

# VII ANNUAL INTERNATIONAL ASPO CONFERENCE

# OCTOBER 20 - 21 BARCELONA WORLD TRADE CENTER BCN











Ajuntament de Barcelona Medi Ambient







# **Contents**

ASPO VII in Barcelona  About ASPO and AEREN				
About ASPC	4			
What does "	peak oil" means?	7		
Peak Oil: wh	no says what	11		
Media dossier		15		
	Peak Oil: making the headlines	16		
	Peak Oil bestsellers	20		
Travel information		21		
Registration		22		
Sponsorship		23		
Working papers		24		
Annexes		25		
	ASPO conferences subjects	26		
	Sponsor's profiles	30		
	Participant's profiles	31		
	Web references	34		
		_		

# **ASPO VII in Barcelona**

In the last ASPO gathering in Cork, Ireland, the 6th ASPO international conference, it was agreed to organize the 7th in Barcelona, Spain.

The event will take place on October 20th and 21st, 2008 at the convention centre facilities at Barcelona's World Trade Centre<sup>1</sup>.

AEREN - ASPO Spain has already received preliminary support and sponsorship from the Institut Català de l'Energía (ICAEN) a public body within the government of Catalonia, as well as from the Instituto de la Salud, Trabajo, Ambiente y Salud (ISTAS) anf the European Climate Forum.

AEREN - ASPO Spain is also negotiating with several other public and private Catalonian, Spanish and international entities to garner further sponsorship.

AEREN-ASPO SPAIN estimates an attendance of some 400-plus delegates from all over the world: geologists, scientists, politicians, businesspeople and citizens interested in the subject of Peak Oil and Gas.

English will be the official language for the conference with translation services into Spanish and Catalan also provided.

The conference in Barcelona will follow the same schedule as the previous meetings: four main sessions in two days, each with a panel discussion and open debates between the speakers and attendants.

The organization will facilitate some information and discounts (if possible) in hotels close to the conference venue. Estimated delegate fees will range between €200 and €320 per person, depending on sponsorship.

The entrance fee will cover access to the conferences, coffee breaks, and luncheons. Depending on sponsorship details the gala dinner could be included, if not, attendants will pay for it separately. If this is the case we will try to widen the audience to students at discounted rates.

<sup>1</sup> More information at http://www.wtcbarcelona.com/

# About ASPO and AEREN

The Association for the Study of Peak Oil and Gas (ASPO) is a network of scientists and others interested in determining the date and impact of any potential peak and decline of the world's production of oil and gas.

The subject of depletion is a sensitive one, arguably the most important single issue facing the modern world.

### ASPO's mission is to:

- Define and evaluate the world's endowment of oil and gas.
- Model depletion, taking due account of demand, economics, technology and politics.
- · Raise awareness of the consequences for mankind.

ASPO is an informal network with a very small budget, yet its voice is being heard, thanks to the efforts of the different national ASPO's coordinated by ASPO International from Uppsala, Sweden.

Perhaps its informal structure is its strength. It means that it can tell the truth, freed of political, legal and commercial constraints.

ASPO has national affiliates in the following countries: Argentina, Australia, Canada, China, France, Germany, Hong Kong, Ireland, Italia, Mexico, Netherlands, New Zealand, Portugal, Switzerland, South Africa, Spain, Sweden and USA.

Each national Association has a growing number of members ranging from a dozen to several hundred.

The Asociación para el Estudio de los Recursos Energéticos (AEREN), is a non profit association registered in Spain which represents ASPO under the denomination AEREN - ASPO SPAIN.

AEREN was created in February of 2005, in order to study, analyze and raise the awareness about the arrival of the peak and the posterior depletion of the fossil energetic resources, as well as the study, analysis and divulging of the possible viable alternatives for the replacement of those.

One of its main activities is the public diffusion of the phenomenon of the depletion of the fossil energetic resources and the

### About ASPO and AEREN (cont'd)

study of alternatives. For this, it uses the website www.crisisenergetica.org, online since October of 2003 and where articles and news related with the energy are periodically published. Moreover, it has a forum, which until the date has picked up more than 50.000 messages. The web page Crisis Energética is the world-wide reference in Spanish about Peak Oil, with more than 3.600 registered users; 4.000 daily visits and 300.000 pages served monthly.

Since its foundation, AEREN has carried out several activities and projects, among which we highlight the following ones:

- Participation in the "Table of Dialogue about the Evolution of the Nuclear Energy in Spain", organized by the Ministry of Industry in May of 2006. Dr. Marcel Coderch, secretary of AEREN, participated in the table with the presentation "The Future of Nuclear Energy: Agony or Reanimation?".
- Advisors in the elaboration of an institutional agreement about alternative energies for the Cabildo de La Palma (Canary Islands), in which it was proposed a plan to supply the island with 100% renewable electricity.
- Several agreements of collaboration with the Insitute of Energy of Catalonia (ICAEN), where AEREN has supplyed reports about the state of fossil fuels markets, from 2006 until the present moment.
- Authoring in a study entrusted by the Advising Board for the Sustainable Development for the Catalonian Government (CADS), "Analysis of the Energetic Metabolism of the Catalan Economy (AMEEC)".
- Administrative and legal support to the creation of the Observatory of the Energy Crisis and the Alternatives of Society (OCEAS). This observatory has been created as a joint initiative with different organizations: Barnamil, Ecoconcern, Ecologistes en Acció, Illacrua, Enginyers Sense Fronteres, Grup de Científics per un Futur no Nuclear and the Grup d'Energia de'l Infoespai. In December 2007 OCEAS has organized the Conference "Climatic Change and the Energy Crisis: Common Solutions", that has had the support of the Catalonian Convention on Climatic Change, the Advising Board for the Sustainable Development (CADS), the ESICO

## **About ASPO and AEREN (cont'd)**

Foundation, the Net of Research in Education for Sustainability (Edusost), the Direction of Civic Participation and the Group of Geographers for the Social Ecology (GES). AEREN is part of the Permanent Commission of the Observatory.

 Authoring in a study about the Energetic Model for the Metropolitan Area of Barcelona, directed by Dr. MarianoMarzo (University of Barcelona) and entrusted for the Strategic Plan for the Metropolitan Area of Barcelona (PEMB) and the Bosch i Gimpera Foundation.

# What does "peak oil" means?

The term Peak Oil refers to the maximum rate of the production of oil in any area Ander consideration, recognising that is a finite natural resource subject to depletion.

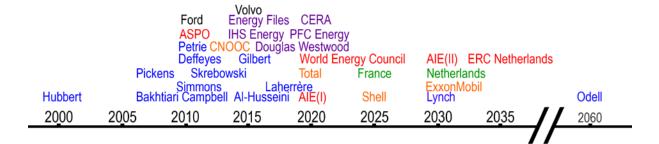
Colin Campbell, geologist, founder of ASPO.

The concept of peak oil was coined by US geophysicist Marion King Hubbert. In his essay "Nuclear Energy and the Fossil Fuels" he established in any single area – be it one oil well, or the world in totality - the production profile of oil follows a bell shaped like curve. This means, in practical terms, that the oil production (and for the rest of fossil fuels as well), may grow at exponential rates just during a limited period of time, due to physical constraints. It also means that the amount of oil produced is limited by the physical characteristics of the deposit and the economic and energy costs of related operations. Usually, the limits appear when about half of the deposit has been produced and a field or region matures, creating a measurable decline rate.

The differing estimates for global peak oil range from those stating we have already passed the peak (2005 for academic Kenneth Deffeyes) to those estimating a peak for this decade (2015 for the French Petroleum Institute) or in the next decade (2020 for French integrated company Total) to 2030 for the International Energy Agency, the Energy Information Administration and the

Figure 1: various Peak Oil forecasts

Geologists, industry experts Consultors Oil companies International organizations Car makers Countries



Source: various sources

### What does "peak oil" means? (cont'd)

United States Geological Survey.

According to a report commissioned by the US Department of Energy, we will need at least two decades to prepare for peak oil if we do not take any demand-side measures, just supply side measures. Even if peak oil is delayed beyond 2030, we should start to act now.

In fact, the International Energy Agency, in its July 2007 Medium-Term Oil Market Report has already warned that

Despite four years of high oil prices, this report sees increasing market tightness beyond 2010, with OPEC spare capacity declining to minimal levels by 2012. It is possible the supply crunch could be deferred – but not by much.

Although the IEA does not recognise peak oil explicitly - they expect production to be 116mn b/d in 2030 in their 'Reference Scenario' - they are implicitly recognising problems caused by depletion. Fatih Birol, chief economist of the Paris based agency says "so, 37.5mn b/d is needed but what we expect is 25mn b/d and this is in the case of no slippage, no project delays with everything arriving on time, which is very rare. So, there is a gap of 13.5mn b/d."

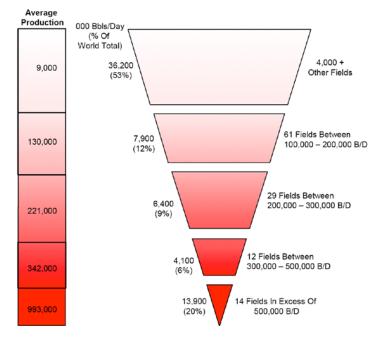


Figure 2: The Oil Pyramid

**Source**: World's Giant Oil Fields (Simmons 2002)

### What does "peak oil" means? (cont'd)

Peak oil does not mean we are going to run out of oil soon. Peak oil is not about the size of reserves, peak oil is about oil flows. What we are running out of is the capacity to replace the oil flows that we lose each year due to depletion of older oil wells. Of the oil we consume today 20pc comes from fields more than 40 years old. Also the size of oil fields is diminishing, the giant old fields are getting older and we need to develop a greater number of oil wells to compensate. New technology can ameliorate this but cannot reverse it. The North Sea and Texas are proof that new technology and investment cannot create new reserves, they just get the oil faster from the ground.

This ageing of the global oil fields makes it harder and harder not just to grow the production flow, but just to stand still. Also, the size of oil discoveries started a downward trend in the sixties. Recent discoveries such in deepwater areas in the Gulf of Mexico and Brazil are indeed big, but they are not going to change the picture drastically. In fact, discoveries are falling short of what was expected. The US Geological Survey expected 939bn barrels of oil discoveries between 1996 and 2030, but by the beginning of 2006 just 131bn barrels were discovered. Furthermore, most of the most promising prospects for the oil industry are located in locations which are technically challenging due to factors including political instability, deepwater locations or lack of access.

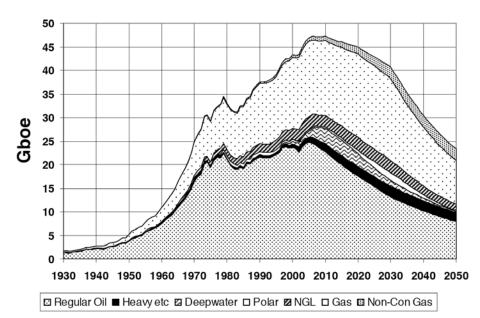


Figure 3: Oil & Gas production profile, 2008 case base

Source: ASPO 2008

### What does "peak oil" means? (cont'd)

What is often called "surface issues" (lack of access because of various factors such geopolitics or legal issues) is playing a part, but again, the fundamentals of this situation appear geological. If we could keep developing large onshore oil fields there would be no talk about drilling deepwater wells or developing unconventional hydrocarbons. The domestic situation at the main producing and exporting countries is also important: oil prices for the domestic markets are often regulated and even imports of distillates are subsidised. In turn, huge revenues from the sale of oil induce new economic activity, which increases domestic consumption, thus reducing export capacity.

Oil sands, oil shales and heavy oils - such those in the Orinoco Belt in Venezuela - amount to huge volumes. But again, the flows are what it is all about. Scaling unconventional oil production to compensate for the decline of conventional crude oil is going to be extremely difficult. Oil sands and oil shale resources, although enormous in volume, will need to surmount many obstacles including water use, natural gas needed for upgraders and steam generation and also increasing environmental regulations.

# Peak Oil: who says what

We have a serious problem: we are addicted to oil, which is often imported from unstable parts of the world.

George W. Bush, president of the United States. State of the Union Address, January 31st 2006.

I believe oil prices are going up because the demand for oil outstrips the supply for oil. Oil is going up because developing countries still use a lot of oil. Oil is going up because we use too much oil. And the capacity to replace reserves is dwindling. That's why the price of oil is going up.

George W. Bush speech in a press conference with Nicholas Sarkozy, November 7th 2007.

If they do not have much more oil to put in the market, it is difficult to ask something to someone that can do nothing. (Terry Moran of ABC News asks G. W. Bush what he will tell to Saudi Arabia's king Abdullah to lower the oil prices).

George W. Bush January 16th 2008.

Energy for everybody? It depends on the price. Energy is a risk for the world economy; it may become a limit to growth.

Rodrigo Rato, speaking as managing director of IMF, interviewed by Iñaki Gabilondo in Spanish TV Network Cuatro, April 6th 2006.

The present energy model, based on the fossil fuels, is exhausted. The cheap energy is finished. Renewable energies will be a complement, but they can not be the base of the energy consumption, as they have limits in availability, management and costs.

Loyola de Palacio, former Commissar of Transport and Energy in the European Union in her speech in Nuevo Forum Europe, May 25th 2006).

### Peak Oil: who says what (cont'd)

The scenario we are facing for the next decade is one of the first supply crisis of the industrial era (...) Instead of a clash of civilizations we are starting to suffer a clash for energy resources, although this subjet deserves much less attention.

Felipe González, former president of the Spanish government, in an article in the Spanish newspaper El País, may 30th 2005.

We have entered the post-oil era. We have to face reality, learn from it and give truly impulse to energy conservation and renewable energy.

Dominique de Villepin, former french Prime Minister, speaking to the press, September 1st 2005.

Without the iraqi black gold the oil market is going to face a wall from here to 2015. We assume decline in current oil fields to be 8% per annuum. This is a lot. For every dolar invested in growth of extraction it is necessary to invest three dolars to compensate for this decline.

Fatih Birol, IEA's chief economist, interview for Le Monde, June 27th 2007.

So, these two things put together, the short term security, medium term security of our oil markets, plus the climate change, consequences of this energy use, my message is that, if we don't do anything very quickly, and in a bold manner, the wheels may fall off. Our energy system's wheels may fall off. This is the message that we want to give.

Fatih Birol, interview for Financial Times, November 7th 2007.

### Peak Oil: who says what (cont'd)

The 300 billion barrels of reserve growth in OPEC [during the 1980s] ...are speculative resources because the quotas. World production has reached a "structural ceiling" determined by geology, but it should be able to sustain current production levels in a "plateau" for the next 10 or 15 years. After that, production will decline. As world demand will continue to increase with GNP growth, the floor under oil prices will rise steadily at about 12 US\$ per barrel each year.

Dr. Sadad Ibrahim Al Husseini, former Head of Exploration and Production for SAUDI ARAMCO, interviewed by David Straham, October 29th, 2007.

The world is mistakenly focusing on oil reserves when the problem is the capacity to produce oil. The oil reserves are there, that is the good news, but what we can bring on today to meet demand is limited by factors other than what scientists see in a lab or think tanks.

Christophe de Margerie, then Head of Exploration for TOTAL, interviewed by The Times, April 8th 2006.

The growth rate of supplies of "easy oil", conventional oil and natural gas that are relatively easy to extract, will struggle to keep up with accelerating demand. Just when the energy demand is surging, many of the world's conventional oilfields are going into decline.

Jeroen van den Veer, CEO Royal Dutch Shell, interviewed by The Times, June 25th 2007.

We are there or close [to peak]. Mexico, the North Sea and possibly Ghawar are all in decline. The truth is the world is producing 30 billion plus barrels of oil a year and is finding less than 10 billion. This is the worry.

James W. Buckee, former president and CEO Talisman Energy Inc., interviewed by the Globe & Mail, October 7th 2007.

### Peak Oil: who says what (cont'd)

Fifty years ago there were discoveries for 30 billion barrels a year and consumption was at 4 billions. At present, we are consuming 30 billions and discovering 4 billions. This is a key issue, much more important than the small discussions. It is not important if the peak will take place in 2015 or in 2030. To me, in both cases is tomorrow.

Alfonso Guerra, former vice president of the Spanish government and president of the Constitutional Commission in the Parliament, closing speech at the IV Meeting on Earth at Salamanca, June 25th 2005.

Humanity has reached in this very moment 6,35 billion inhabitants, who demand dresses, shoes, food, housing and education. The figures will reach, almost inevitably, 10 billions in just 50 years from now. To this date, there will be no the proven fuel reserves that the planet took 300 million years to create.

Fidel Castro, then president of the Republic of Cuba, addressing the XI Conference of United Nations on Commerce and Development in Brazil, June 13th 2004.

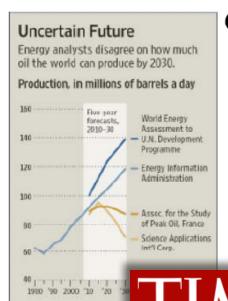
And therefore to the peakists I say, You can declare victory. You are no longer a beleaguered small minority of voices crying in the wilderness. You are now mainstream. You must learn to take yes for an answer and be gracious in victory.

James Schlesinger, keynote speech in the VI ASPO International Conference in Cork, Ireland, September 19th 2007.

# Media dossier

# Peak Oil: making the headlines

# THE WALL STREET JOURNAL



# Oil Officials See Limit Looming on Production

By RUSSELL GOLD and ANN DAVIS November 19, 2007; Page A1

A growing number of oil-industry chieftains are endorsing an idea long deemed fringe: The world is approaching a practical limit to the number of barrels of crude oil that can be pumped every day.

Some predict that, despite the world's fast-growing thirst for oil, producers could hit that ceiling as soon as 2012. This rough limit -- which two senior industry officials recently pegged at about 100 million barrels a day -- is well short of global demand projections



### THE WELL

# **Peak Possibilities**

By JUSTIN FOX

Wednesday, Nov. 21, 2007



In July 2006, the world's oil rigs pumped out crude at a rate of nearly 85.5 million bbl. a day. They haven't have risen from \$75 to \$98 per bbl. Which raises a question of potentially epochal significance: Is it all downhill from here?

It's not as if nobody predicted this. The true believers in what's called peak oil--a motley crew of survivalists,

despisers of capitalism, a few billionaire investors and a lot of perfectly respectable geologists--have long cited the middle to end of this decade as a likely turning point.

### Peak Oil: making the headlines (cont'd)



## Is oil supply at its peak?

Some market watchers say the end of increases in conventional crude output already at hand

Jan 03, 2008 04:30 AM

#### TYLER HAMILTON **ENERGY REPORTER**

"The peak in oil production does not signify `running out of oil, but it does mean the end of cheap oil, as we switch from a buyers' to a sellers' market.' Energy Bulletin's "peak oil

It's the summer of 2006. Osama Bin Laden warns the



on the day.

JEFF ZELEVANSKY/REUTERS

#### RESEARCH TO oil pit on the floor of the New York Mercantile Exchange **Economist.com** Economist.com Choose a resectal worry and demand concerns vaulted oil prices to a = requires subscription LOG IN: E-mail address Business

### Face value

## **Totally different**

From The Economist print edition

Christophe de Margerie, the boss of Total, thinks that the world's oil production may be nearing its peak

Mr de Margerie is careful to point out that he is not predicting "peak oil" in a geological sense. His definition of peak oil is "when supply cannot meet demand". He believes that the fuel that the world needs to keep its cars and factories running may well be out there, somewhere. It is just getting harder and harder to extract, for technical as well as political reasons. For one thing, he points out, the output of existing fields is declining by 5m-6m b/d every year. That means that oil firms have to find lots of new fields just to keep production at today's levels. Moreover, the sorts of fields that Western oil firms are starting to develop, in very deep water, or of nearly solid, tar-like oil, are ever more technically challenging. There is not enough skilled labour and fancy equipment in the world, he believes, to ramp up production as quickly as people hope.



### Peak Oil: making the headlines (cont'd)



News Entertainment Life & Style Business Sport Travel Tech Other Sections

→ Home » Environment » Article

# Time's up for petrol cars, says GM chief

Joshua Dowling, Motoring Editor in Detroit January 15, 2008

THE world's biggest car maker, General Motors, believes global oil supply has peaked and a switch to electric cars is inevitable.

In a stunning announcement at the opening of the Detroit motor show, Rick Wagoner, GM's chairman and chief executive, also said ethanol was an "important interim solution" to the world's demand for oil, until battery technology improved to give electric cars the same driving range as petrol-powered cars.

GM is working on an electric car, called which is due in showrooms in 2010, but suitable battery technology have slowed



# heguardian

#### business

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# Tough to pump more oil, even at \$100

Reuters Wednesday January 9 2008

LONDON, Jan 9 (Reuters) - Oil at \$100 a barrel should give exporters every incentive to pump more, but their difficulty in doing so shows the world is struggling to sustain production.

A growing number of leading industry figures -- the CEOs of Total and ConocoPhillips among them -- now question mainstream forecasts for supply, suggesting the era of "plateau oil" is nearer than many in the business have admitted

While global oil demand is projected to grow to more than 100 million barrels per day later this century, some argue it may not be possible to boost flows beyond the current rate of some 86 million bpd.

Supply still falls short even after so-called unconventional oils extracted from tar sands and converted from natural gas are taken into account, said Sadad al-Husseini, a former top official at state oil giant Saudi Aramco.

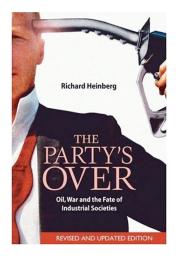
"Today's oil prices are high because there are limited new supplies," Husseini, who ran exploration and production at the Saudi state oil company from 1986-2002, told Reuters. "There's a history now. We're several years into level production."

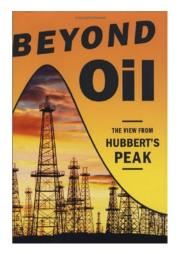
### Peak Oil: making the headlines (cont'd)

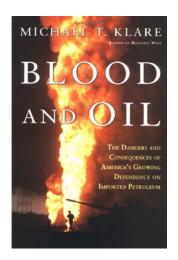


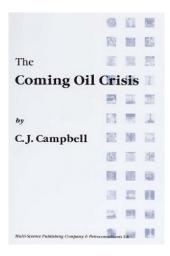
On a rainy day last month, four drummers, three guitarists, a bagpiper, two didgeridoo players and 186 others assembled in the rural English town of Cirencester to discuss turning their neighbourhoods into low-impact communities built around farming, arts and crafts and herbal medicine.

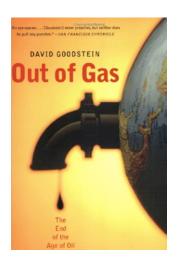
# **Peak Oil bestsellers**

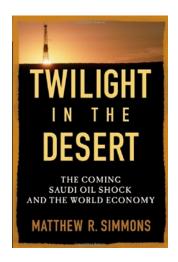




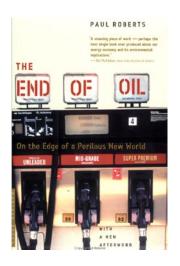


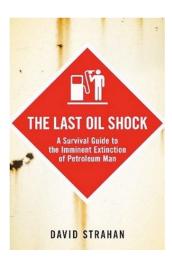












1,526 search entries in Amazon, 3,780,000 search results in Google.

# **Travel information**

Barcelona has an international airport, with connections with most of European airports and the most important American airports. The airport is located 18 km from downtown. Taxi fares are approximately 25-30 Euros and takes 20-30 minutes. There are bus and train services to downtown.

Attendants from outside Europe or the United States, may need entry visas.

The Spanish currency is the European Euro. Banks are generally open from 08:30 to 14:00 h Monday thru Friday. Use of cash points or dispensers is widespread.

Spain's electricity is 220/230 VAC, european plug. US 110 VAC need transformers.

Temperatures in Barcelona (October): 15 to 25 °C (59 to 77 °F). Humid and low raining probabilities.

Excellent and safe public transportation system: metro, buses, suburban train, high speed train to Zaragoza and Madrid, taxis.

### **Tourist information resources**

http://www.bcn.es/turisme/english/turisme/welcome.htm

http://www.barcelona-tourist-guide.com/

http://www.aboutbarcelona.com/

http://www.bcninternet.com/tourism.php

http://www.barcelona-on-line.es/eng/turisme/benvinguda.htm

http://www.webarcelona.com/

# Registration

AEREN– ASPO SPAIN will soon open a web page for attendees to register online.

Pre-inscriptions will be permitted, without transfer commitments and cancellations without costs until June 30th., 2008.

### Registration fees do not include:

- Accommodation (AEREN-ASPO SPAIN, may, if possible, offer nearby hotel special fares). Early booking is advised.
- Technical or special leisure tours.
- · Gala Dinner.
- Transfers airport-hotel and hotel Convention Centre.
- Insurances.

### **Registration fees**

Categories	Until 15/7	Until 31/7	Until 31/8	From 1/9
ASPO members <sup>1</sup>	180€	210€	250€	300€
Non ASPO attendants	200€	230€	270€	300€
Academic and non-profit <sup>2</sup>	190€	220€	260€	300€
Students <sup>3</sup>			160€	200€

Prices are firm and valid when payment is received before the due date. Prices include taxes. Yellow categories fees does not include luncheons.

<sup>1-.</sup> As per the official list of ASPO organizations at www.peakoil.net

<sup>2-.</sup> Petitioners will be requested to present evidence of being a full-time employee of a non-profit organization, NGO, university or education centre.

<sup>3-.</sup> Students only below 26 years old, and will be requested to present evidence of being registered in an university or education centre.

# **Sponsorship**

AEREN - ASPO Spain is an non profit organization with a limited budget. The sponsorship of the event is necessary to keep the inscriptions' price reasonable and to be able to make them accessible to students and other non profit organizations. For this we offer different levels of sponsorship:

- Gold sponsor (20.000€): it includes 10 free inscriptions with access to the social dinner on October 20th. The logotype and name of the sponsor will be shown in preferential place in the conference's web page as well as in all the posters and materials.
- Silver sponsor (10.000€): it includes 5 free inscriptions with access to the social dinner on October 20th. The logotype and name of the sponsor will be shown in the conference's web page as well as in all the posters and materials.
- Bronze sponsor (5.000€): it includes 2 free inscriptions with access to the social dinner on October 20th. The logotype and name of the sponsor will be shown in the conference's web page as well as in all the posters and materials.

# **Working papers**

We will keep the reception of proposed papers for the conferences from the ASPO members until August 31st 2008.

Interested members can mail their proposed documents for coordinated pre-selection to: Pedro A. Prieto at pedro@crisisenergetica.org and to Mikael Höök at Mikael.Hook@tsl.uu.se

Apart from the traditional oil and gas (and coal!) updates, and energy security, other proposed subjects to be dealt with are: renewables in general and biofuels in particular; also local and regional solutions.

# **Annexes**

# **ASPO** conferences subjects

ASPO deals with subjects related to peak oil and gas, the assessment of world capacities and endowments and the different definitions of reserves; the depletion of these resources, considering the demand, the economy, the technology, the politics, and the possible alternatives. Also they intend to raise the awareness on the consequences that this may pose for mankind. The main subjects treated in these International Conferences up to date were:

#### **Paris 2003**

- Resource Wars.
- The War for Oil.
- A Realistic view of Long Term Middle East Production Capacity.
- Russian Oil Reserves, Future Exploration Potential and Production Capacity.
- The World's Endowment with Natural Gas.
- Modeling Oil Production, Energy Consumption, Population Economy.
- The Physical Modeling of Future World Energy Demand.
- Energy Supply Conditions and Oikl Price Regime.
- The North Sea: A Victim of Depletion.
- Modeling of Remaining Reserves in a Mature Basin.
- · Oil Prophets: Looking at world Studies Over Time.
- How to Make the World Aware that the Party is Over.
- Will 2000 Turn Out to be the Peak followed by Wildly Oscillating Oil Prices?
- The 2003 Update of the ASPO Oil & Gas Depletion Model.
- · Options for Future Transport Fuels.
- Non OPEC Oil Supply: Economics and Energy Policy Options.
- What energy Sources for Transportation in the 21st. Century?
- The Contribution of Technology: "Creating" Reserves.
- Extra Heavy Oil and Bitumen: The Challenges of Enhanced Recovery.
- Status of Renewable Energy in Europe and its Role.
- Extra Heavy Oil and Bitumen: The Challenges of Enhanced Recovery
- Status of Renewable Energy in Europe and its role in a Renewable Transport Fuel Strategy.
- Property Rights for the Global Commons Feudal or Democratic.

### ASPO Conferences subjects (cont'd)

- Is the Glass Half Full or Half Empty?
- Risks and Solutions to Ireland's Energy Supply

#### Berlin 2004

- Future Oil and Gas Supply for Europe.
- · Supply & Demand of the US Market.
- Demand and Gas Supply in Europe.
- LNG, Regional gas Markets vs Gas-OPEC.
- The Future of Natural Gas Supply.
- Future Gas Potential: where–what–how much.
- · Oil Reserves Growth Potential.
- Long Term energy outlook

   An ExxonMobil analysis.
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- Transition Towns.
- Sustainable Options.
- Ireland's Energy future

# Sponsor's profiles

### **ASPO II (Paris, France)**

#### Public:

Institut Français du Pétrole (IFP).

### ASPO III (Berlin, Germany)

### Public:

BGR, Institute for Geosciences and Natural Resources.

### Private:

BMW, Ruhrgas, WEG, Vattenfall, RWE.

### **ASPO IV (Lisbon, Portugal)**

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### ASPO V (Pisa, Italy)

#### Public:

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#### Private:

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### ASPO VII (Barcelona, Spain)

### Public:

ICAEN, Catalonian Institute of Energy.

### Private:

- ISTAS, Social Institue of Employ, Health and Environment.
- European Climate Forum.

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### **Press and Media Representantives**

Chris Skrebowski, Petroleum Review, UK; Adam Porter, BBC, UK; Olga Vinogradova, Neftegazovaya Vertical Magazine, Russia; Tom Cahill, Bloomberg News, UK; Chris Sanders, Sanders Research Associates, UK; George Lee, Editor of Economy Public Irish TV RTE, Ireland; Eddie Hobs, Host/Newsreader RTE, Ireland.

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