



The Coming Oil Crisis

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This is a guest post aimed at the person who is unaware of peak oil. Be sure to send links to your friends! It was written by Lionel Badal, Postgraduate Student, Department of Geography, King's College London. He can be reached at [blionel3](#) at yahoo dot fr

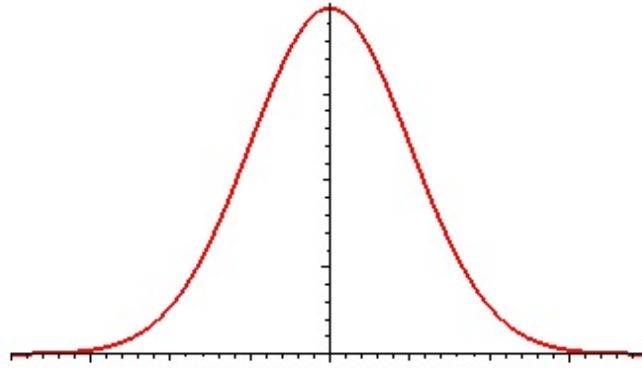
Oil is unique in that it is so strategic in nature... Energy is truly fundamental to the world's economy. It is the basic, fundamental building block of the world's economy. It is unlike any other commodity. -- *Dick Cheney, 46th US Vice-President (speaking as the CEO of Halliburton in 1999)*¹

We almost certainly are at or near Peak Oil -- *Al Gore, 45th US Vice-President, Nobel Peace Prize Laureate (June, 2004)*²

Over the past decade a fierce debate has emerged amongst energy experts about whether global oil production was about to reach a peak, followed by an irreversible decline. This event, commonly known as "Peak Oil" far outreaches the sole discipline of geology. From transportation to modern agriculture, petrochemicals and even the pharmaceutical industry all of them rely on one commodity: cheap and abundant oil. In order to sustain the needs of an ever globalized world, oil demand should double by 2050.³ Nonetheless, geological limitations will disrupt this improbable scenario. In fact, a growing proportion of energy experts argue that Peak Oil is impending and warn about the extraordinary scale of the crisis.

42 years of oil left?

According to the 2009 BP Statistical Review, the world has precisely 42 years of oil left.⁴ Those numbers come from a very simple formula, the R/P ratio, which consists of dividing the official number of global oil reserves by the level of today's production. Nevertheless, this methodology is dangerously defective on several key points as it ignores geological realities. Oil production does not consist of a plan level of production that brutally ends one day; it follows a bell-shaped curve.



Indeed, the important day occurs when production starts to decline, not when it ends. As it is a non-flexible commodity, even a small deficit in oil production can lead to a major price surge. Finally, the R/P ratio does not acknowledge that production costs increase over the time; the first oil fields to be developed were logically the easy ones and so the most profitable. It is well recognized that remaining oil fields consist of either poor quality oil or remotely located fields which need high technologies and expensive investments. Therefore, relying on the R/P ratio gives a false impression of security while the actual situation is critical.

Global oil reserves: lies and manipulations

Oil is a strategic resource; therefore having oil is a key political and economic advantage for a state. This is why politics interfere in the evaluation of oil reserves, especially in countries with poor accountability records; that is, the majority of OPEC countries. In fact, OPEC oil reserves dramatically increased during the 1980s and 1990s. However, they have not discovered major oil fields after the 1970s. At this juncture, the question of what lays behind these fluctuations needs to be asked.

The geologist Dr. Colin Campbell, founder of ASPO⁵, explains the hidden reasons that led to these changes: “In 1985, Kuwait, added 50% to its reserve. At that time, the OPEC quota was based on the reported reserves; the more you reported, the more you could produce”⁶. Fellow OPEC members who were unwilling to see the influence of Kuwait growing, simply raised their reserves soon after. Moreover, OPEC countries continue to present their reserves as flat despite having extracted huge amounts of oil during the past twenty years. At this point, we should not forget that oil reserves reported by these countries are not audited by independent experts.

In 2006, *Petroleum Intelligence Weekly* said it had access to confidential Kuwaiti reports which stated that reserves were half the official numbers⁷. In reaction, the Kuwaiti Oil Minister stated, “The Kuwait people are not concerned with numbers. This is related to national security”⁸. In 2006, Dr. Samsam Bakhtiari, a senior energy expert from the National Iranian Oil Company, declared that oil reserves in the Middle-East were “about half, or even less than what the respective national governments claim” and added “as for Iran, the usually accepted official 132 billion barrels is almost 100 billion barrels over any realistic assay”⁹.

In fact, importing countries are simply asked to trust OPEC nations. Strangely, but surely, this is done by importing countries who assume these numbers are true and use them in their projections. On a report to the US Congress on Peak Oil, the US Government Accountability Office justly noted these problematic estimations¹⁰.

The question of oil reserves is most relevant. As oil exporting countries have less oil in their ground, Peak Oil will arrive faster. Oil optimists who argue Peak Oil is still decades away rely on these same erroneous data. In addition, if importing countries assume oil reserves are abundant as they do, the crisis will be unexpected, unprepared and misunderstood; in one word: overwhelming. Similarly, once oil shortages occur, oil importing countries may assume that exporting countries are deliberately reducing their oil exports to harm their national interests. Such a flawed assumption from oil importing countries is likely to have serious repercussions, and eventually lead to new oil wars.

The imminent decline of global oil production

In 2008 the International Energy Agency (IEA) conducted for the first time¹¹ a detailed field-by-field analysis of global oil production and its findings are bleak. Asked by a journalist on what the previous analysis relied on, the Chief-Economist of the IEA admitted, “It was mainly an assumption”¹². In the 2008 World Energy Outlook (WEO), they have analysed about 800 fields, which account for $\frac{3}{4}$ of global reserves and more than $\frac{2}{3}$ of global oil production¹³. They come to the conclusion that decline rates are far higher than previously thought, between 6.7 and 8.6% a year¹⁴. As result, they now estimate that to maintain the current levels of oil production by 2030 the world would need to develop and produce 45 MBD; as said by Dr. Birol, approximately four new Saudi-Arabias¹⁵.

Simultaneously, they have analysed all the projects that are financially sanctioned in all the countries in the world (about 230) up to 2015. As it takes five to ten years to produce oil from a new field, they have a clear image of the coming situation. When they add all the projects together (if all of them see the light of the day--unlikely with the current credit crunch¹⁶--) they will bring about 25 millions barrels per day¹⁷. However, because of the important decline rates, the world will still be short of “at least” 12.5 MBD before 2015¹⁸. Asked by a journalist if this means Peak Oil, Dr. Birol answered, “We are facing a serious threat”¹⁹.

In 2009, Merrill Lynch conducted a similar analysis and concluded that, “the world now needed to replace an amount of oil output equivalent to Saudi Arabia’s production every two years”²⁰. Yet, oil production is already in an irreversible decline in at least 54 of the 65 most important producing countries and we nowadays consume three barrels of oil for a single one discovered²¹; an unsustainable situation. The latest annual report on geopolitical prospective from the US Joint Forces Command reached the stunning conclusion that:

“By 2012, surplus oil production capacity could entirely disappear, and as early as 2015, the shortfall in output could reach nearly 10 MBD... The implications for future conflict are ominous...”²²

At this pace, global oil production could decline by 50% from its current level, as soon as 2030²³.

A contested reality: by whom and why?

For many years, Peak Oil was ignored by officials from oil companies and governmental agencies such as the IEA²⁴. They negligently repeated that production was not at risk. However, over the

recent years and in light of indisputable facts, we have seen a radical change in the discourse of the IEA²⁵ and leading oil companies such as Chevron²⁶ and Total²⁷. In a recent video interview, Chevron's Vice-Chairman, Peter Robertson, clearly expressed his fears:

“You know, it's often times people will ask, ‘Why in the world would Chevron be encouraging its customers to use less energy?’ After all, we sell energy – that's our product... In many ways, a lot of us are concerned about the ability of the world's supply system to provide the energy that people need...”²⁸

To the desolation of many, the debate has not been closed. Indeed, a few voices continue to sponsor, actively and loudly, the vision that oil production does not face any danger. Amongst them, we find three notorious voices, namely the CERA oil consultant, the OPEC cartel and not surprisingly in regard to its notorious poor record of scientific objectivity, the oil company, Exxon Mobil. At this juncture, we can picture the hidden motives for Exxon Mobil to do so. By telling the public that oil production will no longer be plentiful, the consequences for the company are numerous. They include the danger of diversification from oil and creating a context of mistrust regarding oil companies; all of them bad for short-term business.

Regarding the OPEC, we saw earlier how prone they were to manipulate their reserves. We should know by now not to expect much from official OPEC statements.

The following comment from Dr. Chalabi, the former OPEC Secretary-General, gives additional information about how the cartel really works:

“OPEC countries do not care about what might happen 20 years from now. They care about what they get today. Because these are politicians, they want more money, to spend rationally or not.”²⁹

Furthermore, Dr. Sadad al-Huseini, former Head of Exploration and Production at the Saudi-Aramco, publicly contradicted his former bosses, by declaring that, “oil is likely to peak at a 95 MBD plateau by 2015”³⁰. Besides, Dr. Shokri Ghanem, former Head of the Research Division at OPEC's Secretariat, head of the Libyan National Oil Company and a relative of OPEC's current Secretary General, admitted in a 2006 report published by the OPEC Secretariat:

“All in all, most would appear to agree that peak oil output is not very far away for all of us. It could take place sometime within the next decade or so, which in fact means that there is not much time left for a world economy to be driven largely by oil.”³¹

The Cambridge Energy Research Associates is a well-known energy consultant group and a leading opponent to Peak Oil³². Yet, CERA has been accused of providing a biased vision of the situation as it is “close to the oil industry”³³. The following declaration from Chris Holtom, former head of British military intelligence, currently a strategic consultant to the oil and gas industry, gives valuable information:

“There is a pack of deceit and economy with the truth here - some wilful, some born of ignorance, or fear of "group-think" related to stock price or employment. It needs careful and persuasive exposure of agendas, motives and possible consequences... Peak Oil is a potential Black Swan event, where the consequences are so great that after it we spend most of our time justifying why we didn't anticipate it... It is a global issue and global bodies need the clout and courage to address them.”³⁴

Any viable alternative energy?

There is no easy, present, solution to the crisis. Alternatives to oil are still far from being a feasible replacement; hydrogen for example would require 30 to 50 years to replace oil economies³⁵. Meanwhile, the automobile industry is now planning to develop electric cars in the near future. While the first electric cars are expected to come on line in 2010-12, in order to replace 50% of the car fleet, the world would need between 10 to 20 years³⁶. Besides, as manufacturing a single car requires at least 20 barrels of oil³⁷. Once oil production starts to decline in 2011-2013³⁸, it will increasingly become difficult to develop the electric car on a massive scale.

In fact, the closer we get to Peak Oil, the more difficult a massive and costly emergency plan to develop alternative energies will become. To quote a report on Peak Oil, commissioned by the US Department of Energy, “Previous energy transitions (wood to coal, coal to oil, etc.) were gradual and evolutionary; oil peaking will be abrupt and revolutionary”³⁹.

David Fridley, a scientist at the Lawrence Berkeley National Laboratory and a former colleague of the US Secretary of Energy, Steven Chu, told me the following:

“My own efforts have focused on the science of alternative energy. The deeper you go into this area, the less sanguine you become that there is any effective mitigation possible... The bottom line is that there is no thermodynamic match for petroleum.”⁴⁰

Industrial Civilisation at a turning point

In the following declaration, Dr. Jeremy Leggett, former member of the UK Government Renewables advisory board and one of "the key players in putting climate change on the world agenda" according to Time Magazine⁴¹, described in 2006 how the crisis could unfold:

"The price of houses will collapse. Stock markets will crash. Within a short period, human wealth -- little more than a pile of paper at the best of times, even with the confidence about the future high among traders -- will shrivel. There will be emergency summits, diplomatic initiatives, urgent exploration efforts, but the turmoil will not subside. Thousands of companies will go bankrupt, and millions will be unemployed... The earth has always been a dangerous place, but now it will become a tinderbox.”⁴²

World leaders are debating on how we should manage the current economic crisis that none of them saw coming, but they shouldn't be surprised by it. In a 2006 interview, Dr. Colin Campbell effectively forecasted the 2008 oil spike, which was to be followed by a recession and a subsequent fall in oil prices--a scenario that unfolded exactly as he said:

“I think we are facing an oil price shock, 100 or 200 dollars a barrel, an economic recession that cuts demand, and I will not be at all surprised if a fall in demand would make the price collapse again. So we might be back to 20 or 30 dollars a barrel next year perhaps. And so you have a price shock, a recession, a recovery, hits again the falling capacity limit, another price shock. And so I think that in the next few years, we have a sequence of vicious circles and gradually the reality of the situation will filtered through. We are on for a very volatile few years with enormous economic consequences”⁴³

In fact, a former director at the IEA, who used to be the superior of Dr. Fatih Birol, told me during a discussion that, “The current (economic) crisis was caused by the insufficiency of (oil) supply from 2007 onwards, an avatar of Peak Oil”⁴⁴. Similarly, a recent study on the 2008 oil shock⁴⁵, from the economist Dr. James Hamilton –Brookings Institution- concludes that:

“The evidence to me is persuasive that, had there been no oil shock, we would have described the U.S. economy in 2007:Q4-2008:Q3 as growing slowly, but not in a recession.”⁴⁶

This extract from the *Energy Watch Group* study on oil production provides useful additional information:

“The world is at the beginning of a structural change of its economic system. This change will be triggered by declining fossil fuel supplies and will influence almost all aspects of our daily life... The now beginning transition period probably has its own rules which are valid only during this phase. Things might happen which we never experienced before and which we may never experience again once this transition period has ended.”⁴⁷

We are entering a new world with completely different characteristics from the one we have been growing with, the one where boundaries were crossable. It will be an unattractive world of “less far, less fast, less often, and more expensive”⁴⁸; a radical and unexpected evolution. The transitory period we are entering now will be, to be sure, chaotic and fierce. While we don't know cannot foretell its form completely, it might best be described as a regression.

“The end-of-the-fossil-hydrocarbons scenario is not a doom-and-gloom picture painted by pessimistic end-of-the-world prophets, but a view of scarcity in the coming years and decades that must be taken seriously.” *Deutsche Bank (December, 2004)*⁴⁹

Notes

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