



# Association for the Study of Peak Oil&Gas

## NEWSLETTER No 50 –FEBRUARY 2005

ASPO is a network of scientists, affiliated with European institutions and universities, 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.

The following countries are represented: Austria, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

### *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.*

**Newsletters:** This and past newsletters issues can be seen on the following websites:

<http://www.asponews.org>

<http://www.energiekrise.de> (Press the ASPONews icon at the top of the page)

<http://www.peakoil.net>

A Spanish Language edition is available on [www.crisisenergetica.org](http://www.crisisenergetica.org)

## CONTENTS

- 474. *More Mergers*
- 475. *Country Assessment – Gabon*
- 476. *ASPO International Workshop*
- 477. *Depletion Conference in Scotland*
- 478. *Attribution.*
- 479. *The Dawn of the Second Half of the Age of Oil.*
- 480. *The Backdating of Reserve Revisions*
- 481. *Peak Oil Documentary*
- 482. *New Book on the post-oil World*
- 483. *Revealing Quotation*
- 484. *China takes a lead in Energy Conservation*
- 485. *Oil Depletion Information Office*
- 486. *Japan wakes up*
- 487. *Discovery trends*
- 488. *Winning the Oil Endgame*

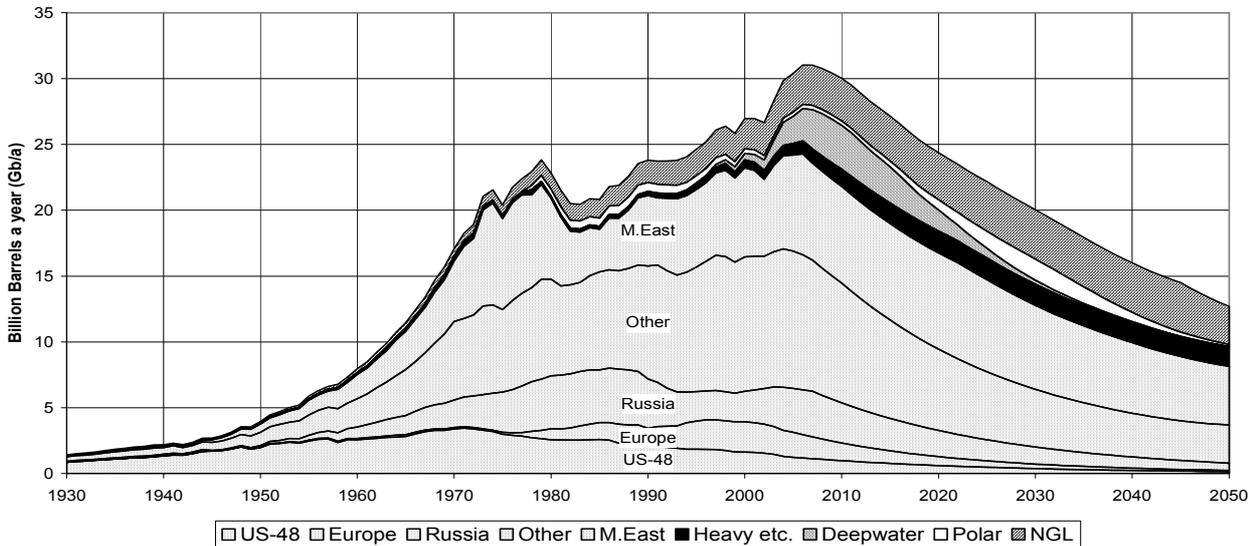
### *Calendar of Forthcoming Conferences and Meetings*

Abu Dhabi	42	Canada	48	Indonesia	18	Mexico	35	Syria	17
Algeria	41	China	40	Iran	32	Nigeria	27	Trinidad	37
Angola	36	Colombia	19	Iraq	24	Norway	25	Turkey	46
Argentina	33	Denmark	47	Italy	43	Oman	39	UK	20
Australia	28	Ecuador	29	Kazakhstan	49	Peru	45	USA	23
Azerbaijan	44	Egypt	30	Kuwait	38	Russia	31	Venezuela	22
Brasil	26	Gabon	50	Libya	34	S. Arabia	21		

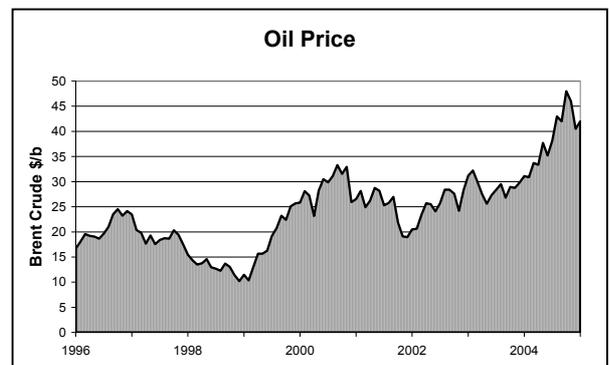
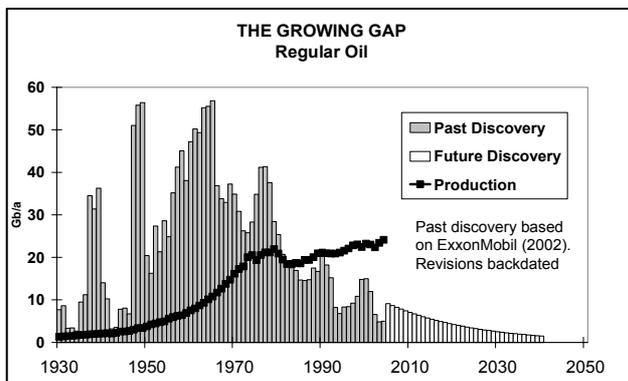
### Index of Country Assessments with Newsletter Reference

## The General Depletion Picture

### OIL AND GAS LIQUIDS 2004 Scenario



ESTIMATED PRODUCTION TO 2100								End 2004		
Amount Gb				Annual Rate - Regular Oil				Gb	Peak	
Regular Oil				Mb/d	2005	2010	2020	2050	Total	Date
<b>Past</b>	<b>Future</b>		<b>Total</b>	US-48	3.4	2.7	1.7	0.4	200	1972
Known Fields	New			Europe	5.2	3.6	1.8	0.3	75	2000
945	760	145	1850	Russia	9.1	8	5.4	1.5	220	1987
	905			ME Gulf	20	20	20	12	680	1974
<b>All Liquids</b>				Other	28	25	17	8	675	2004
1040	1360	2400	<b>World</b>		<b>66</b>	<b>59</b>	<b>46</b>	<b>22</b>	<b>1850</b>	<b>2006</b>
<b>2004 Base Scenario</b>				<b>Annual Rate - Other</b>						
M.East producing at capacity (anomalous reporting corrected)				Heavy etc.	2.4	4	5	4	160	2021
<i>Regular Oil</i> excludes oil from coal, shale, bitumen, heavy, deepwater, polar & gasfield NGL				Deepwater	4.8	7	6	0	70	2014
				Polar	0.9	1	2	0	52	2030
				Gas Liquid	8.0	9	10	8	275	2027
				Rounding	0		2		-7	
Revised	26/01/2005			<b>ALL</b>	<b>82</b>	<b>80</b>	<b>70</b>	<b>35</b>	<b>2400</b>	<b>2007</b>



#### **474. More Mergers**

In recent years, several of the major oil companies have been forced to add their reserves as required for financial reporting purposes by merger and acquisition rather than exploration. The reason was that they had consumed their stock of under-reported reserves from earlier discovery, while exploration was failing to deliver enough. Shell, which did not make major acquisitions, was eventually forced to downgrade its real reserves.

Unocal has been an obvious candidate for merger for some time, with canny investors taking up positions in preference shares in anticipation thereof. The first of the following articles refers to a possible takeover by a major Chinese company, reflecting that country's dire energy situation as it passes peak production, facing a decline of some 4% a year. The second article refers to India's interest in the remains of Yukos for similar reasons.

##### **CNOOC Considers \$13bn Bid for Unocal**

**By Francesco Guerrera and Joseph Leahy in Hong Kong - Financial Times**

**Published: January 6 2005 14:17**

[CNOOC](#), China's third-biggest oil and gas group, is considering a bid of more than US\$13bn for its US rival [Unocal](#) in a deal that would mark the largest and most significant overseas acquisition by a Chinese company.

People close to the deal said the state-controlled group was interested in Unocal's Asian assets and had asked bankers to study a takeover of the whole company followed by a subsequent sale of the US assets. People close to the negotiations warned the deal was at a very early stage and detailed talks had yet to take place. It is understood the Chinese group is also looking at other overseas targets. CNOOC's plans are the latest sign of Beijing's determination to push its flagship commodity companies to acquire natural resources to fuel the country's rapid industrialisation and economic growth.

Chinese oil demand is expected to keep growing at or above forecast GDP growth of 8 percent this year, Zhang Xiaoqiang, vice chairman of China's National Development and Reform Commission said on Thursday. They also underline the recent emergence of Chinese companies on the global merger and acquisitions stage with private and state firms attempting to exploit their domestic strengths to expand overseas. Last month, the computer maker Lenovo bought IBM's personal computer business for US\$1.75bn, while state-owned Minmetals offered about US\$5bn in a failed attempt to buy Noranda, the Canadian mining giant.

An acquisition of California-based Unocal would represent a change in strategy for China's three oil majors - CNOOC, Sinopec and Petrochina - which have so far focused on buying oil fields and asset packages in developing countries. Industry experts said buying the whole of Unocal, which is valued at about US\$11bn and had net debt of US\$2.4bn at the end of 2003, would be difficult for CNOOC, whose market value is about US\$21.5bn and had cash resources of US\$1.6bn at the end of 2003.

However, the Chinese company would be able to draw on financial help from its state-owned parent China National Oil Offshore Corporation and on the proceeds of any sale of Unocal's US assets. Unocal's main attraction for CNOOC is its extensive operations in several Asian countries, including Indonesia, Thailand, Bangladesh and Burma. However, a sale of Unocal's US assets to a rival party could prove problematic for CNOOC as the American company is burdened with legal disputes relating to the US' environmental Superfund legislation. The law requires companies to pay to clean up hazardous waste.

In addition, in Asia it reached an out-of-court settlement only last month in a landmark case alleging it was complicit in human rights abuses committed in Burma. The deal would be likely to be attacked by interests in the US opposed to Chinese takeovers in important industries.

In 2003, [Hutchison Whampoa](#), the Hong Kong-based conglomerate, was prevented from taking over bankrupt US telecoms company Global Crossing on national security grounds.

Unocal shares in New York rose 7.7 per cent to \$44.34 following the news, the biggest one-day gain in six years. CNOOC shares in Hong Kong were unchanged on Friday morning.

##### **India's ONGC eyes \$2bn bid for Yukos Assets**

**By Ray Marcelo in New Delhi - Financial Times**

**Published: January 7 2005**

India's Oil and Natural Gas Corporation may soon place a \$2bn bid for a stake in Yuganskneftegas (YNG), the main production unit of Yukos, as India races against China for energy supplies. Officials from New Delhi's Petroleum Ministry told India's Business Standard newspaper that state-owned ONGC was keen to buy a 15 per cent stake in YNG, although due diligence had not been completed.

ONGC has not confirmed the proposed bid but Subir Raha, chairman and managing director, told reporters that the company was "in touch with the concerned Russian entities about the Yukos assets and other opportunities in Russia."

"We have been quite interested in the Yukos assets but the liabilities are very discouraging. At this stage the company has not received any proposal from Yukos or the (Indian) government," a spokesman for Mr Raha said.

ONGC already owns a 20 per cent stake worth \$1.7bn in Russia's offshore Sakhalin-1 exploration project led by ExxonMobil.

ONGC and Russia's Gazprom, the world's largest gas company, last December signed an agreement to co-operate in upstream oil and gas exploration in Russia, India and other countries. The two companies had expressed a joint interest in YNG but dropped out of the bidding last month.

YNG was acquired by Baikal Finance, an unknown group which subsequently sold the asset on to Rosneft, the Russian oil company scheduled to merge with Gazprom later this year.

It remains unclear whether China National Petroleum Corporation could still be offered 20 per cent of YNG by the Russian government.

Mr Raha, in a recent interview with the Financial Times, said India and China were aggressively competing to secure energy sources to cover the next 40 years. "What Japan and Korea did up to the '70s, tying up long term fuel contracts, long term energy contracts, we are doing now."

India's rapidly-growing economy is hungry for energy, and demand for oil is set to grow at an annual rate of at least 3.6 per cent during 2005-2007. India imports around 70 per cent of its crude oil.

ONGC, the country's only upstream oil and gas developer, operates exploration projects in 10 countries, and in 2003 paid \$3bn for an oil production unit in Sudan.

It wants to become an integrated company, combining energy exploration, oil refining and petroleum product marketing. India's energy sector remains fragmented but the Indian government, which owns 74 per cent of ONGC, has not approved any mergers or acquisitions between ONGC and other state-owned energy companies.

(References furnished by Jeff Newton)

#### 475. Country Assessment - Gabon

Gabon covers an area of some 270 000 km<sup>2</sup>, straddling the Equator on the west coast of Africa. Partly dissected plateaux in the interior, rising to some 600-1000m above sea-level, give way to a fairly narrow coastal strip, washed by the northward flowing Benguela Current. The country supports a population of 1.4 million, belonging to about ten different tribal groups originally speaking Bantu languages before French became the *lingua franca*. Many live in the capital, Libreville, and Port Gentil. Gabon is bordered by the Congo to the south and east, while the Cameroons and the enclave of Equatorial Guinea lie to the north. Offshore lie the islands of Sao Tome and Principe, in which the United States is taking a strategic interest.

The Portuguese explored the Gabon Estuary in 1472, being followed by French, Dutch and British traders, many active in the slave trade during the 18<sup>th</sup> and early 19<sup>th</sup> Centuries. The French successfully negotiated rights with the local chieftains around 1840 in an effort to curb the slave trade, whereupon the territory was administered by French naval officers. Later, it became part of the French Congo before being given independent colonial status in 1910 as part of French Equatorial Africa. It was occupied by Free French forces in the Second World War, becoming an independent overseas French territory in 1946. Passing through the status of an autonomous republic in 1958, it became fully independent in 1960. The first President was succeeded by Omar Bongo in 1967 under whose dictatorial reign the country enjoyed a twenty year epoch of relative stability and prosperity, largely funded by oil revenues. Their subsequent decline, consequent upon a fall in oil price in the mid-1980s, led to political unrest and tensions, which required French military intervention to protect French nationals and property. The country has maintained its close ties with France.

The land is mainly under a cover of tropical rain forests, which have been profitable exploited by the timber industry since the 1970s. The construction of railways in the 1980s also opened up mineral deposits, including uranium and manganese, of which it is one of the world's largest producers. A major iron ore deposit awaits development.

Petroleum exploration commenced onshore after the Second World and was soon rewarded by the discovery of a number of small to modest fields before the giant Rabi-Konga Field was found in 1985 with about 800 Mb. Later, exploration moved offshore and was again rewarded by a number of moderately sized fields in the area south of Port Gentil. A total of about 640 wildcats have been drilled, to deliver a total of

GABON		<i>Regular Oil</i>
<b>Population M</b>		1.4
<b>Rates Mb/d</b>		
Consumption	2004	0.013
per person b/a		3.6
Production	2004	0.235
Forecast 2010		0.168
Forecast 2020		0.095
Discovery 5-yr average Gb		0.001
<b>Amounts Gb</b>		
Past Production		3.0
Reported <i>Proved Reserves</i> *		2.5
Future Production - total		1.5
From Known Fields		1.5
From New Fields		0
Past and Future Production		4.5
Current Depletion Rate		5.5%
Depletion Midpoint Date		1997
Peak Discovery Date		1985
Peak Production Date		1996

\*Oil & Gas Journal

about 4.5 Gb, of which some 3 Gb have been produced. In geological terms, Gabon lies on a rift zone that developed as the South Atlantic opened during the early Cretaceous. The first deposits to be laid down were of lacustrine origin, and included hydrocarbon source rocks. The rifts were temporarily invaded by the sea, which was subject to evaporation leading to the deposition of salt. It not only sealed the deeper sequence, but also gave rise to subsequent halokinetic structures, offering traps of oil. A new cycle of deposition followed, also with the early deposition of hydrocarbon source-rocks during the mid-Cretaceous, and lasted into the Tertiary period, when the increased gradient of the continental slope gave rise to turbidity currents. Both pre- and post-salt plays have now been thoroughly evaluated.

The country is evidently at a mature stage of exploration with little scope for significant new discovery. Deepwater discoveries have been made in neighbouring Equatorial Guinea and to the south opening some hopes that the play may extend into Gabonese waters. This brings particular strategic importance to the islands of Sao Tome and Principe, which probably exposes them to the risk political disturbance and sedition, sponsored by foreign adventurers and interests. But deepwater discovery depends on a most exceptional combination of geological circumstances, so, although Gabon has a relatively good address in the light of neighbouring finds, it is far from sure that its deepwater will deliver.

Production reached a peak of 367 kb/d in 1966 at close to the midpoint of depletion. It is now declining at a depletion rate of 5.5% a year. The country has modest gas resources, mainly used for local electricity generation, with reported reserves standing at about 1.4 Tcf.

As oil revenues decline, it is a matter of concern to find that Gabon's indigenous food production meets less than 20 per cent of the country's needs. (*The geological insights of Dr Walter Ziegler are gratefully acknowledged*).

#### **476. ASPO International Workshop**

Details of the next ASPO Conference are provided on <http://www.cge.uevora.pt/aspo2005/>

Provisional Programme

### **IV INTERNATIONAL WORKSHOP ON OIL AND GAS DEPLETION**

Lisbon, Portugal : Thursday 19<sup>th</sup> and Friday 20<sup>th</sup> May 2005

Rui Vilar (President, Fundação Calouste Gulbenkian): **Calouste Gulbenkian, founder of the Iraq Petroleum Co.**

Kjell Aleklett (President, ASPO and University of Uppsala, Sweden): **ASPO: From Uppsala to Lisbon**

C. J. Campbell (ASPO Chairman and ODAC): **The End of the First Half of the Age of Oil**

Roger W. Bentley (ASPO and The University of Reading, UK): **Global Oil Depletion: Methodologies and Results**

#### **The Depletion Protocol: Panel Discussion on Political Action:**

Kjell Aleklett (ASPO, President and the University of Uppsala, Sweden)

Yves Cochet (former Minister of Territory and Environment, France)

Michael Meacher (former Minister of Environment, UK)

Edward Schreyer (former Governor General, Canada)

Rudolph Rechsteiner (MP, Switzerland)

Jean Laherrère (ASPO): **Correlating discovery and production**

Ali Bakhtiari (Iranian analyst of Middle Eastern oil affairs, Iran): **Iran and Iraq.**

Jack Zagar (ex Reservoir Engineer, Aramco, Saudi Arabia): **The Reservoirs of Saudi Arabia**

Ray Leonard (ex Vice-president for Exploration and New Ventures of Yukos, Russia): **The Reality of Russia**

Richard Miller (Senior officer, BP Exploration Operating Company, UK): **The Historical Record Pattern of the**

#### **North Sea Oil and Gas**

Kristin Rønning (Senior officer, Statoil, Norway): **How Much Oil and Gas from the Arctic?**

Guilherme Estrella (Director, Exploration and Production, Petrobras, Brazil): **How Much Oil and Gas from**

#### **Deepwater? The Experience of Brazil**

Eddy Isaacs, (Managing Director, Alberta Energy Research Institute, Calgary, Canada): **Canadian Oil Sands:**

#### **Development/future Outlook**

Matthew Simmons (President, Simmons & Company International, Investment Bankers, USA): **US Energy Policy and**

#### **Foreign Policy**

Michael Klare (Director, Peace and World Security Studies, Hampshire College): **US foreign policy during the**

#### **President's Second Term**

Costa Silva (Chairman of Management, Partex Oil and Gas, Portugal) and F. Barata Alves (Partex Oil and Gas): **Partex**

#### **Oil and Gas: A Vision of the World Market and the Role of Gas as a Substitute for Oil**

Xionggi Pang (Director, University of Petroleum, Beijing): **Impact of Oil Depletion on China**

Bruce Robinson (Sustainable Transport Coalition, Australia): **Impact of Depletion on Australia**

Patrik Klintbom (Volvo, Göteborg, Sweden): **Peak Oil in the motor industry: threat and response**

Chris Skrebowski (editor of Petroleum Review): **The Emerging Reality of Oil and Gas Depletion**

Richard Heinberg (author, professor and educator): **The Likely Impact of Peak Oil on the United States**

Rui Rosa (ASPO and Geophysics Centre of Évora, Portugal, Chairman of the Organizing Committee): **New Energy Economics**

Chris Sanders (Sanders Research Associates): **Energy Economics in the Second Half of the Age of Oil**

Klaus Illum (ECO Consult: Systems Analysis. Energy, Ecology, Economy): **Strategies for the Future Development of Energy Systems**

Manuel Collares-Pereira (ASPO and INETI, Portugal, Co-Chairman Organizing Committee): **Past Peak Oil: the Alternatives**

#### **477. Depletion Conference in Scotland**

##### **Peak Oil UK - Entering the Age of Oil Depletion**

A conference to discuss the impending peak then decline in global oil production, and implications for the UK

**VENUE:** The Royal Museum of Scotland  
Chambers Street  
Edinburgh

**DATE:**  
Monday 25 April 2005  
9:00am - 5:00pm

##### **PROGRAMME**

09:00 Registration & Coffee

09:30 **Why Britain Needs an Indigenous Energy Policy-** Brian Wilson MP

10:15 **The End of the First Half of the Age of Oil-** Colin Campbell

11:00 Coffee

11:30 **Depletion – The Reality in Action-** Chris Skrebowski

12:15 **Can Market Efficiency Overcome Depletion? Or Why Economists Don't Get It-** Matthew Simmons

13:00 Lunch

14:00 **Transport – An Oil Crisis and More-** David Spaven

14:45 **Half Gone – the third and biggest global energy crisis-** Jeremy Leggett

15:30 Coffee

16:00 **Roundtable Discussion**

17:00 Close

Moderator: Mark Stephen, BBC Radio Broadcaster

#### **478. Attribution – Item 468.**

The last Newsletter regrettably failed to identify Marshall Auerbach as author of Item 468 – *mea culpa*.

#### **479. The Dawn of the Second Half of the Age of Oil.**

This Newsletter has now been running for four years and has covered almost 500 items of interest. It is accordingly perhaps timely to look back and try to summarise what might be learnt from the exercise. The Newsletter started in a modest way with no particular mission, concentrating at first on the more technical aspects of the matter. Later, it came to cover various related geopolitical issues, some of a sensitive nature. Gradually a picture began to fall into place, which may be summarised as follows:

The *Industrial Revolution* opened in the mid 18<sup>th</sup> Century with the exploitation of coal, initially in Britain, providing a new fuel for industry, transport and trade, which grew rapidly. The Oil Age dawned 100 years later, initially to provide lamp-oil for illumination, but later to fuel transport, following the development of the Internal Combustion Engine. Electricity generation expanded widely, fuelled first by coal, but later mainly from oil, gas and nuclear energy. This epoch has been widely seen as one of amazing technological progress, which has conditioned many people to think that there must always be a technological solution.

The *Industrial Revolution* was accompanied by an equally important, but less visible, *Financial Revolution*. In short, commercial banks lent money in excess of what they had on deposit, effectively creating money out of thin air, but the system worked because tomorrow's expansion provided collateral for to-day's debt. It was effectively a system of confidence, an intrinsic element of all debt. So, it might be better termed the *Financial-Industrial Revolution*.

The Stock Markets evolved from being simply an exchange of dividend-yielding instruments to become largely speculative institutions, being in turn stimulated by the tax regime that gave preferential treatment to speculative gains. In addition, World trading currencies, previously the pound

sterling and now the US dollar, delivered massive hidden returns to the issuing countries, becoming in effect the prime benefit of Empire.

The World's population expanded six-fold exactly in parallel with oil, which provided much of the fuel with which to plough the field, and bring food and manufactured goods to market, thus indirectly supporting the Financial System. The international transport of food reduced the risk of local famines when harvests failed for climatic and other reasons.

The Second Half of the Oil Age now dawns and will be characterised by the decline of oil, followed by gas, and all that depends upon these prime energy sources. The actual decline of oil will be gradual at less than three percent a year: such that the production of all liquid hydrocarbons in 2020 will have fallen to approximately what it was in 1990. In those terms, it does not appear to be a particularly serious situation. But in reality, it is a devastating development because it implies that the oil-based economy is in permanent terminal decline, removing the confidence in perpetual growth on which the Financial System depends. Without the assumption of ever-onward growth, borrowing and lending dry up: there being little viable left to invest in. It follows that there will be a need to remove vast amounts of so-called Capital, which in fact was not Capital in the sense of being the saved proceeds of labour, but merely an expression of speculative confidence in ever onward economic growth. This in turn leads to the conclusion that the World faces another Great Depression, triggered more by the perception of long term decline of the general economy rather than the actual decline of oil supply itself which is gradual not cataclysmic. The World is definitely not about to run out of oil, but it does face the onset of decline having consumed about half of what is readily available on the Planet.

This is not welcome news, and those with mindsets conditioned on past experience find it very difficult to accept, some becoming vituperative in their reaction. In terms of pragmatic politics, it is virtually impossible for Governments to plan and prepare with logical strategies to face the new world that opens. Accordingly, the transition will likely be a time of international tension and resource wars of which the first salvos have already been fired. But some of the more philosophically inclined wonder if in fact the post-oil world might not turn out to be a more harmonious one for the survivors. There are indeed hopes, *Deus volens*, that they may number somewhat more than the Planet was able to support prior to what by then will be seen to have been the brief Age of Oil, during which the World consumed its inheritance of fossil sunshine.

#### ***480. The Backdating of Reserve Revisions***

ExxonMobil deserves enormous credit for having the honesty and courage to publish valid discovery data, with reserve revisions properly backdated (see Longwell, 2002, *EnergyWorld* 5/3), showing that world discovery has been in relentless decline for forty years. In exploration terms, the discovery of an oilfield is a transcendental event, being accompanied by many failed endeavours, and so it seems eminently sensible to attribute all the oil ever to be produced from it to that date, even if the amounts are not fully known at the time. It seems so obvious that this is the correct way to view the matter, yet another major company, which shares its Chairman with an investment bank, rejects the principle of backdating. Its Chief Economist prefers to concentrate on cash flows, paying scant regard to the discovery itself which is a minimal cost compared with subsequent investments. To his way of thinking, reserve revisions enter the picture on the date when it is expedient to report them for financial reasons, allowing him to glibly dismiss any notion of depletion as he speaks of reserve replacement and reserve to production ratios. Whether this reflects crass ignorance of the nature of exploration or a deliberate attempt to mislead remains an open question.

The depletion of oilfields is an undeniable natural phenomenon, as admirably illustrated in the new comprehensive field by field database published by the UK Department of Trade and Industry (see [www.og.dti.gov.uk](http://www.og.dti.gov.uk)). The facts speak for themselves, at least to those endowed with eyes and ears.

#### ***481. Peak Oil Documentary***

An admirable, lucid documentary on the peak oil issue has been produced by Kellia Ramares of Radio Internet Story Exchange of California. It includes a series of interviews with key authorities on the subject. It is available at US \$14.99 from [www.cafepress.com/rise9](http://www.cafepress.com/rise9).

#### ***482 New Book on the post-oil World***

A new book, covering the post-oil world, by Jean-Luc Wingert is about to be published in France. It is entitled : *La Vie après le Pétrole : de la Pénurie aux Energies nouvelles* [Ed. Autrement].

### **483. Revealing Quotation**

The following sounds like a revealing quotation both regarding resource wars and the common failure by politicians to grasp the nature of depletion that denies victory to those seeking to secure oil by military means.

"Let's look at it simply. The most important difference between North Korea and Iraq is that economically, we just had no choice in Iraq. The country swims on a sea of oil." - US deputy defence secretary, Paul Wolfowitz, in Singapore, 31 May-1 June, 2003  
(Reference furnished by David Strahan)

### **484. China takes a lead in Energy Conservation**

China has become the World's second largest user of energy, but its oil production is now heading into decline, and its coal mines are old and relatively inefficient. The Government now wisely plans to raise awareness of its dire energy situation, and to take actions to penalise waste and encourage greater efficiency.

Like all countries, China needs to cut its oil demand by about 2.5% a year to match world depletion rate, and take similar actions with regard to other finite resources. It sounds as if China would be a prime candidate to sign up to the Depletion Protocol, to be discussed by senior politicians at the Lisbon ASPO Conference in May, and taken up by world leaders at the ensuing Rimini Conference in October.

#### **Spotlight shone on energy conservation**

Wang Ying

BEIJING, Jan. 20 (Xinhuanet) -- Energy conservation is now high on the Chinese Government's agenda. In order to better utilize sparse energy resources, the government has drawn up a strategic plan for energy conservation - the China Medium and Long Term Energy Conservation Plan. Official sources said the implementation of the plan is divided into two phases - the 11th Five-Year Plan (2006-10) and the period between 2010 and 2020. The objectives and focus of energy conservation in the first period have been basically drawn up, while the details for the second period have yet to be firmed up. According to the plan - drawn up by the National Development and Reform Commission (NDRC), one of China's economic decision-makers -China's total energy consumption will be held below 3 billion tons of coal equivalents by 2020, through enhancing energy efficiency. China's demands for energy by 2020 is expected to top more than 4 billion tons of coal equivalents, according to NDRC sources. Energy consumption per 10,000 yuan (US\$1,205) of GDP (gross domestic product) is expected to plunge to 1.54 tons of coal equivalents, from 2.68 tons in 2002, indicating an annual energy conservation of 3 per cent between 2003 and 2020. The energy conservation plan focuses on cutting consumption in power-hungry industries such as iron and steel, non-ferrous metals, oil and petrochemicals, and coal. The government plans to formulate and implement incentive policies to encourage energy conservation, and promulgate laws to regulate the medium and long-term implementation of the plan.

China is also attaching great importance to improving public awareness of energy conservation. Commenting on the government's role in energy conservation, Hartmut Keune, an official from the German Embassy in Beijing, said, the government should offer "appropriate incentives" to individuals and enterprises to encourage them to save energy. Through sustained government efforts, China will do as well as other developed countries in energy conservation. The major financial channel for the programme will be the energy conservation fund proposed by the plan, said Yu Cong, director of the NDRC's Energy Research Institute. A proportion of the programme's finances will come from the issuance of treasury bonds, added Yu. The institute is now studying the feasibility of possible incentive measures for energy conservation, including taxation and pricing, to introduce a market-oriented mechanism in energy conservation, Yu added. For example, the government is considering imposing taxes on fuel oil in order to cut consumption, said Yu. Pilot energy conservation projects are currently being carried out in certain parts of the country, some in co-operation with foreign countries including members of the European Union, Yu pointed out. As to the fundamental work for the establishment of an energy conservation mechanism, Yu said, China's foreign co-operation in this regard currently focuses on policies and technological research.

In the long term, the energy conservation plan will alleviate China's China, the world's second-largest energy consumer after the United States, has been suffering from energy shortages in recent years. And these shortages resulted in massive economic losses in 2004. The year saw a power supply gap of 30,000 megawatts, said sources from the State Grid Corp of China (SGCC). More than 27 municipalities, provinces and autonomous regions had restricted power supplies in 2004, with the hardest-hit areas being East China's Zhejiang and Jiangsu provinces, and North China's Shanxi Province and Inner Mongolia Autonomous Region.

Power shortfalls in these areas almost paralyzed regional economic development when power supplies were at their tightest in 2004, experts say. Zhejiang suffered from a power shortage of over 7,500 megawatts, leading to direct GDP losses of 100 billion yuan (US\$12 billion).

Although China currently ranks second in terms of global energy consumption, per capita energy utilization is lower than the global average, according to NDRC sources. An official study showed that China uses 1,274 tons of coal equivalents to produce US\$1 million of GDP, more than 2.4 times the world's average. Energy efficiency in China is 10 per cent lower than that of the world's advanced level, said industry sources. China's average efficiency of thermal power generation, for example, is 33.8 per cent, 7 per cent lower than developed countries. The energy

efficiency gap between China and developed countries indicates a great potential for energy conservation in China. According to relevant studies, the potential exists for China to save 300 million tons of coal equivalents when comparing the nation's current energy conservation with the world's advanced level.

Along with energy conservation, industry experts say China should develop renewable energies for the country's sustainable development. "We cannot rely on the conventional energies such as coal, oil and gas, to fuel sustainable economic development, as these energy resources are exhaustible, meaning that there is an urgent need to promote the use of renewable energy," said Ma Shenghong, an analyst with the China Academy of Sciences.

Some international research institutes including the Association for the Study of Peak Oil & Gas (ASPO) and the World Resources Institute projected the global oil supply is expected to reach its peak between 2010 and 2030. China is expected to promulgate a law this year to encourage the use of renewable energy, including hydropower, wind power, bio-mass and solar energy.

According to the government's blueprint, renewable energy is expected to account for 10 per cent of the total energy consumption by 2010, from the current level of around 1 per cent.

(Source: China Daily) [http://news.xinhuanet.com/english/2005-01/20/content\\_2484389.htm](http://news.xinhuanet.com/english/2005-01/20/content_2484389.htm)

[www.chinaview.cn](http://www.chinaview.cn) 2005-01-20 08:36:32

(Reference furnished by Mark Griffiths)

#### **485. Oil Depletion Information Office**

Substantial progress has been made by ASPO IRELAND in developing a physical office with staff to provide a comprehensive oil and gas depletion advisory service. Initial sponsorship has been secured, partly with the help of the Past Carbon Institute and Sustainable Energy Ireland, allowing the first member of staff to be recruited. Further sponsorship is in sight, possibly including support from the Government, and will be resolved at a meeting in February. The new organisation will gradually assume responsibility for this newsletter as well as the database and depletion model. It will also do its best to raise awareness generally of this important subject, which does indeed now begin to command world attention

#### **486. Japan wakes up**

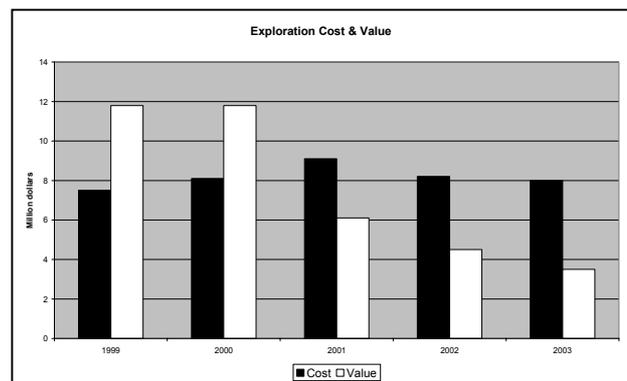
Professor Isshi, who has been working hard to raise awareness of Peak Oil in Japan, after attending the ASPO workshops, writes:

The leading Japanese newspaper, the Asahi Shimbun, at last reported "Oil Peak", on 16th Sunday, on its top page. I think the article was big enough to give strong impressions to Japanese society. In addition to this, the Asahi had a large article alerting the modern wasteful civilization with a title "Good Bye Wastful Society", which is to appear periodically on Sundays. The reporter named I.Tanaka, an economist, has been occasionally asking me for advice on the issues of Oil Peak, Energy and Environment. I think this is a big breakthrough for Japanese Society, considering the status of the Asahi Shimbun in Japan, the most prestigious and second biggest newspaper. So, I think this monumental.

#### **487. Discovery trends**

It is understood from preliminary estimates that the total world discovery of oil in 2004 was about 7 Gb, of which perhaps 2 Gb were in deepwater finds. Less than half was found in fields with reserves of greater than 100 Mb. Furthermore, the cost of exploration has been exceeding the net present value of the discoveries in absolute terms. This is however misleading because the tax regime provides an enormous subsidy to the international industry by allowing operating costs as a deduction against taxable income, which is high on the back of high oil price. In many countries, the oil companies are effectively spending 10c dollars. If they can't find more on such attractive terms, it does rather suggest that it is not there to find.

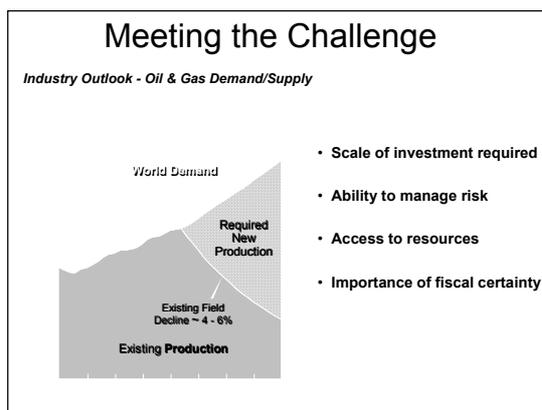
The falling discovery trend, despite high prices and rising demand, casts a certain doubt on the present ASPO estimate that 145 Gb await discovery, as depicted on Page 2, which may prove optimistic. It makes provision for 54 Gb in the Middle East and 33 Gb in Eurasia (primarily the former Soviet Union) where the main potential lies. That leaves about 60 Gb to be found elsewhere, namely an amount equivalent to another North Sea, the largest new province found since the Second World War. Present estimates suggest that about 20 Gb remain to be found in the deepwater domain, offering peak production of about 7.5 Mb/d around 2015. Although there is plenty of deepwater only a few areas, primarily in divergent Plate Tectonic settings, have the necessary combination of geological conditions.



ExxonMobil has eloquently confirmed the grave situation in its slide *Meeting the Challenge*, showing that existing field production is declining at 4-6% a year which gives a growing gap to be filled by new discovery if projected demand is to be met to 2020.

It rightly entitles its presentation *Taking on the World's Toughest Energy Challenges*, which is perhaps an oblique way of warning us that growing demand is unlikely to be met even over the next fifteen years, the time frame of the forecast. In the absence of an international protocol to cut demand on an equitable and sensible basis, as to be discussed at the ASPO meeting in Lisbon, the market will cut demand by the blunt instrument of World Recession if not Depression. Only the flat-earth economists will cheer.

(Exxon Presentation furnished by Lou Powers; *Exploration Cost and Value* by Kellia Ramares)



### **488. Winning the Oil Endgame**

The Rocky Mountain Institute has produced a new book with the above title urging the United States to new energy efficiency, such that it may lessen its dependence on foreign oil and the related need for military intervention in distant lands.

(Reference furnished by Paul Metz)

### **Calendar - Forthcoming Conferences and Meetings**

The subject of Peak Oil will be addressed at the following conferences and meetings, with presentations being made by ASPO members and associates [shown in parenthesis]:

#### **2005**

January-February – Post-Fossil Mobility Conference, **Berlin** [Blendinger] (date pending)

February 2<sup>nd</sup> – Ministry of Transport Seminar, **France** [Laherrère]

February 10<sup>th</sup> – Ireland's Energy Security of Supply, **Dublin** [Campbell]

February 14<sup>th</sup> – Irish Food Market Traders Association, **Cork** [Campbell]

February 16<sup>th</sup> - Institute of Petroleum, **London** [Gilbert]

March 15<sup>th</sup> – Foreign Affairs Committee, **Stockholm** [Alekklett]

March 22-25 – Romania Oil & Gas Conference, **Bucharest** [Laherrère]

April 14-15 – Swiss Pension Fund Managers, **Interlaken** [Campbell]

April 22<sup>nd</sup> – Sanders Research, **London** [Campbell]

April 25<sup>th</sup> – Depletion Scotland, **Edinburgh** [Campbell, Skrebowski, Simmonds]

**May 19-20<sup>th</sup> – 4<sup>th</sup> ASPO International Workshop**, Gulbenkian Foundation, **Lisbon** [various]

June 18-19<sup>th</sup> - Permaculture Conference, **Cork** [Campbell]

October 28-30<sup>th</sup> – Pio Manzu Energy Conference, **Rimini, Italy** [Campbell]

[Information on future events for inclusion in the Calendar is welcomed]

### **Acknowledgements**

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