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Registration is *now open* for the 2008 ASPO-USA Sacramento Conference, Sept 21-23
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1. A week to remember

By Wednesday of last week oil prices had fallen by 8 percent from their all time high based on major reductions in oil product subsidies in by Asian countries, the perception that US consumption was falling, and expectations that the Federal Reserve would stabilize the dollar. Analysts began talking about the end of the oil bubble and that prices would soon be down to $100 a barrel or perhaps even $80.

This attitude was reinforced by the week's US stocks report which showed that US gasoline and distillate stocks had grown the previous week. In its enthusiasm for a price drop, the markets ignored a 4.8 million barrel drop in US crude stocks. Few seemed concerned that US crude imports for the last month were down by nearly 8 percent over last year.

Then the roof blew off. On Thursday and Friday, oil prices jumped by nearly $16 a barrel to a new high of $139 – a 13 percent increase. At least a half dozen developments coming in rapid succession were responsible for the surge. In Europe the Central Bank hinted that it was thinking of raising interest rates, which in turn sent the dollar down and started a flight to the safety of oil. Then an Israeli cabinet minster told a newspaper that it looked as if an attack on Iran's nuclear facilities was "unavoidable."

Morgan Stanley released a report saying that their study of tanker movements showed more Middle Eastern oil was being shipped to Asia rather than to Europe and the US so that prices would reach $150 a barrel by the 4th of July. This was followed by an unexpected jump in US unemployment and falling equity markets. Speculators rushing to buy back the short positions they had established earlier in the week were the icing on the cake.

Nearly lost in the midst of a 400-point drop in the Dow Jones and the $16 dollar jump in oil was the natural gas price jump which reached a high of $12.82 /mbtu on Friday -- the highest it has been since the 2005 hurricanes. Sympathy with oil prices and unusually hot weather, which will increase gas-fired power consumption, was cited as reasons for the increasing price.

As has become usual, opinions are mixed as to whether the latest price jump was caused by a mixture of speculation, a falling dollar, and fear of war, or plain old supply and demand.

Some observers are noting that a rather minor drop in US consumption is more than offset by Chinese demand to prepare for the Olympics and cope with the consequences of the earthquake. The increasing failure of national electric grids across much of the third world is leading to significant new demands for imported oil, especially diesel, to keep vital systems operating. These observers are suggesting that markets are becoming so tight that shortages could occur in developed countries before the year is out.

2. Speculation vs. fundamentals

Every increase gasoline price increase renews the debate of just what the "proper" price should be and just how much of the price of oil is caused by speculators. Nearly everyone in Congress

would love to find that indeed someone is manipulating oil prices or that some large share of recent price increases can be attributed to speculators. There is little the Congress can do to increase oil supplies in the short run and they are loath to institute what would be highly unpopular measures to restrict consumption. Hence the continuing interest in exposing and restricting speculation as the only avenue to show their constituents they are doing something.

Last week the US Senate held yet another hearing on the role of speculation in raising energy prices. Carefully chosen witnesses for the most part told the hearing that indeed high prices arose from speculation. Only George Soros and a few others got off the reservation and opined that supply and demand had more to do with the problem. Much of the hearing was devoted to how the US's Futures Trading Commission could regulate trading in London and Dubai.

Despite frequent and fervent assurances from the US Treasury and Energy Secretaries and the head of the futures trading commission (CFTC) that high prices are primarily caused by tight supply, Congress shows no indication that it will let go of the issue. The CFTC continues to investigate and Congress continues to threaten legislative restrictions on futures trading.

3. Growing shortages

Despite endless repetition of the mantra "the markets are well supplied" from OPEC and occasionally senior international oil company officials, reports of actual shortages of petroleum products continue to increase across the globe. Reasons for these shortages vary from country to country, but most seem to stem from the cost of petroleum on the world market or efforts by governments to keep retail prices affordable. In the last week we have reports of retail shortages from China, the Indian sub-continent, numerous countries in Africa, Latin and Central America, parts of East Asia, and even from the poorer countries in the Middle East.

In China, the world's number three importer, retail shortages seem to have reappeared as the government keeps price caps in place at least until the Olympics. The government's newest plan is to turn the small private oil companies that were shutting down because of the high cost of crude into "contract refiners" who simply refine oil for the state companies without any price risk. China, with $1.6 trillion in reserves, can afford oil at any cost. It is still not clear just how much their imports have increased in recent weeks.

In a few countries, the shortages may be temporary such as in Malaysia where a 40 percent price increase was accompanied by hoarding and a run on the pumps. In a few countries, national oil companies can no longer afford to sell products at government-mandated prices. In still others, the local importers simply do not have enough liquidity to pay for the products.

This situation is unlikely to improve. Except for countries producing enough oil to cover their own needs, and the very wealthy, all others are likely entering an era of permanent shortages.

4. Air Travel

Hardly a day goes by without reports of more problems for the airline industry. Last week the International Air Transport Association warned that its members will collectively lose $6.1 billion should oil continue to trade at over $135 a barrel for the rest of the year. During the last six months 24 airlines went bankrupt and more bankruptcies are expected soon.

Nearly all the major airlines have announced cutbacks in their flying schedules with many grounding their older less-efficient aircraft and dropping service to smaller cities. Fare increases, baggage charges and fuel surcharges are becoming the norm. Cheap fares and frequent flyer seats are becoming more difficult to obtain.

The problem is compounded by EC emissions regulation rules that the industry claims will cost $10 billion to comply with. Recent attempts at airline mergers in the US failed because labor contracts would hamper efficient integration of separate systems.

The pace at which the industry's problems are compounding suggests that a day of reckoning is at hand. If oil prices continue to rise at a time of economic stagnation, mass discretionary air

travel will soon be priced out of the market and the industry will shrink to a fraction of its current size. Re-regulation of the industry seems likely within in the next few years in order to insure a minimum of essential flights between major hubs remain available.

5. Briefs *(*clips from recent *Peak Oil News* dailies are indicated by date and item *#)*

- **Saudi Arabia**'s Shura council (parliament) will hold a series of meetings over the next two weeks to discuss a controversial proposal by a key member to curb oil production to save reserves for better prices. (6/5, #4)
- An explosion in **Western Australia** at Apache Energy's natural gas processing facility has cut the state's gas supply by a third. It could take months to repair. The gas shortage is seriously impacting the resource industry, with companies having to cut back on production and having to buy more diesel for power generators. (6/7, #8)
- **GM** announced drastic cuts in production of sport utility vehicles and pickups and stepped up plans for building smaller cars. CEO Wagoner said GM will close four North American assembly plants by 2010. And in a humbling admission that the SUV era is all but over, GM said it is considering selling the gas-guzzling Hummer brand. (6/4, #14)
- Some 74 percent of **Americans** said $4 a gallon would be their threshold for driving less—from a survey of 1,000 adults nationwide conducted by Ipsos Public Affairs. American demand for gasoline dipped 1.4% over the last four weeks. (6/7, #10; 6/5, #1))
- Demand for diesel in **Chile** is skyrocketing as the energy-poor country enters winter amid very large cuts in natural gas imports from its sole supplier Argentina. (6/5, #10)
- **Russia** produced 0.8 percent less crude in May than in the same month last year, bringing the country closer to the first annual drop in oil output in a decade. Exports also fell. (6/2, #4)
- Later this year, **China** will start operating a coal to liquids plant that is expected to convert 3.5 million tonnes of coal per year into 1 million tonnes of oil products —the equivalent of about 20,000 b/d. By 2020, Beijing hopes to up production to 286,000 b/d. The *Oil & Gas Journal* suggests it will cost around $70 to $80 a barrel to produce oil in this manner. The plants are very expensive and release prodigious quantities of greenhouse gases. (6/4, #9)
- **India** announced an increase of roughly 11% in retail prices of gasoline, diesel and cooking gas to bail out its cash-strapped oil marketing companies. (6/6, #13)
- **Canada's oil sands production** averaged 1.32 million barrels a day during 2007. A group that includes major oil sands producers urged Alberta's government Thursday to cool development of the province's vast oil sands to protect the environment. (6/6, #18)
- **Tougher environmental rules** governing production from Canada's oil-sands region will contribute to a global crude supply crunch, Total SA Chief Executive Officer Christophe de Margerie said last Wednesday. (6/5, #18)
- **Iraq** exported an average 2.01 million barrels of oil a day in May, up 100,000 barrels from the previous month and the highest since before the invasion. **Saudi Arabia** raised production by 130,000 barrels to an average 9.25 million barrels a day in May. (6/5, #2)
- **Iraq** expects to conclude negotiations soon for six oilfield service contracts with international companies that could boost output by 600,000 barrels/day later this year. (6/5, #5)
- **Brazil's oil discoveries**, including the Western Hemisphere's largest in three decades, may cost $100 billion more to develop than the industry's most costly field. The Tupi deposit and nearby offshore prospects probably will cost $240 billion to exploit. (6/5, #11)

- **Pemex** said the state-run company's oil exports were headed for an average of 1.40 million to 1.45 million barrels per day over 2008, around 15% below their target and a 14% decline compared to their exports in 2007. (6/5, #12)
- **Ethanol** from corn accounts for a 20 million ton increase in the amount of grains consumed each year, far outpacing growth of about 2 million tonnes a year on average in demand from China, Lester Brown told reporters in Beijing. (6/4, #3)
- **Freight trains** in the US face a crisis. The nation's 140,000-mile (225,297-kilometer) network is already congested with trains forced to wait for hours because of one-track rail lines. A new Chamber of Commerce report warns demand for freight trains is expected to double over the next 25 years. (6/4, #12)
- **US EIA:** Oil prices should stay above $100 a barrel through 2009 and potentially longer as supply struggles to keep up with demand, the energy forecaster said on Monday. (6/3, #3)
- In New England, retail **heating oil** prices have risen to more than $4.50 a gallon, nearly double what they were last year at this time. Some oil dealers have delayed rolling out their payment plans for next winter as the world oil markets continue their wild ride. (6/3, #18)
- Sporadic riots in OPEC member **Algeria** this year risk triggering wider protests against a political elite slow to turn major oil wealth into jobs and homes.(6/2, #10)
- **Indonesia** cannot rule out further hikes in fuel prices ahead of the 2009 presidential elections due to the impact of fuel subsidies on the budget. The government raised fuel prices by almost 30 percent last month, sparking protests in a country where millions are already suffering from rising energy and food costs. (6/2, #14)

Quote of the Week

- "While [Rep. Roscoe] Bartlett's vindicated [for all his focus on peak oil], it's a hollow victory. We're approaching a crisis he predicted, a crisis that might have been circumvented if, as a nation, we'd paid attention."

--- Katherine Heerbrandt, (Frederick News Post)

Commentary: Transportation and the Future

By Bert Melcher

(Note: Commentaries do not necessarily represent ASPO-USA's positions; they are personal statements and observations by informed commentators.)

In talking about transportation and the future, I will use scenarios. For simplicity and contrast in this short article, I will use only two: "most probable" and "rational and most desirable."

My scenario assumptions: (1) the interconnected dots of energy, climate, economy, security, globalization and infrastructure present a high probability of adverse effects. (2) These effects can range from moderate to highly disruptive, depending on how quickly they arrive. (3) The time frame for significant effects may be a decade or two, depending on geopolitical stability, rates of change in US and global approaches to the dots of (1) above; or the time frame may be stretched out under rates and types of change postulated for the "most desirable" scenarios.

SCENARIO 1: "MOST PROBABLE" FUTURE.

I'm tempted to call this the "Cadillac Scenario." Recently the CEO of GM's Cadillac Division noted that the long decline in Cadillac sales is being turned around by their new high-performance luxury cars. He adds that it will be "decades" before this approach will return Cadillac to its once-dominant place in US high-end cars sales. His position is that time and fuels are on his side, so drive on. He symbolizes this scenario.

Defining forces of this scenario are (1) built-in resistance in decision-making processes; (2) failure to "connect the dots;" (3) fundamental disregard for Sustainability, for whatever reasons.

In a 1969 University of Colorado national seminar “Urban Transportation for Tomorrow,” I presented a paper titled “Built-In Resistances and the Decision-Making Process: The Transportation Element of the Urban Problem.” I could have written it yesterday. *Déjà vu* all over again. The first scenario is shaped both by that paper plus by the phenomenon that I should have used for the title: “built-in decisions and the resistance-making process.”

The resistances and constraints in public and private decision-making about our transportation future generally fall into four general areas: conceptual, resources, structural or institutional, and exogenous matters (externalities) which impinge upon decision-making. These resistances have been hardened into institutions and into frozen resource allocations. Conceptual resistances start with the definition of the problem. In transportation, at the risk of a slight over-simplification, our transportation planners and engineers, supported by special interests and too much of the public, see the problem as congestion relief and better mobility for the car. These people see transportation as an end in itself, relatively disconnected from environment, social justice, resource limits, and other linkages. As long as the conceptual basis is “freedom of mobility” rather than “efficient accessibility,” major decisions undertaken without a valid conceptual foundation will prove extremely costly.

A second major resistance relates to the argument over centralized vs. decentralized urban form. This argument begs for a more comprehensive and rational decision-making process. There is no doubt that a more efficient urban form promotes transit, walking and reduction of vehicle miles of travel. Currently this matter is gaining converts and some changes are occurring, but the pace and magnitude are minimal. Conceptual-philosophical resistances exist in a tradition of anti-urban bias and rural past, and a general predisposition in our technocracy toward the “sub-urban”; it is natural that a degree of subjectivity enters public decision-making.

Pricing and financial allocation are also of profound significance. In highway financial allocation, the use of benefit/cost ratio analyses as well as sufficiency rating is not utilized in overall budgeting. Planning does not identify a full range of alternative types of improvements, the most economical alternative to adopt, or the timing of the improvement. Pricing concepts are unsophisticated in comparison with the magnitude of the task of providing “responsible transportation for tomorrow.”

At present, we tend to speculate about long-range ramifications according to our areas of expertise. Related to this is a frequent inability to comprehend the potentials – favorable and adverse - of science and technology. Worse, compared to the 1960’s, belief-based conceptualization has grown and science-based decisions have been marginalized. This perpetuates the “most probable” scenario and is counter-productive to efforts to redirect it.

Institutional and structural problems include institutional frameworks, a complex body of laws, institutional levels of decision-making, and just plain politics. Structural constraints are critical. When we build a facility, we build in a long-term future, both physically and functionally. The political structure of infrastructure is self-perpetuating: the investment in infrastructure creates lobbying power and self-interest that shape political decisions, almost invariably against change. And sadly it does not lead to fiscal prudence and economic efficiency in decision-making. It is fiscally imprudent to build short-lived and high maintenance infrastructure, but the mono-modal system of highways falls into this category. Economic inefficiency has lead to the effective bankruptcy of our transportation financing system, as well as tremendous infrastructure debt for future generations. The point of this is that the “most probable” scenario is created by these conditions. Institutional structure perpetuates this scenario. If we were rational, we would have truly multimodal agencies at Federal and state level, with flexibility to assign funding to the most prudent, efficient and sustainable methods of providing accessibility.

Regarding the “dots”, one of the problems of avoiding adversity is our inability and unwillingness to connect the dots. Absent the connections, the law of unintended consequences prevails. The rush to corn-based ethanol illustrates this: soaring food prices and starvation conditions for hundreds of million, entrenched subsidies, low net energy, high pollution, etc.

Exogenous factors range from China to wars, and I will not dwell on these.

This scenario is shaped by these factors, and I see it leading to gradual change for a while. CAFÉ standards are too low and even if they were higher, fleet turnover and the Cadillac mentality limit the rate of change. Our sad national economic condition combined with our inefficient financial allocation methods, including misplaced subsidies, limit change for a sustainable future.

What this approach cannot prevent is an abrupt and severe disruption. I believe that it will come from a liquid-fuels problem as the driving actor, before the extremes of climate change take center stage. But the initial disruption will exacerbate the inability to adapt to climate change. Obviously this scenario does not adequately moderate the emissions of greenhouse gases to a level approaching sustainability. We will lack the money and will have built the wrong infrastructures to react without severe hardship. If we had the money, the US could start as the Dutch are doing: providing resistance to a five-foot sea level rise that could well occur in several generations. We could even help other nations avoid abrupt disruption, mass migrations and severe health adversity. This scenario lacks lead time for avoiding severe hardship.

SCENARIO 2: "RATIONAL AND MOST DESIRABLE" FUTURE.

A prompt and rational transition to avoid severe disruption commences immediately. The US DOT and the states change to a "one-DOT" planning and financing system to work to the intercity movement of people and goods by electric rail, shifting from car/truck transport and aviation as the Europeans are both planning and doing. Funding for this will come from motor fuel taxes that can be used with flexibility for prudent and economical developments. Adverse impacts of higher fuel costs on low income people will be mitigated. Tax policy will stimulate plug-in hybrid electric vehicles, urban transit and non-automotive travel. Rational densified land use will phase in quickly. Mixed use urban development will reduce vehicle miles of travel, and rather than having SUVs carry a few bags of goods home, stores will use distribution and parcel deliveries by truck as we had in the 1930's (which made shopping much easier.)

We will actually recognize that the faster we use up liquid fossil fuels, the faster the supply-demand situation will create abrupt adverse change. Being rational people we will seek gradual and positive change, conserving for the future. Carbon taxes will be implemented. We will start adapting to rising sea levels, avoiding new infrastructure and development that may have a short economic life due to inundation.

Major power supply will come from renewable sources such as a $400 billion concentrating solar power plant in the Sahara, smaller such plants in other appropriate areas, wind, and distributed power of PV, geothermal, micro-wind turbines, along with significant efficiencies in use in all sectors. Liquid fossil fuels should be conserved for heavy and off-road equipment.

People will call this "social engineering." It is no more that than the present "social engineering" of built-in decisions created by status-quo institutions, artificial economic forces, lobbying power controlled by vested self-interests, obsolete mechanisms and institutions, and indifference to ecological realities. It will socially and democratically "engineer" future generations away from potentially disastrous conditions and into a national and planetary system that does not deprive any people of civil rights of health, safety, security and freedom of thought.

Albert Melcher has been intensely involved in transportation studies and policy as an activist/planner on the Colorado Highway Commission and as a founder and first Chair of the Board of the Regional Transportation District. At the Colorado School of Mines, he led Colorado's first energy scenario planning and utility demand modeling after the 1973 Arab Oil Embargo.