



## Markets At A Glance

### Hubbert's Peak Revisited

Back in April we wrote a **Markets At A Glance** article called “Slipping and Sliding Down Hubbert’s Peak”. In it we explained our thesis that the world is rapidly running out of means to increase its production of oil, even hypothesizing (based on Hubbert’s methods) that peak global oil production may well occur sometime between now and 2008 – if it hasn’t in fact peaked already. Throughout this year we have been energetic (pardon the pun) proponents of this hypothesis and have invested accordingly, not only in oil but also other energy related sectors such as coal and uranium. To date we have been very satisfied with our decision and remain more bullish on energy than ever. Furthermore, others are more and more starting to take a similar view. Evidence is mounting that the world’s ability to increase oil production, in response to rising oil prices, just doesn’t seem to be there.

Few have taken “Hubbert’s Peak” seriously even though it has dire and far-reaching implications, both economic and geopolitical. But with the price of oil continually hitting new highs, surpassing \$44 per barrel in the last week, it is rapidly becoming apparent that an energy crisis may be in the making. This is also evident in the escalating prices of other energy commodities. Though the price of oil is up 36% so far this year (and making all the news), the price of coal is up 55% and uranium 28% (64% in the last 12 months). In fact, since global monetary easing began, the price of coal has doubled and the price of uranium has soared by 150%. Energy is on fire – and is one of the few sectors that we are adamant about investing in at this time, especially given the recent and troubling broader stock market weakness.

We reproduce the chart of “Hubbert’s Peak” here so that we can more clearly re-iterate what its implications are and how the world is nowhere near ready to deal with such an eventuality. (For those interested in reading more about Hubbert’s Peak, we refer our readers to “The Party’s Over” by Richard Heinberg and “Hubbert’s Peak: The Impending World Oil Shortage” by Kenneth S. Deffeyes, as well as the work of Simmons & Company at [www.simmonsco-intl.com](http://www.simmonsco-intl.com).)

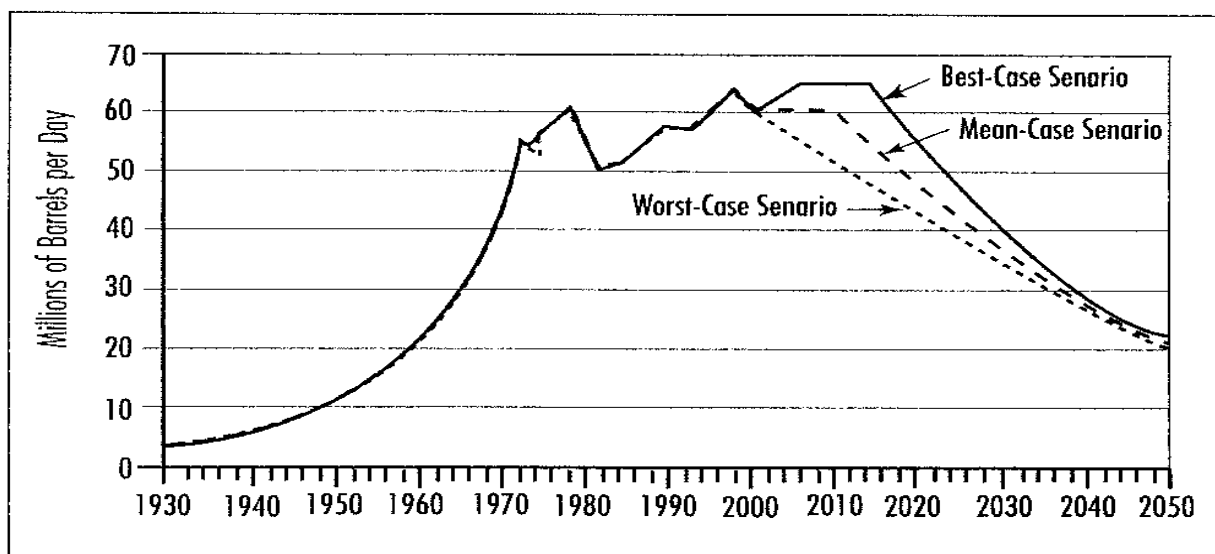


Figure 7. World oil production 1930–2050: best-, worst-, and mean-case scenarios, in millions of barrels per day (Source: C. J. Campbell)

If “Hubbert’s Peak” proves true then not only is it evident that cheap and abundant energy will soon be a thing of the past, but debilitating shortages are just on the horizon. Due to growth in world economies (thanks in no small part to unparalleled liquidity creation by the world’s central banks), global oil demand is expected to grow 3.2% this year or **2.5 million barrels per day** according to the International Energy Agency. China is expected to increase its consumption by an eye-popping 15% this year alone. India and Brazil are likewise taking an increasing proportion of the world’s oil production. The world’s thirst for oil appears well nigh insatiable.

By 2025 oil demand is expected to grow 50% from where it is today. But if oil production does in fact peak this decade, and then goes into rapid decline, oil supply may well be 25% **lower** in 2025 than where it is today. The seriousness of the problem is readily apparent: *ceteris paribus* there will be a **60 million barrel per day** shortfall in the supply/demand equation for oil within the next two decades. Even if Hubbert’s Peak were delayed into the next decade, or a vast new oilfield were found today, it would do little to patch up such a gaping hole. Is the world ready to deal with such an eventuality? Hardly. As is apparent by oil’s inelasticity of demand, there are practically no alternatives to oil currently, nor will there be any viable substitutes anytime soon. As an energy source for transportation, oil is about all there is for some time to come.

So rising oil prices have done little to put a dent in demand. We find this very worrisome, as it will only serve to worsen the problem later on. The demand in America for gas-guzzling SUV’s remains robust. People’s driving habits have barely changed at all. Chinese and developing world oil demand continues to grow relentlessly. Proclaimed government energy policies in the Western world continue to show obliviousness to any pending doom. Everywhere you look the world is not worried. This is fated to make dealing with the problem ultimately more disruptive and painful later on. Bridgewater Associates has observed that, based on past price changes, it will take an oil price of **\$100 to \$120 to ration demand**. Put another way, this is the price at which consumption begins to diminish significantly... the demand curve is inelastic indeed. This obviously bodes well for our investment thesis, as we believe the necessity to ration demand is just around the corner.

Supply issues are already starting to become apparent. It is becoming increasingly clear that OPEC is unable to increase production to meet rising oil prices. There are several theories being bandied about as to why this is so. Most worrisome is the “chatter” about production issues at Ghawar, Saudi Arabia’s largest oilfield. Ghawar has been producing oil for over 50 years and at 5 million barrels per day accounts for over 60% of Saudi production. In a recent interview in “Petroleum News” (August 1, 2004), Matt Simmons of Simmons & Company International expounded his belief that production at Ghawar and other giant Saudi oilfields may already have peaked and about to enter a phase of **rapid decline**. Having used rigorous water injection to maintain very high reservoir pressures, Simmons is of the view that “Saudi Arabia is now producing more than they should to sustain their oil output.” The result being that when decline does start to set in, it will be fast and furious.

John Mawdsley, analyst at Raymond James & Associates, has a view similar to Simmons but also believes that the Ghawar field is already in decline, estimating that production is falling 8% per year. In his opinion, advanced extraction techniques using sea water injection have caused the current water cut at Ghawar to be anywhere from 20% to as high as 55%. Though these methods have allowed Ghawar to boost oil production in the past, it can cause damage to the reservoir such that production will decline rapidly in future years and lead to a shorter lifespan for the field than was originally anticipated. To wit, this may already be evident, although Saudi Arabia is secretive about its oilfield data and definitive conclusions are hard to come by. Nonetheless, the danger signs are there.

If Simmons and Mawdsley are correct, it is painfully clear that production declines at Ghawar would be a severe hit to global oil production. Excepting perhaps the Canadian oilsands (which have their own problems), there is little else in the world that could replace this kind of production. All the troubles at Russian producer Yukos aren't helping things either. It seems unavoidable. All the signs of pending decline are there, and very little new production is stepping up to the plate. Rising demand and contracting supply does a shortage make.

We believe things are about to get chaotic in energy... if they are not so already. The economic, stock market, and geopolitical fallout will be severe. Signs of this are already beginning to show, with surprising weakness in recently reported economic data. Rising energy costs hurt both consumer spending and corporate profits, and may ultimately lead to significant inflation and a worsening economy, none of which will be good for the stock market. Last week's market weakness may already be forewarning of a crisis in energy.

Having earlier embraced the Hubbert's Peak scenario, we have positioned our portfolios accordingly. Many oil analysts are now starting to go to \$50 oil by year end – something that would have been unheard of this time last year. We believe it will be just the beginning, with triple-digit oil prices sometime in the next few years (or sooner if there is a supply shock). As we've already said in our initial Hubbert's Peak article, the only thing worse than an imminent Hubbert's Peak is the fact that absolutely nothing is being done about it today. Let's not kid ourselves, there is no Plan B. The world is not ready for Hubbert's Peak.

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