

# Peak-Oil-When: The Unanswered Gateway Question of The Energy Crisis

## Case Western is Taking a Stand

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*August 7, 2007*

Wringing hands over the energy crisis is very fashionable these days, and naturally every one emphasizes the aspect that suits his interest, minding less the global view. Every promoter of some energy alternative, however meager its scope, is pointing out that we are running out of oil, and someone better rush to fund his relief solution. Politicians love the topic, because nobody is *for* a crisis, and the phrases “energy independence”, “clean energy”, and “affordable energy” are like motherhood and apple-pie, will never get an aspiring politician in trouble. Oil companies have their own agenda, oil producing countries too. Investment consultants salivate over this 'looming crisis', and economists are all over the place. Let us take a step back from this chaotic energy theatre, and change the scene for a moment. Let's suppose that the UN would have risen to the challenge. The secretary convenes people of power and people of expertise world-wide for the purpose of meeting the energy challenge for the world as a whole.

The first question that would be asked in that convention is: *When?* When are we going to experience this dreadful phenomenon of maxing out oil output from the ground? Is it imminent as some highly credentialed experts believe, or is it some decades off, as people of matching gravitas authoritatively assert?

Nobody claims that oil is in infinite supply, but there is no consensus as to how much is left, how fast are we going to pump it out, and when, when, will we be in a position that, regardless of price -- the full demand will not be met.

By analogy think of the I-35W bridge in Minneapolis. It was declared "structurally deficient" but no clear indication as to when it might give way and collapse into the Mississippi. In the aftermath the examiners will say: "We told you so!", and the city will say: "You gave no indication of imminent danger!" Do we wish the same debate to rage over a coming oil catastrophe?

This is problem-solving 1.01: to kill the dragon, you need to know when the dragon will show up. We cannot begin to be rational about the energy crisis if we don't have a credible estimate as to the timing of its visit. We have a range of alternative candidates: some old technologies that have been abandoned for environmental reasons, some new technologies that have not yet reached the proof-of-concept state, and everything in between. Some ideas are very appealing because like wind or sun, they rely on renewable sources, but they face questions as to their scope -- can they really match oil barrel for barrel? That wishful thinking UN convention might make a list of the ten most promising oil alternatives, and then rank them by funding priorities. It is not very controversial to claim that this ranking of the oil-alternative candidates will be dramatically different depending on when we expect to need the help of the prime alternative. The various hydrogen plans will not be any good if next year the sucking sound from the ground will be that of air bubbles. If, on the other hand we can rely on oil for more than a decade, then a concerted effort on more attractive alternatives will be very helpful. If the crisis is imminent then politicians will have to start planning an onerous conservation program simply to avoid WW-III. If we are lucky and awaken on time, the transition can be smooth and painless. But for the sake of peace on earth, we need to know when to expect this tsunami of peak oil. It is indeed the gateway question. Without a credible answer we cannot hope to have a rational energy policy. Without a global consensus on this question we will continue to pull in all possible directions, failing to manage world resources to solve this shared world problem.

But how to achieve such a consensus when the experts so vehemently disagree, and the range of learned opinions is so broad and open?

One first has to firmly realize that however bewildering the task, a global consensus is not a nicety or an intellectual luxury. We cannot be rational about the risk of running out of energy sources without coming to some terms as to when to expect that disaster. So, we don't have the option that we practice right now, to simply say: "experts disagree!". We can live with such disagreement on issues like the mental differences between men and women are they inherited or learned, or even remain at odds about emotional issues like Darwinism vs. intelligent design. We have no much to lose if either of these debates lingers on for a long while. But that is not the case with respect to peak oil disagreement. It would a very sorry state if this disagreement is resolved by the reality of the situation. It would be very painful and harmful if we hold on to the wrong side of this issue.

It's very clear how damaging it would be if we rely on the 'peak oil later' crowd, keep driving our SUVs, ignore conservation, and toy with some fanciful futuristic technology that would cost too much, and be delayed for too long, facing the reality of no more oil with our pants down.

But the opposite scenario is mighty painful either. That is why environmentalists are so concerned. Unprepared, the sudden dearth of oil, will kick the panic button and any an all disbanded dirty technologies will be resurrected in a rush. Decades of ecological progress will be wiped out, black and poisonous smoke will rise from old chimneys, and the world will have a hard time balancing itself from sliding towards an all out war. In the aftermath of the Yom-Kippur war, 1973, Henry Kissinger hinted to Golda Meir, the legendary prime minister of Israel, that she should be more flexible since the Arab countries have the power to close the oil supply to Israel. Reportedly Mrs. Meir answered: "Within a week after such an embargo Israel will go to war on its neighbors, for one simple reason: the longer we delay the less oil we will have to fight with". Kissinger realizing the inevitability in that old grandma's logic reversed himself and

offered a US guarantee for an uninterrupted supply of oil to the Jewish state. Golda's logic will be equally compelling in the 21st century. Negotiating the looming energy crisis is not just a question of wise investment, and economic displeasure. It's a question of world peace, and should be vigorously address by all peace loving people.

It is therefore that we must conclude that regardless of the broad spectrum of opinions today we should find a way to extract a single time frame for peak oil such that it would enjoy the highest possible credibility under the difficult circumstances. That best estimate will be adjusted as we go along, but without such an agreed upon balanced projection we cannot do anything rational about energy.

By analogy: a crime investigation can proceed by methodically collecting evidence but without any pre-conceived theory as to who done it. However, you cannot rationally treat a medical symptom with a drug prescription without having some theory as to what seems to be the problem. A doctor facing a complaint will have an initial diagnosis, will offer a corresponding treatment, and then adjust his take on that patient as time goes by. Your physician will tell you that if you complain about headache, the reason may be one of very many, and the doctor would narrow it down to the most likely list. Similarly for us who purport to remedy the energy ailment. We must extract a single most likely time frame for peak-oil, and act accordingly.

This conviction is necessary before we can take the following steps. The spectrum of peak oil opinions should be handled on the basis of fundamental principles:

1. Listen to all, take into account every single opinion
2. Compute the various opinions into a single integrated opinion, in a fair and balanced way.
3. Keep asking -- opinions may change over time -- and re-integrate to extract the best, most recent, opinion that represents the whole.

The term "fair and balanced" is where the clouds of vagaries congregate. And to defang this controversy one might opt for the following principles for opinion integration;

- i. the impact of an opinion depends on the conviction of its source in his own answer.
- ii. the impact of an opinion depends on the relevant credentials of its source.
- iii. the impact of an opinion depends on the prediction accuracy of that source with respect to closely related questions.
- iv; the opinion integration mechanism will be published before the opinions are integrated.

A methodology called BiPSA ([www.bipsa.com](http://www.bipsa.com)) satisfies all the above requirements and was selected by Case Western Reserve University for its global peak oil initiative (<http://www.PeakOilWhen.org> )

If you are an oil-thoughtful person take it on, let your opinion be counted.

The first round of Case Western BiPSA peak oil results was published in 2005, the next one is about to be closed by labor day 2007, and as the concept gains in popularity it attracts opinion sources from the entire spectrum of relevant expertise, leading to an increasingly more credible opinion summary, approaching a consensus, and creating a strong motivation for opinion leaders to impress their opinion on the relevant community.

No sooner will we have a clear best estimate for peak oil, than we shall be able to launch a global debate on how to meet that 'dragon' as soon as it arrives, if not sooner.

We all share a great deal of confidence in human ingenuity but the jury is still out. As a society we may fail the challenge of acting in unison, and instead parochial interests will rule the day. The global risk for a major catastrophe must be clearly expressed, but alongside of it, let us regard this challenge as a golden opportunity to show world-wide unity. Energy is not a purview of the west, nor the prerogative of the have vs. the have not. It is not a racial issue, nor does it cut along religious fault lines. We all consume energy, and we will all be mighty miserable if we experience a serious shortage. So let the prospect of shared misery unite us to a shared effort to prove to ourselves that the human society can get its act together. If we, the people in charge today will be able to pull this shared project through then we shall give our children and grandchildren the fantastic gift of confidence that man can unite, society can coalesce, and unity can thrive despite, and perhaps on account of its diversity.

And all that starts with the question: *Peak-Oil, When?*