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IS THE WORLD RUNNING OUT OF OIL?

Is today's high price of oil proof of a warning given half a century ago that the oil would start to run out of oil by this time? The controversial warning, by American scientist Dr M King Hubbert, was largely ignored at the time. But now, over two decades after his death in 1989, it is attracting much interest.

Historians looking back over the past 150 years will call this Age of Oil (in much the same way as earlier eras were based, say, canals or railways). The oil industry began in the US in August 1865 (the original oil well is now a museum).

Oil meets 40 per cent of the world's energy needs and nearly 90 per cent of transportation needs.

Oil is also important for fertilizer, DVDs, rubber, plastics and metals. Therefore a shortage of oil is not a transportation matter – you are probably sitting on oil at this moment (if you are in a plastic chair) or writing with it (if you have a plastic biro).

The US remains the number one consumer but it is no longer the top producer; the US has gone from being the top producer to the top importer. Meanwhile, US consumers are reluctant to have conservation methods and there is no political leadership to do so. American motorists consume nearly half the world's daily supply of oil.

China is now the number two consumer (taking over Japan's position). The dramatic growth of the Chinese economy makes it difficult to predict global oil demand. India and other Asian countries are also growing rapidly as their own industrialization process picks up speed

Debate over how quickly oil is being exhausted is focused on the "Hubbert Peak". Under this theory, oil production reaches a peak where about half of the supply of the find is used, after which production becomes more difficult and more expensive. There is a difference between actually running out of oil – and no longer finding oil at the same rate it is being drilled. This is like getting apples off a tree – there may be apples right at the top but would you want to make the all effort to get there?

This theory was coined in 1956 by the Dr M. King Hubbert (a Shell geologist). He predicted that US oil production would peak around 1970 (he was proved right) and global output would peak in 1995 (he got that wrong).

There is continuing debate on when the earth does reach the Hubbert Peak. The basic question for the Hubbert Peak theory is: has most of the world's oil has been found – or are companies just not working hard enough to locate and drill?

Oil is being exploited at a far greater rate than new reserves are being located. 70 per cent of the oil used today was located at least 25 years ago.

On the other hand, the technology of exploration has improved considerably. Engineers are drilling in areas that would have been unthinkable a few decades ago (such as the depths of the cold and windy North Sea). Meanwhile, the higher oil prices encourage greater attention to finding new fields.

A US oil firm is now drilling down to 30,000 feet in the Gulf of Mexico to locate what it thinks is a new field. This is the engineering equivalent of installing a lift inside Mount Everest (which goes up 29,000 feet). If oil is found, imagine how expensive it is going to be

Saudi Arabia remains the single most important oil producer. The country has about 25 per cent of the world's proven oil reserves. The oil used to be easy to obtain. The Ghawar field, found in 1948, remains the world's largest ever oil find.

New oil is just not being found at the same rate as it used to be – but global usage has increased considerably

Marion King Hubbert was born on October 5 1903 in Texas. He did well at university and spent most of his career in the oil industry in the US. He was a brilliant scientist but his work mates thought him short-tempered and abrasive. He knew he was very smart and he made sure that people were well aware of the fact.

His major contribution to science was his application of physics to geological processes. He dealt with the mechanics of geologic structures, the physics of underground fluids and the significance of the earth's resources for politics. He was able to see the linkages between a variety of different academic disciplines.

He was controversial because most members of the oil industry could not believe that the age of oil would end so quickly. The world's first oil wells were in the US and Canada in 1859/60. In 1880 German engineer Nicholas Otto invented the internal combustion engine. Five years later Karl Benz of Germany built the first car powered by an internal combustion engine.



The world's love affair with oil was underway. It seemed that the earth had an almost limitless supply of oil.

But by 1956 Hubbert was already predicting the end of the oil era. Now scientists and financiers are fearing that he may have been right after all.

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