 1973 since when it has followed a plateau in the 15 to 20 Tcf/a range. Some 85% of the total endowment has now been produced, suggesting that production will decline steeply at about 9% a year into the future. The production of natural gas liquids, now running at about 1.9 Mb/d, will fall in parallel with the gas. There are, in addition, large amounts of non-conventional gas in the form of coal-bed methane, and in so-called tight reservoirs, contributing about 10% of total supply. Electricity demand is growing, with many gas-fired generators under construction. As a result, the United States will have an increasingly desperate need to tap Arctic gas, possibly draining Canada in the process.

The Oil Age in Perspective

The New World started drifting away from the Old some 200 million years ago. Early Man was able to reach it by crossing what is now the Bering Strait some 20,000 years ago, when the sea-level was lower following the Ice Age. He found a new continent with a very different animal fauna that had evolved in isolation. Little is known about the early inhabitants who are thought to have numbered some 4 to 10 million when European occupation began in the 15th Century. The Spaniards established a settlement in Florida in 1565, to be followed by various British settlements along the eastern seaboard. France too took a serious interest, founding Quebec in Canada in 1608, and controlling much of the Mississippi valley.

Many of the colonists went to the New World to escape famine and poverty at home, with in some cases religious persecution being an additional motivation. European wars in the 18th Century also had their consequences in the New World, with Britain emerging as the dominant power in 1763, when France surrendered her North American territories. The settlers, however, soon moved towards independence, not being enthusiastic for various forms of British taxation, and declared full independence in 1776 after a series of conflicts. A centralised system of government did not come easily as the various settlements, which had evolved into independent States, were reluctant to surrender their autonomy. Constraints on the power of the federal government were established under the Bill of Rights, but have been progressively eroded. The conflicts culminated in a Civil War from 1861-65 between the agrarian South and the industrial North, with slavery being one of the issues. Like most civil wars, it was a vicious affair, costing over 600,000 lives.

A great westward migration of people occurred during the 19th Century, leading to the virtual extermination of the indigenous tribes. New waves of immigrants flooded in from over-populated Europe, including particularly Scandinavians, Italians, Jews seeking to escape anti-Semitism, and Irish following a devastating famine in 1845-50.

Texas had been a lightly populated province of Mexico until 1836, when new settlers from the north revolted, declaring it a republic. This prompted a successful war with Mexico, by which the United States took Texas, New Mexico, Arizona, California, Nevada, Utah and much of Colorado. Another successful war with Spain followed in 1898, when the United States supported Cuban independence, partly for commercial motives. As a result, it acquired the Philippines, Guam and Puerto Rico, becoming a world power with the imperial aspirations of the day. It later engineered the secession of Panama from Colombia in order to build the Panama Canal to facilitate trade between the east and west coasts.

The territorial limits of the country eventually stabilised into 48 contiguous States, bordered by the residual territories of Mexico to the south and Canada to the north. Two additional territories were added in 1959; Alaska, which had been purchased from the Russians in 1867, became the 49th State; and Hawaii, which had been seized in 1893 over a sugar dispute, became the 50th.

The Industrial Revolution of Europe spread to the United States during the 19th Century, as its huge natural resources of iron, coal and, later, oil gave it the essentials for manufacturing. Floods of new immigrants provided cheap labour. Capitalism took off with a vengeance, throwing up several dynasties of extreme wealth and power. They were however countered to some extent during the early years of the 20th Century when Theodore Roosevelt brought in the so-called *Square Deal* with various conservation and regulatory measures, breaking up some of the industrial and financial empires.

Banks from the City of London, which had a dominant position in world trade thanks to the British Empire, succeeded to persuading the US Government to allow them to establish the Federal Reserve Bank in 1913. It discharged the role of a national bank but was privately owned and unaccountable.

The United States entered the First World War in 1917 on the side of Britain, its former colonial master, despite having a substantial number of German immigrants. It may be no coincidence that its entry, which proved decisive, coincided both with the publication of the Balfour Declaration for the Jewish homeland in Israel and the issue of dollar loans to Britain and France.

Having been spared the ravages of war, it emerged as the dominant economic power in the world, and the post-war years saw an industrial boom, stimulating a speculative bubble on Wall Street. It burst in 1929 bringing on the so-called Great Depression that in large measure lasted until the Second World War gave rise to another boom. The Depression caused great suffering that has left a searing memory, deep in the national psyche.

The United States entered the Second World War in 1942, and, after successful campaigns from North Africa to mainland Europe and the Pacific, helped bring the war to an end by dropping atomic bombs to vaporise two Japanese cities. The British and French empires were extinguished, leaving the United States to be countered only by the Soviet Union. These two super-powers then glowered at each other for the ensuing 45 years in the Cold War, with military conflicts being confined to Korea and Vietnam. The country moved to the conquest of outer space, largely for military reasons.

The collapse of the Soviets in 1991 left the United States as a solitary super-power, primed for world economic and financial hegemony. Its vast industrial-military complex faced declining sales unless new wars, or the threat of them, should stimulate demand for military products. The country's financial dominance was a mixed blessing, attracting flows of foreign capital that gave rise to possibly unsustainable levels of foreign debt. A critical event had been the abandonment of the Gold Standard in 1975, which removed solid foundations for the currency.

On September 11th 2001, two building in the World Trade Center in New York were struck by airliners, and the Pentagon in Washington was also hit. The incidents, which had several curious aspects, were attributed to Muslim activists. The government thereupon declared a worldwide *War on Terror* toppling the government of Afghanistan after a short bombing campaign, before turning on Iraq. Afghanistan lies on a proposed route for a pipeline from the Caspian region, while Iraq is at the heart of the Middle East, which holds almost half the world's remaining supplies of *Regular Conventional Oil*. The conflict in both countries continues as Resistance fighters of various sects fight on. President Bush later justified the invasion with the words: *Our energy supply was at risk*

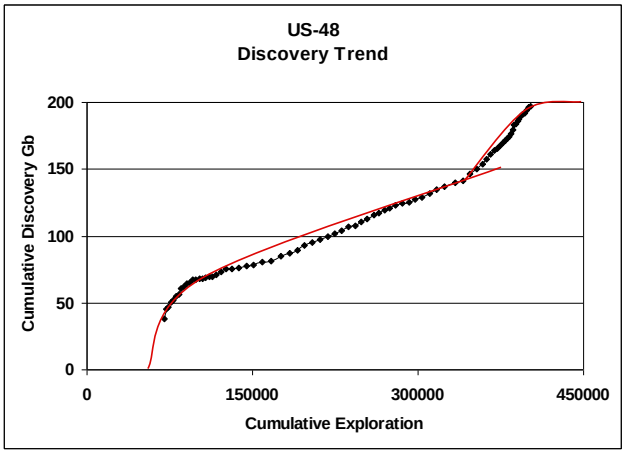
The United States, like Britain, operates a form of democracy dominated by two political parties, which select the candidates for election being subject to widespread political patronage by vested interests. The Presidency has relatively excessive powers and security of tenure.

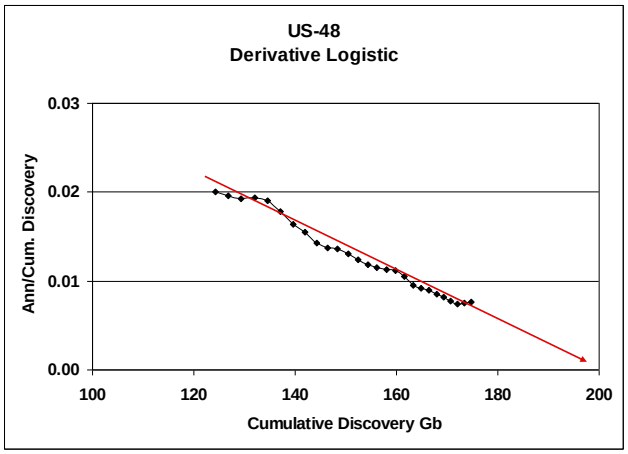
The country has recently faced a devastating financial crisis with the collapse of several major long established financial institutions, which may indeed have been partly triggered by soaring oil prices during the first half of 2008. It is too soon to assess the full impact, but it is difficult to avoid the conclusion that the country faces a dire energy crisis that will radically affect its entire way of life, as indeed the Energy Secretary confirmed before attention was diverted by the events of September 11th. Some commentators have

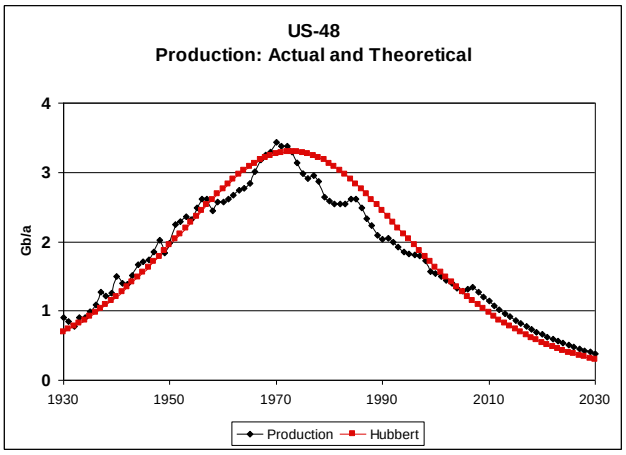
suggested that it may even face a second *Great Depression.* There is indeed a certain logic in expecting the United States, which led the world into the oil age, to also be the first to experience its decline.

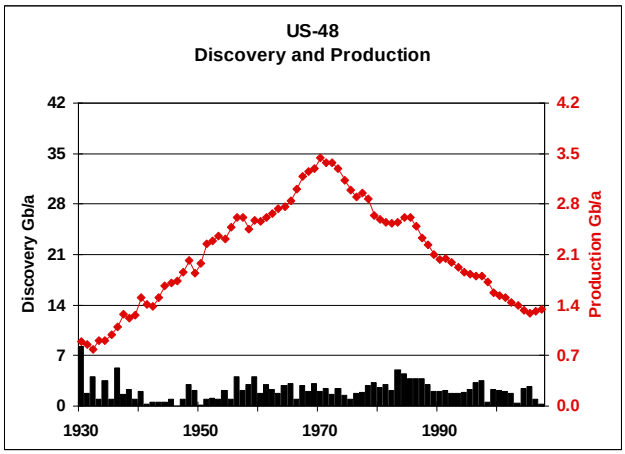
The transition to the *Second Half of the Age of Oil* threatens to be a time of great social and political tension, especially as the urban and suburban societies, many with large recent immigrant communities, find their survival threatened. In such circumstances, it would not be surprising if the individual States move to secede from the Union - as some are already talking of doing - in order to better protect their futures. The large Mexican populations in the southern States may rediscover their identity.

But at the end of the day, the United States is a large and well endowed country, whose people are rightly known for their courage, pragmatism and initiative, so there are good hopes that they will eventually find a sustainable future. There are even signs that the country is successfully exporting the financial crisis, leading to a surprise recent strengthening of the dollar.









1097. A King's Response

We do not of course know what occupies the mind of the King of Saudi Arabia but we can imagine some of the thoughts that may command his attention. He is the son of Ibn Saud, the founder of the Kingdom, whose frontiers were not finally defined until 1932. He probably recalls the family history, knowing how his father was running short of money in the *Great Depression*, when the income from pilgrims coming to the holy shrines dried up. That problem was solved a year or so later when Standard of California (now Chevron) sent 35 000 gold sovereigns in return for rights to look for oil in the Kingdom. The value of gold was then evidently appreciated.

Some finds were soon made but the new oil income did not flow strongly until after the Second World War with the opening of the Ghawar Field in 1948, which proved to be the world's largest, The King has probably been impressed by images of American arms and power, so it made eminent sense to invest any surplus income on Wall Street. Gradually the wealth of this large royal family grew, although the value of Saudi production fluctuated with world prices reflecting external economic and political circumstances. In 1980, the country produced 3.6 Gb, which, with an oil price of $93 (in 2007 dollars), gave an income of $335 billion, far in excess of the country's needs. But then world recession cut the demand for oil and lowered its price. In 1985, production had been cut back to 1.2 Gb, yielding an income of $65 billion, with worse yet to

come when prices slumped to $26 in 1988. Prices remained low during the 1990s, but the country compensated for the loss by increasing its production to earn an average of $75 billion a year. We may suppose that about $50 billion a year were spent on the country itself with the balance being invested on Wall Street by the large royal family.

Prices have firmed during the past eight years allowing the Kingdom to hold production stable at an average 3.2 Gb a year. In 2007, its income amounted to $232 billion. If domestic costs continued at about $50, it meant that $182 made its way to Wall Street. This demand for investment probably far exceeded the actual value of the underlying assets, contributing to an unjustified surge on the Stock Market.

The evidence suggests that the world peak of the production of *Regular Conventional oil*, the relatively cheap and easy stuff, peaked in 2005, following earlier declines in North America, the North Sea, Mexico and other places due to natural depletion. This in turn triggered a surge in prices which built to a crescendo during the first six months of this year, reaching almost $150 in July. Annualised, such a price would deliver an astronomical income of $480 to the Kingdom, providing a massive surplus of $430 to be placed on Wall Street.

But then the bubble burst ushering in another economic depression which poses a question for the King as to how to place the surplus, with the devaluation of the dollar being a further hazard. Waking in the Palace after a sleepless night, he might conclude that Wall Street no longer provided the safe haven it once was. He might think of European or Far Eastern markets as alternatives only to find that they were facing equal or worse collapses due to the international nature of banking. It would be logical if by lunchtime he had reached the conclusion that his best option was to cut production, leaving more of this precious asset in the ground for his many nieces, nephews and grandchildren, simply because there was nowhere safe to put the proceeds. By dinner, he might further conclude that cutting production would likely support prices even as demand falls in a world of deepening recession, perhaps seeing $100 as a proper minimal level. If he cut production to say 1 Gb/a that would still yield $100 Gb of revenue at that price, which is still perhaps double the minimum needed to run the country.

We do not know what the King will decide, and no doubt he will come under pressure from many emissaries, but the above line of reasoning would at least be logical.

1098. ASPO-7 Conference in Barcelona

ASPO SPAIN certainly deserves every commendation for organising the 7th International ASPO Conference which was well attended and provided a forum for some interesting presentations and discussions. In fact, an underlying theme, which was addressed by several of the speakers, was the relationship between peak oil and the current financial collapse. This debate moved on to consider the evolution of a new political direction to try to find a path between capitalism, socialism and sustainable living within the resources of the Planet.

One particularly interesting talk by Luca Barillaro explained the highly speculative nature of the oil market with traders buying and selling short term positions unrelated to the actual underlying market. The collapse of the stock markets tells the same story. If shares reflect actual valuations in the real world, there would appear to be no particular reason for the radical recent changes. In reality, the whole edifice is little more than a speculative construction manipulated by traders having no particular knowledge of anything, while endowed with sharp noses to detect the general directions that they collectively embrace.

It has even been suggested that the recent surge in oil prices reflected no more than China filling its tanks for the Olympic Games. The collapse in price may also party result from companies selling speculative paper holdings to try to cover the demands of other aspects of their businesses.

In any event, this has certainly been the most remarkable month since the birth of the Newsletter, some seven years ago. It has witnessed a worldwide collapse of the financial system, leading Governments to intervene and partly nationalise failing banks. They believe that the rescues will restore the system, but such hopes are likely to be dashed. Indeed, future historians will probably look back and see this as one of the great turning points for mankind. In short, debt has been premised on eternal economic growth based on flat-earth economic principles, without recognising that the growth depends on cheap energy that will no longer be available after the peak of oil production as imposed by Nature.

The presentations may be viewed on http://aspo-spain/aspo7/presentaciones.html

1099. Oil Depletion Database

ASPO International in Uppsala, Sweden is building a major website covering the issues of peak oil and oil depletion, which may be viewed at http://www.peakoil.net/publications

NOTES

This newsletter is produced and distributed for perusal primarily by ASPO members.
Permission to reproduce items from the Newsletter, subject to acknowledgement, is expressly granted.
Compiled by C.J.Campbell, Staball Hill, Ballydehob, Co. Cork, Ireland.

PUBLICATIONS

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.

~

A privately printed booklet entitled ***Living through the Energy Crisis*** by C.J.Campbell and Graham Strouts is available from www.zone5.org (price €7 plus postage)

~

An Atlas of Oil and Gas Depletion

By C.J.Campbell and Siobhan Heapes

Provides an evaluation of oil and gas depletion, together with political and historical summaries, for 65 countries, which are summed into regional and world totals. *Non-Conventional oil and gas* are also covered, and a final chapter places the Oil Age in an historical perspective.

~

ISBN: 978-1-906600-26-6
Hardback, cloth bound, 404 pages, full colour.
Copies can be purchased from Jeremy Mills Publishing by telephone, fax, post or through the website:
www.jeremymillspublishing.co.uk
Telephone: 01484 463340. Fax: 01484 643609. E-mail: sales@jeremymillspublishing.co.uk
Postal Address: Jeremy Mills Publishing
113 Lidget Street, Lindley, Huddersfield, West Yorkshire HD3 3JR,, ENGLAND
The price of the book is £110, including UK delivery.