



Houston ASPO Day 2 part 2

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This is the last of the posts that deal with the content of the ASPO Conference last week in Houston. I will have my usual personal closing review tomorrow. As I hope you will gather, it was full of information and somewhat intense. And that did not include talking to folk in the breaks, which expanded a lot on what was being said in the papers. So if you want to think of this as the first commercial for next years meeting (which will be in California) then you're right again. And just to remind you, the earlier posts were [a report on the Workshop day](#), the [first morning report](#), [the rest of Thursday](#), and then [Friday morning](#). A quick thanks to all, and it was more fun than I had even hoped to meet so many of the TOD folk, as well as so many others – thank you all, and of course, a much bigger thank you to the organizers for putting this on. The result, gentle folk, was well worth the effort.

We rejoin the meeting just as we sat down to lunch, and a talk by [Houston Mayor Bill White](#) who has the enviable distinction of having Matt Simmons as the Treasurer of his Campaign Committee. He acknowledged Matt as a prophet (with all that usually brings). He sees the current situation as one that comes down to a race between depletion and technology. It is not possible to give a political speech and create more oil fields. It is not possible by giving a political speech to create a hydrogen economy either immediately or in the practical future. It is not possible by giving a political speech to over-ride the laws of physics.

There are, however, two things that a Government can do. The coming peak in oil production will be preceded by a rise in price as oil, and thereafter gas becomes in greater demand with a reduced access to supply. Government can help in this case by raising the Fuel Economy Standards and providing incentives to encourage a lower usage of fuel. Bear in mind that the weight of a person is a small percentage of the weight of the vehicle that must be also moved, whenever one drives to work. If the power train was a cable carrying electric power to motors in the wheels of a car then it easier and a more efficient vehicle can be built that can include regenerative braking. Bear in mind that the decisions on how to go is influenced by consumer choice and taste, but this can be adjusted by control of standards, and we can control choice if there is a concerted effort, both nationally and internationally. He noted that at one time the US had (used ?) 40% of the world consumption of gas and diesel, we are now at 25% and on this path there is nothing but trouble ahead.

He suggests that it is time to look harder at the gains that can come from better use of modern technology. Houston is looking at making better use of flex-time and of encouraging folk to work from their homes. He cited the policy of Dell, who actively discourage some of their employees

from coming to the office.

It is no longer an answer just to provide financial support to the poor who are having trouble paying their fuel bills. Houston has started to put energy efficient parts into old houses, to improve insulation and reduce energy costs. The program has reduced energy use by 20% in the test areas and is moving out into larger neighborhoods. (It costs around \$900 per household). They are also working to encourage zero energy and zero water-use housing.

But they are finding that Inertia is not just a law in physics. There is a strong sentiment that “we just don’t do it that way,” that works against innovations, many of which don’t get adopted as a result.

This shouldn’t be taken as a diatribe against the oil industry. Which is as concerned as most about averting a spike in oil prices, since they realize that there will be a backlash that can generate a response that will impact them. Industry therefore is working to ameliorate the price rises as much as they can, since it is an industry that has often been vilified for actions over which it has no control.

After his presentation, and the end of lunch, the Government panel from before lunch returned to a question and answer session. It was pointed out that the will of the Congress, and all other politicians along the ladder, since they only respond when they see their constituents demanding action. So the audience (and you dear reader) are encouraged to first arrange a meeting with the legislator, or an aide. Then write a letter to the editor of your local paper, citing the meeting. But if you’re going look respectable, have a short piece of well-prepared paper (Debbie Cook handed an example out at the Saturday meeting) to illustrate the points (no more than one simple explicit graph on a page), and bring along an authoritative figure that can help lend credence and stature to your presentation. This will be particularly effective if you can tie it to some event related to energy that occurs, and you can expect that there will be one of these soon.

Senator Whipple urged that you stay away from emotive issues. (Discussing population for example is a rapid way for a legislator to find an ex- in their title). You must relate it to the issues that a constituent understands (such as the price of gas). Build on the issues that are important, or viewed as such by the press. In the last 2 weeks, for example, there have been ten stories on air quality in the LA Times. Recognize that we cannot change the culture that quickly and that the social benefits of any change must be explained (simply). And remember that governance is an interlocking structure in that while some things are done at the city level, others are related to state action and yet others are reacting to federal regulation. You need to understand, when making a presentation, what can be achieved at that level.

Remember that in the Congress, the Peak Oil Caucus has only 15 members. Because of a lack of knowledge about what is coming and what will work, the easiest path is to “provide more” and even though that might not be possible, a lot of the Congressional community do not know or accept that.

Sadly they did not get around to answering Euan’s question on whether Texas was self-sufficient in fertilizer.

Recalling the names of those who had been awarded the Hubbert Award in the past, the organizers then presented [Charles Maxwell](#) with the 2007 Hubbert Award.

The Afternoon session then formally began with a presentation, for 75 minutes, of Scenarios for Houston after Peak Oil, presented by [Peter Bishop](#) and [Seth Itzkan](#). They began by quoting that

“if you don’t know where you’re going, you’ll end up somewhere else.” Houston after Peak oil will not immediately be different to today, but as the impact is felt, and oil disappears, so it will change to a different place. Bear in mind that much of Houston business is tied to oil.

We are now going through the first stage of the S-curve of Disruptive Change – in the first (lower leg of the S) we are in the “no problem” bit; this is followed by the straight incline up the S – the “what is going on here?” phase, which is then followed as the curve tops over by the third “Whew, how did we survive that!” phase.

The talk is after the third phase, when we have turned to a form of life that people will like and be happy with, so it focuses on an ideal future. In this there must be some adaptive change (wearing coats in colder rooms), and Houston has to be sure it doesn’t become a New Bedford, or a Detroit, devastated as the main industry fades down the road. With Houston currently the 4th largest city in the country, and with 4.7 million people, and Texas using 12 Quads of energy (California comes next with 8 Quads) and used to being successful, at the same time Texans don’t believe in collective decisions, but rather the life of the individual. So all these had to be taken into account in developing a viable scenario for the future.

In this future they see a major role for solar, all transportation will be electric, with distance travel by rail. This will make society somewhat more static, the mouse will become the transportation unit, and clothing will adapt more to season. The greatest change however will be in building efficiency. They cited a number of examples (best found by looking at their [presentation](#)). (Note not all the presentations, including this one, are up yet, but as soon as ASPO has them they will be, so please be patient).

The designers they quoted include [Forbes Eco-lofts](#) a development in Chelsea, which is outside of Boston. They anticipate that wind turbines will be integrated into the design to provide power sufficient for building independence. They also included the [the BedZed Community](#), which is carbon neutral. By using 2-ft thick walls they were able to cut energy demand by 75%. The 145 kW power plant is powered by wood chips, and the waste water is treated naturally on site, and is heated by the power plant. It also has an electric car plug-in. They also discussed the concept of [SkyZed](#) where small wind turbines around a housing tower generate the necessary power. The third site is in [Changsha, China](#), though one of the changes between the posted sites and the slides shown in the pictures is a change from conventional propeller wind turbines to “egg-beaters.” You’ll hate the journey, but enjoy the destination.

We then returned to the reality of today’s oil supply, with some opening remarks by [Henry Groppe](#), who talked about the current situation and the tightness of current supply, with the implication, and need for, rationing in the future. (His slides are up as a pdf). He sees us having passed from the Era of Plenty, where the U.S. had control, and the Era of Transition, where OPEC had control, into the current Era of Scarcity and Price Rationing. He sees the imminent peak as being a point where price will ration demand. Last year, for example he accumulated Non-OPEC Crude at 28.9 mbd with Eastern European crude (sum 40.3 mbd) and OPEC crude (to 69 MBD) to which he added NGL to get 80.6 mbd with a small amount of other. He sees a slight further increase to about now, and then a decline in this total to 78 mbd by 2015. He tabulated deliveries, now at 84.1 mbd, again anticipating a decline to 81.8 mbd by 2015. He further anticipates that KSA has already peaked in production. We can however expect nothing much to happen, until those in the media catch on, at which point it will be Panic!!

He then introduced [Charles Maxwell](#) who made a series of remarks of his own before sitting down for a conversation between himself, Mr Groppe and [T Boone Pickens](#). In his own remarks he noted that there are only three frontiers left to look for oil, the first is Deepwater, with 5% of the

prospects looked at so far. However this is a very expensive venture that can only be accomplished by those with a lot of money (small independents are out), with rigs costing on the high side of \$600,000 a day. The second is in commodities, with LNG being the prime candidate. The problem is getting it to the customer that needs it, at a price that they will be willing to afford. And the third location is the newly available geographic frontier, places we could not get to before, such as the FSU affiliate states.

The problem is that we no longer have any spare capacity to get us through the rough spots of Middle East production. The problem is the speed of the change that is coming. He feels that OPEC has made a mistake in the amount that they have released, and hopes that they have realized this and will release more oil in the coming months. The damage that is being done to the world economy will take time to fix, and without additional oil – well we just have to have it. Because of this rational response we can anticipate that oil will come back down to \$70 to \$75 a barrel. He noted that the current rise caught some of the oil companies by surprise and that Exxon, for example, cannot get a semi-submersible rig they need until 2016. If the correction is made within 6 months we can get through it, since we can pull capacity from stocks.

From that point onward the only route is through conservation, with CAFÉ standards and insulation standards being imposed to reduce demand. We are marching into the maw of the dragon with our flags flying and our heads up. Life is wonderf. . . Chomp!!

Bear in mind that the Saudi's have seen the graphs, and don't want to produce too much, since, knowing what they have, they can, if they keep the price up, still make the money they need, while saving oil for their children. Though he thinks that the KSA can produce 12 – 15 mbd for generations. Nevertheless he is afraid, since there is no substitute fuel, that this will come out badly. LNG imports will only solve part of the problem. We will walk away from coal and not burn it, nuclear may be around, but it won't help much. Prices will come faster and harder than expected, with the period from 2010 to 2016 that of our greatest vulnerability. We will need a lot of conservation and a lot of innovative new technology, but he thinks we will survive.

T Boone Pickens (TBP) then joined the other two and discussed his three favorite topics Oil and Gas, Water and the role of exercise. TBP noted that natural gas wells now decline very quickly and LNG cargoes are going to go “where the price is right.” Right now that is China, which has 4,000 NG buses in Beijing, and they don't have much natural gas for them. (We're having a duck dinner – you're invited, bring a duck). While the world is currently oversupplied this will not last long, we may get through 2008, but things may well get tough by 2009, and will gradually transition to being a transportation fuel.

Unconventional gas is in its last hurrah! It is too hard to find, and what is being found is small. The price of LNG projects has doubled, and as he looks at prospects all he sees is that we are running out. The only thing that is therefore left to do is to kill demand with price rises. He thinks that the majors, buying back stock and so on, are giving the message to the market that they can't grow. He sees end of the year demand at 88 mbpd, but supply only able to reach 85, price will reach \$100 before it gets to \$80. He turns out to be one of the largest owners of water (in the [Ogallala Aquifer](#)).

The proceedings for the day were then summarized by the second “mystery respondent,” which turned out to be our own Professor Goose! PG's summary hit some of the high points of the day, focusing on policy and social change. He noted that even though a lot of smart people are thinking about small portions of the problem, it is likely that policy progress/change will follow the path of a [Punctuated Equilibrium Policy Model](#) until a tipping point hits. Policies will bubble up from local and state policy innovations and mistakes until then. After the tipping point, top down solutions

will be attempted by those in power.

He also made the point that problem in integrating the many approaches to the ideas and data surrounding the problems we face is a lot like squeezing sand; just as you think you have a grasp, it trickles away. This is a tough thing we face. PG concluded with the point that large scale social change requires a social movement, which he considers the communities behind "peak oil" and "climate change" to be. For us to address the problem, we need leadership and policy entrepreneurship. But most importantly, we need to get as many smart people as we can to keep having a discourse about the problem, challenge each other's assumptions and ideas, and hopefully learn from each other to change our paradigm.

This formally ended the conference, but in the evening there were two further presentations, dealing with the missing link, the impacts of fossil fuel peaking on Global Climate Change. The first presentation was by [Dr Pushker Kharecha](#) of NASA GIS. He spoke about the models that have been developed to predict, as a function of the growth in greenhouse gasses in the atmosphere, the consequent changes in climate. Due to recent studies they are lowering the critical temperatures at which they feel that irreversible changes can occur. Unfortunately the presentation was sufficiently fast and detailed that I could either follow the discussion or write, but not both, but I did note that they have now explained the [failure of the Antarctic to warm](#) as had been predicted, as being due to the hole in the ozone layer, so that it is still man-induced.

He was followed by [Dave Rutledge](#) of Caltech, who talked about the change in projected temperatures due to GHG emissions, in light of the future consumption of different forms of fossil fuel. He sees climate change as predominantly a coal problem. After looking at the rate at which the world is going through oil, it will not be around to contribute much, for that much longer. (Though he noted that the \$10's and \$100's of millions that have been spent running climate prediction models that are used to predict global temperature rise assume that supply will continue to meet demand all through this century, and that there are no constraints on carbon production).

He then looked at coal, in much the same way that he did when giving the [guest post here at TOD](#). His data showed that coal use peaked in 1913, but he initially looked at Britain to see how one might model coal decline, and found that the predicted curves followed the decline models very well. He then broadened the study to the United States, and found that the production from Montana is likely to skew any existing model, and that coal production is still increasing, though the amount that will be mined is considerably less than the amount that is currently considered a reserve. He believes that, as a result, the current reserve estimate for the United States is about five times too high. (It doesn't include coal sterilized by oil well penetration – you're not allowed to mine near one, or the inter-seam rock thinning out, that would preclude working one or the other). As a result we are well through more than half of Eastern US coal.

Putting the whole thing together he sees the world URR at 435 Tboe (trillion barrels of oil equivalent) and that it will decline in carbon production by 2050. Using the coal and oil projections he then ran a model of anticipated temperature rise, based on the anticipated production of GHG, and came out with a predicted impact that was significantly less than that of any of the models used by the IPCC. More information on the talk can be found on [his website](#).

There were also breakout sessions on Saturday for policy and media relations, but I didn't take notes, so feel free to describe them in the comments.

So, that was the conference, thank you for sticking with us this far, and again, for those of you that were there, please chip in with corrections and comments.

G'night.



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