



Quick Summary of My Main Personal Take-home Messages from ASPO 2012

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This is guest post by [Christian Kerschner](#). Christian is a PhD Candidate of the Institute for Environment and Technology (ICTA) at the Autonomous University of Barcelona and a Researcher at SERI Vienna. In his PhD he focuses on a multi-method analysis of Peak Oil, mainly using Input Output Approaches. Moreover, he published scientific articles on the steady state economy and degrowth. His latest work centres around attitudes towards technology.

ASPO is a no-budget loose association of people interested in studying Peak Oil. It was formed in 2002 (10th anniversary this year) by Colin Campbell and Kjell Aleklett, both petroleum geologists. The term Peak Oil (which often creates confusion - I don't know how many times I had to say "no, not Pig Oil - Peak Oil") by the way, was "created at that moment". They thought that ASOP (Association for the study of the Oil Peak) did not sound so good, so they changed the word order. The community meets yearly and consists of scientists and analysts /consultants. All speakers are on invitation only and there are mainly plenary sessions. Many speakers are contributors of the community's main communication platform, The Oil Drum, a high profile, quite strictly edited blog and one-stop-shop for everything related to Peak Oil (PO).

[Editors note: many talks mentioned below are available on the [ASPO YouTube channel](#). Several links for specific speakers are given at the end.]

The conference was organized extremely professionally and had top sponsors and speakers:

Sponsors

- Austrian Environment Ministry
- Ministry of Traffic
- Innovation and Technology
- City of Vienna
- The province of Lower Austria
- Austrian Chamber of Commerce (WKO)
- Austrian Energy and Climate Fund

Speakers

- Politics
 - 2 Austrian Ministers (Pernkopf and Berlakovich i.V)
 - Vice mayor of Vienna (Vassilakou) Christoph Chorgherr (Green Party President Vienna) Yves Cochet (EU Parliament member)
- Science
 - Robert Hirsch

- Dennis Meadows
- Helga Kromp-Kolb
- Nebojsa Nakicenovic
- Wolfgang Streicher
- Werner Zittel

All presentations will be [on the web](#) and YouTube soon.

The following represents a bullet-point style summary of my main take-home messages.

Content:

- Main drivers/issues for Oil and Energy at the moment
- The state of the Peak Oil Debate in ASPO today
- The lack of appropriate official institutional and policy response
- Possible Impacts
 - Climate Change: Helga Kromp-Kolb
 - Geopolitics: Michael Klare – Resource Wars
 - Financial - Monetary System
- Solutions are easy
 - The golden age of Shale oil (Schiefer gas)
 - Renewable Energy (RE) affluence vs. sufficiency
 - So if it's so easy, why is it not happening already?
- Solutions are difficult but possible
 - Systemic-Change, Collapse, Economic crises, End of Capitalism
 - Reiner Kuemmel: Thermodynamics Entropy and the Origins of Wealth
 - Nate Hagens

Main drivers/issues for Oil and Energy at the moment

- Arab Spring (supply disruption)
- Fukushima (higher fossil fuel demand by Japan),
- 2011 first year in history with oil prices above 100 US\$/barrel on average,
- 2-5 Million barrel/day decline of supply per year,
- the world in recession, OECD countries consuming less - all and more absorbed by India, China, etc. (10% growth = 1-2 million barrels/ year more)

The state of the Peak Oil Debate in ASPO today

A nice summary of the main discussion points was presented by Paul Hohen:

- Peak Oil is now! (true but there is some delay due to unconventional oil and gas)
- Plateau Oil now! (true, since 2005 at just above 80 Mb/d, but not for very much longer as the potentials of unconventional oil and gas are extremely limited)
- The precise moment of PO is not so important anymore, as we are probably already at or closely before the peak according to many. (Robert Hirsch: Peak is likely in 1 to 4 years).
- Peak Myth (i.e. there is plenty still): not true - good news trump bad ones - new finds exaggerated (e.g.: shale gas hype)
- Peak Demand: (False - demand is still rising, especially in Asia. As Bob Hirsch says - there is a 100 trillion US\$ infrastructure installed on the planet which works on oil - changing this will take many years - 20 or more).
- Peak Price (or Peak Economics): (also true but there is a maximum price the economy can take before it goes into recession and the oil price falls – 6-7% of GDP according to Euan Mearns). Price should not be overemphasized - according to Meadows - the main issue is

Exports! For producers of oil the market price is not that relevant.

- Peak Emissions: (True? IPCC seems to overestimate available hydrocarbons for its scenarios (only 3 of 37 are within realistic ranges according to Aleklett), but there are other drivers for green house gas emissions too). According to Nakicinovic, there is still 30000 Gt of Co2 in Coal left. Only 850 are allowed to remain below 2 degrees.
- Peak Insecurity: Political insecurity is on the rise, which explains the rush of the oil industry to invest in shale gas/oil which is technically difficult but in politically safe places, where they can own assets.

According to Hohen, the main Analysis Gaps are:

- Information (lack of reliable oil data)
- Awareness (politics, business, investors, media, consumer)
- No structured discussion (IEA denies PO)
- Communication: not attractive for media - bad story with no happy ending
- No official policy response

The lack of appropriate official institutional and policy response

The reasons why politicians do not want to touch PO are mainly two:

- Jeremy Leggett: There is nothing of interest in PO for a politician - if in opposition - (s)he will be attacked for scare-mongering; if in office - unraveling an issue for which one cannot present credible answers is political suicide.
- Robert Hirsch: Politicians react only to what is there as people prefer to deal with problems of today, not with those of tomorrow. Peak Oil is a very bad news story that people don't like. The climate change story on the other hand has been communicated better - everyone can do something about it. With regards to PO we have failed. I am not sure what we should do.

This of course would explain why official statistical bodies (IEA & EIA) are put under pressure, not to unpack the issue publicly. If someone "important" would use the word Peak Oil publicly that would cause chaos and confusion on the markets.

Rainer Kummel: Politicians are smarter than the general electorate. They know about Peak Oil. But if they would propose any measures the tabloids would beat them.

Michael Cerveny: People are made to believe that high oil prices were due to speculation. Hence many think it was a temporary phenomenon. Now SUV sales are going up again. And people continue to install oil heating systems. Policy makers should warn people that high oil prices are here to stay.

Another problem is mainstream economists, who advise governments and politicians. They insist that there are no risks and that there are still 40 years of supply (Jeremy Leggett, UK industry task force on PO). According to one UK secretary of state, tar sands still offer vast amounts of oil. When Jeremy asked, if he/she knew about their actual flow rates, he/she replied: We are economists, we don't do such details. Moreover Jeremy reports from a secretary of state which first agreed to an oil shock response plan, but 6 months later denied everything.

Possible Impacts

Robert Hirsch: Important: Peak Oil is not an energy crisis but a liquid fuels crises!

There will be many similar phenomena to those seen during the 1970s oil crises: lines at the

Climate Change: Helga Kromp-Kolb

We should stop talking about % decreases of emissions. It's the absolute numbers that count! Even 2 degrees temperature rise may be too much for tipping points. 1,5 would be better - but both are below most optimistic IPCC estimates. Changing that is said to be economically not feasible - but a safe operating space for humanity is more important than temporal economics.

Geopolitics

Michael Klare presented a very gloomy outlook for what's going to happen in his book "The Race for What's Left: The Global Scramble for the World's Last Resources". He explains the Oil factor behind wars - from WWI and how the "Carter Doctrine" justifies US military intervention if the free flow of oil from the middle east is in danger. This discourse was quite open until the campaign "no blood for oil" with Bush I. Then however the discourse changed to that of weapons of mass destruction and fighting terrorism. Another speaker - Daniele Ganser - said there were people who therefore doubt the official 9/11 story.

According to Karin Kneissel - WWI is still not over. The territorial fragmentation continues. Borders in the middle east were drawn according to pipe lines. Nevertheless, future resource wars are not going to be located there, but in the South Chinese Sea, where large gas fields are. There is a certain sentiment of the revenge of the colonized against the former colonizers. China is much faster in securing resources. Europe took 10 years trying to reach consensus over building the Nabucco Gas-Pipeline and failed. The Chinese on the contrary just built a 8000 km pipeline in only 11 months.

Resource Nationalism is a useless concept which does not explain the increasing control over natural resources according to Olivier Rech. Moreover it a dangerous concept, as it sounds like countries should be forced to share their resources freely. Different cultures have different ways of viewing intergenerational equity. In the US, UK and the Netherlands for example individualism is dominant - not so in Saudi Arabia - where decisions should be taken for the good of the community.

According to Alexander Pöegl, oil markets are manipulated purposefully by the super powers:

- If oil prices too high - "we release strategic reserves" - gives an impression of safety.
- Too low - FBI issues warning over

Financial - Monetary System

A wide consensus emerged that the financial system will inevitably collapse, because outstanding debts are borrowed future growth, which will not happen anymore as it was fueled by cheap resources. Fiat money is no longer working if energy prices increase constantly. Hence many European countries are now printing money for buying the oil they can no longer afford – the EURO crises being a direct effect of the oil crunch.

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Nate Hagens: Money is created through loan. This wasn't a problem before. Money was scarce and there were many opportunities; now this has changed. Debt is a reallocation of resources over

space and time: from the periphery to the center and from future to present generations. Now every dollar of debt produces only one dollar or less. The problem is that standard economists thought that oil would behave like any other product - become cheaper and cheaper. Without debt we would be in recession since 2008 - what we do now will make the fall sooner and steeper - debt speeds up extraction process.

One possible remedy for one part of this problem was presented by Thomas Bachheimer (Gold Standard Institute): The big problem is that we have limited sources of oil (energy) and an unlimited yardstick to measure it i.e. US\$. The amount of the latter is increasing, while oil is decreasing. Instead Oil should be traded in gold as no other commodity is relatively so stable. At the moment we have the unacceptable situation that the US as the only country in the world can print money to buy oil.

Solutions

Thinking about solutions is the main challenge for ASPO according to many of the present speakers and participants. The Association was formed to warn about Peak-Oil not to present solutions. If this does not change quickly ASPO will remain publicly irrelevant (just like the Club of Rome) according to Meadows.

"Prediction is difficult especially about the future!" (Niels Bohr)

Solutions are easy

The golden age of Shale oil (Schiefer gas)

This is not a golden age, but the retirement party of the oil age (Arthur Berman). "If something sounds too good to be true, it probably is."

The industry is losing money with it (Arthur Berman), because the wells are extremely expensive and have very fast decline rates (Euan Mearns). This is particularly the case since gas prices in the US have collapsed. Temporarily some good wells may still be subsidizing bad ones.

Disadvantages of shale gas:

- Fast decline rates
- Expensive wells & technology
- Danger of groundwater contamination by chemicals added to fracking- water (2 tons per well!)
- Large land-mass necessary, because many boreholes necessary - this is a problem for Europe, which is much more densely populated than the US

Renewable Energy (RE) affluence vs. sufficiency

Obviously everyone is in favor of renewables, but there is big tension between those who preach "100% renewable is possible without radical systemic changes" (Jeremy Leggett, Peter Droege, Karen Smith-Stegen, Claudia Kemfert), and those who only see a limited scope for RE of around 10% of the current energy mix and therefore a need for (and desirability of - Hagens) sufficiency (Nate Hagens, Pierre-René Bauquis, Yves Cochet, Jeremy Gilbert, Rob Hirsch, Meadows, Reiner Kummel). Austria, for example, has a strategy to become Energy autarkic by 2050 including a complete restructuring of the energy system and Electricity autarkic by 2012 according to the ministries. Berlin for example is apparently already Energy-independent (Peter Droege). Wind alone, so it is argued by another speaker, could provide 4-5 times global conventional energy

demand. Berlin is already Energy-independent (Peter Droege). To many (e.g. Michael Klare), RE are the only hope for avoiding collapse and resource wars.

The middle ground of these positions is covered by Nakicenovic's idea of "transition", driven strongly by efficiency and maybe Wolfgang Streicher's "100% Renewables for Austria by 2050" (the study does not include the Rucksack of imported goods which amount to about 44%). On the technological side of renewable Audi is currently working on combating the main problem of RE - cyclicalality, with its system of power-to gas conversion (Hermann Pengg).

Pierre-René Bauquis is the only one in favor of Nuclear due to the limited scope of RE. Even though he claims that with solar energy we might have a "wild card", as progress is difficult to predict. Total (which he worked for) is still the only oil company which openly talks about Peak-Oil. Gilbert and Hirsch would be among those being in favour of more exploration of fossil fuels. Hirsch would also be in favour of pushing Coal-to-liquid. Gilbert calls the media and public reaction after the Gulf of Mexico an exaggeration (new technology inevitably has risks and costs - if we want more oil we have to accept that). The Rimini (oil cap) protocol, which he recalled himself, is an unrealistic dream, as we do not want to reduce our consumption voluntarily.

Not surprisingly, many "100%-no-problem people" have vested interests in the renewable energy industry or work within the framework of such projects (e.g. Smith-Stegen for Desertec, which is according to critics - despite the good intentions - solar colonialism - this caused quite some debate).

So if its so easy, why is it not happening already?

The answer given throughout was the huge power of the oil lobby, which is interesting, as many people at the conference work or have worked for that industry at some point (insiders). The energy industry, the incumbency, works hard to keep us in the fossil fuel age in order to keep power production centralized says Jeremy Leggett for example, The hope/assumption of many (e.g. Aleklett) is that a new energy system will be democratized. This however is exactly what "Big Oil" does not want. So every new small find of oil or shale continues to be celebrated like a new Qatar (The Economist: Drowning in Oil).

Fossil fuel subsidies are still 312 Billion US\$ compared to 57 Billion US\$ for RE (Claudia Kemfert). A major problem of the renewables industry and for investors is that banks don't provide loans at acceptable rates.

Solutions are difficult but possible

Systemic-Change, Collapse, Economic crises, End of Capitalism

Even though the IMF just reaffirmed that high oil prices have nothing to do with the economic crises, many of the most prominent speakers agree that PO is a major game-changer and means the end of Capitalism at least in its present form.

Meadows compares the economy to a race car which goes at 200 km/h. Taking off one tire does not mean it will go at 150 km/h - it will not go at all. The economy cannot take an oil price of above 200 US\$ - it will collapse. The Eurocrisis to him is due to high oil prices.

Euan Mearns: Capitalism is based on cheap fossil fuels and a free licence to pollute. Both are changing now, being the death knell of capitalism - the fall over the net energy cliff. It is clear that the economy can only take certain levels of oil prices. If it's more than 6-7% of GDP, then the economy goes into recession.

Reiner Kummel: Thermodynamics Entropy and the Origins of Wealth

According to the cost-share-theory the energy sector has no importance as it only represents about 5% of costs. Hence only capital and labour were included in the production function. This neoclassical cost-share weighting always resulted in a 0,5 % residual (Solow residual), which is traditionally attributed to technological progress (liker manna from heaven). In fact only 50% of GDP growth can be explained that way. Professor Kummel produced a model (KULEC model), with which he shows the true contribution of the Energy sector to the productive powers of Germany (almost more than the other factors together: capital, labour and creativity).

He concludes: Energy is cheap and productive while labour is expensive and "unproductive", which explains why the latter is replaced by the former wherever possible. Wealth goes to those who own, control and use resources. He is critical of the "Energiewende" as hasty decisions could lead to dirty outcomes. He proposes most of all taxing energy instead of labour.

Petro Prieto: But that would cause capital flight, energy should be taxed globally. Kummel: Yes but thats even more difficult.

Nate Hagens

Energy Slaves: It takes a human being 11 years to provide the same amount of energy contained in one barrel of oil. Energy is the largest driver of economic growth - more than technology.

A lot of consumption is due to status - the peacock-phenomenon. The problem with easy solutions (i.e. renewables, electric cars, etc.) are the externalities e.g. high water footprint of electric vehicles. The current economic activities make it difficult to satisfy important human needs: being social, empathy ... A lot of consumption is due to status - the peacock-phenomenon. We should work to consciously change that, which however is difficult – similarly to telling a teenage girl to dress ugly.

On pessimism vs. optimism, he argues that the former is a kind of cowardice, as it often implies no action. He is pessimistic about our current economic system, but optimistic about what comes after. Less does not have to be bad. A systemic alliance is needed. We know if 10% understand this well the rest follows very quickly (critical mass). He used to be a Wall Street broker and earned lots of money, he now has spent most of it, owns a house in the countryside, spends a lot of time gardening and with his dogsis happy. It should not go unmentioned that this last presentation received by far the longest ovation of all.

Selected YouTube Links

- [Nate Hagens](#)
- [Euan Mearns](#)
- [Arthur Berman](#)
- [Ugo Bardi](#)
- [Kjell Aleklett](#)
- [Helga Kromp-Kolb](#)
- [Reiner Kummel](#)
- [Jeremy Leggett](#)
- [Robert Hirsch](#)
- [Peter Droege](#)
- [Wolfgang Streicher](#)
- [Michael Klare](#)

- [Michael Cerveny](#)
- [Olivier Rech](#)
- [Alexander Pöegl](#)
- [Werner Zittel](#)
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- [Christoph Chorherr](#)
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