ASPO-USA Sacramento - a Comment

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This is the post where I try and draw my own conclusions from the Conference. And not recognizing many of the papers in this does not mean that they weren't important, but rather that from my own perspective that this is what I got most from.

The recurrent word that cropped up, again and again, was Scale. It was an attempt by the speakers to try and convey to their audience the size of the problem that is coming at us, increasingly rapidly. That one word encapsulates the difference between those who talk of the world energy problem in Quads (quadrillion Btu's), as opposed to those that talk of the solution in terms of kilowatts and Megawatts. (The handy Dashboard on my Mac tells me that a Megawatt is 56,869 Btus/min. A Quad is 1,000,000,000,000,000 Btu.) The current shortages of gasoline are largely brought about by a transient closure of refineries that affects around 1 mbd of oil supply. The time is not far distant when such shortages will become more regular as we compete for supply in a more competitive global market.

The tipping point that seemed still a comfortable distance away three years ago when the American ASPO meetings began in Denver, is now just about here. And the solutions that have been discussed do not approach, as yet, the millions of barrels a day (mbd) of fuel replacement that we may need before long. At the same time, to return to the theme of my own paper, we do not have the educated human resource that we need. Data from my Dean of Enrollment shows that ACT report national high school student interest in engineering was at 14% in 1982. By 1992 it had dropped to 9%. By 2005 it was down to 5%, and has fallen below that since.

(Ed note: In what follows I'm referencing presentations now, rather than folk, and the citations are pdf files.)

The net result is that we are heading into trouble. As Matt Simmons, I think, said "it will make what happened in the past week look like a picnic." Glancing back through Richardson Gill's The Great Maya Drought I found the section where he talks of the impact of famine, and how priorities switch from nation, to community, to family, to self. We're still at the nation level, or even, some might say, still thinking globally, but one wonders how long that will last. Because the numbers are real, the decline in global production is coming, and it is going to be soon. And the decline curve will be greater than we anticipate.

In that regard I do have to tip my hat to the organizers for inviting Peter Wells to give what might be considered the cornucopian view. And he came and talked to a room full of cynics, so my

hat is tipped again. But that being said, the CERA/IHS position and predictions have been proven wrong so consistently, that some of the value of the talk came from seeing how intelligent people can be led so far astray. Though to be fair, his predictions were less optimistic than those coming from CERA. And I appreciate his giving us the view "from the other side of the fence," and the problems that the folk in the Middle East have in deciding what world demand will be so that they do not overproduce into a market in a way that will drive the price down.

Part of the problem comes from what is defined as a resource, rather than a reserve, recognizing that this changes with circumstance. For example the heavy oils that the Kingdom of Saudi Arabia, and Iran cannot produce and sell at the moment (e.g. Manifa) depend on the construction of new refineries, such as those at Yanbu and Jubail. The Jubail refinery is scheduled to come on line in in 2012, with a production of 400,000 bd. The Yanbu refinery that will take the other half of the Manifa production is scheduled to come on line in 2013. To count the Manifa oil as an immediate reserve, as KSA and Mr Wells apparently does, is thus, in my opinion, wrong. By the time that it comes into production that oil will be needed to match declines in production from the remaining fields in KSA, which by then will be in visible decline. The evidence for that was provided by Joules Burn.

Mr Wells predictions for exploration success are, I believe, likely to be found optimistic, and the chances of Saudi Aramco being able to achieve the levels of sustained production from Enhanced Oil Recovery techniques that he gave are very optimistic. As a result I don't think that we will see a sustained KSA production that rises much above 11 mbd, if it reaches that high (he thinks more that 12 mbd and sustained). I also think that his projections for Iraq, at up to 7 mbd, are way above what is likely to be achieved, even if the political mess out there does get straightened out in the next ten years. But then, the nice/bad thing about making projections is that, after a while, you get to see whether they were true. And sadly, we will know soon enough, whether undue optimism was in fact warranted.

With crude oil supply in bad shape, finding that natural gas supplies were no better as Andy Weissman pointed out reinforced some opinions that I had already formed, and written about. But it leaves no other immediate choice, than a greater reliance on coal. It may not be popular, it may have lots of cost issues. (I cannot yet see a willingness to pay the power and financial costs for significant carbon capture and sequestration, nor the political will, when that cost is openly discussed) but there is little else.

On the liquid fuel alternatives, Robert Rapier was his usual excellent self in reviewing biodiesel. Though while I don't completely disagree with his notion that "algal biodiesel" is still an R&D project, I do suspect that if the different parts of that complex puzzle are addressed simultaneously, rather than in order, then the impact can be sooner, and more promising, than he holds out (but then I'm biased). But that said, there is not yet enough promise in the biodiesel future to answer the need.

However I would like to close with recognizing the talk that Randy Udall gave. If it takes a little courage to come as a cornucopian to a peak oil conference, it takes a lot more to get up and tell folks not only that Peak Oil is more important than Climate Change, but also that there is an arrogance in the IPCC community, intolerant of outside information. He shared a note from them:

> "We are all extraordinary skeptical of the "peak oil" stuff. We know of no reliable information that suggests that we're going to be running significantly short of any fossil fuel in this century…It certainly won't happen with any significant price on carbon.

"We've done a few 300-year scenarios that have some shortages in them, but even that may not be realistic. This is especially so with coal!"

"The Chinese say they have enough coal for centuries...The idea that we're only going to reach 450 ppm is not defensible, especially when we're already around 385 ppm. Do we really think there is only another 60 years of fossil fuel left? I don't think so."

With all the politicians now so earnestly lined up to parrot this opinion, it is going to take a significant shock to divert their, and the world's attention.

Sadly I suspect we may see it, even before the next conference. (There were even those who wondered whether the situation would get bad enough in the next year that we might not have one.)

And so I came away a lot more apprehensive than on my arrival. Somehow having a lot of folk confirm my fears brought home that this is not a theoretical exercise in a way that, as an academic, I sometimes forget.

The talks were all information intensive, and I would highly recommend not only downloading the presentations, but also getting the DVD's when they are issued. The Energy Challenge has already posted some information on where and when.