

The concept of peak oil has been devised to reflect scarcity associated with oil ...

[Literature](#), [Russian Literature](#)



The concept of 'peak oil' has been devised to reflect scar associated with oil supplies. But surely the price of oil would be a more efficient indication of its scarcity."

Peak oil, a term coined by M. King Hubbert in 1956, refers to a point in years (or, in reference to time) where rate of extraction or production of petroleum reaches a maximum level, beyond which rate of extraction enter a phase of irreversible decline each year (Heinberg, 2003). There are no doubts that all natural fuel resources would face depletion in the course of time, and oil field goes through the same cycle of being discovered, starting of oil extraction, a point of peak production (a plateau), followed by a fall in production (Campbell, 2008). In contrast to the peak oil concept, global oil production showed a decline from its peak point at 74 mb/d in 2005; however, after a short decline the figures rebounded, and in 2011 there were higher production of oil than 2005 (US energy information and administration, 2011). Peak oil is ascertained by taking into account extraction rates from each oil well, the predicted oil reserves, and total extraction rate of an oil field comprising of associated oil wells (Berdellé, 2011). Here the core contentious issue is that the concept of 'peak oil,' which had been devised to reflect oil scarcity, is an ambiguous indicator of scarcity. Instead, some economists content that oil prices prove to be a more efficient indication of the scarcity of oil.

Various experts contend that oil scarcity is dependent on the rate of consumption, where constraints placed on supply side are based on product demands. James L. Smith in his research papers, using benchmark scenario,

high growth scenario and low growth scenario graphs, proved that peak timing is inconsistent as an indicator of oil scarcity (2011, pp. 8-13).

Observations revealed that during 2007-08 economic crisis, despite oil supplies not increasing, there was loosening in the oil scarcity factor, owing to low demand. The equation for supply-demand graph can be plotted effectively through the factor of pricing, hence making oil prices a better indicator for its scarcity.

Natural oil does not have any uniform or any standardised quality, and tends to vary significantly, which range from medium quality oil, to oil with high API gravity (high quality) from Saudi Arabian fields, to low API gravity (poor quality) heavy oil from fields in South America and Canada. Despite reports of fall in high quality oil levels, as far as supply of heavy oil is concerned, there is no scarcity, and many oil fields in deep-water areas remain unexplored (Stier, 2008). The Saudi Arabian high API oils are relatively easy to extract and oil production in these areas cost only around \$2 per barrel (NPR, 2012). Low API oils being difficult to extract, is economically feasible only when oil prices are high. Therefore, the oil reserves (the core concept behind peak oil theory) is a price function by itself. Higher oil prices can move an oil category labelled as difficult to extract, to an accessible category, thus, completely changing the 'peak oil' point and, in turn, proving its ambiguous nature as an indicator of oil scarcity.

With increasing demands for halting the climate changes and protecting environment, various policies are being drafted, hence carbon pricing is imminent. Even though the amount of oil available would remain same,

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affordability and market share, as compared to other natural resources would be adversely affected. After 2012, the Kyoto Protocol becomes ineffective, and if the new climate policies that come into effect are more stringent, carbon pricing would be high, making oil lag (pricewise) against other environmental-friendly energy resources (Sadorsky, 2011). Thus, here we find that oil prices would determine the level of oil scarcity.

Environmental concerns may also lead to restrictions or even a ban on oil extraction, in parts of Mexico or Arctic basin (Library of Congress, 2012).

Besides this, major oil fields being located in politically volatile regions (the Middle East), a conflict in these regions can significantly affect all oil investments made here. Therefore, under all these circumstances, oil scarcity will automatically appear in the global market, with a sharp rise in oil prices, without an actual fall in oil reserves.

The aforementioned factors (effectively taken into account by oil prices while ascertaining oil scarcity) affect supply of oil within the global market. The concept of peak oil does not take into consideration these factors, hence fails to provide a correct level of oil scarcity. Therefore, it can be derived that oil prices are a more effective indicator of oil scarcity, than 'peak oil.'

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