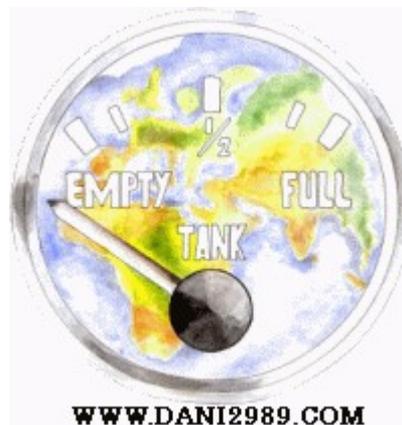


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# Oil, population and peak of production

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The central question is: [why the oil price climbs?](#) The temptation is important to explain the price increase of the petroleum only by cyclical reasons (wars, embargo) and to forget the structural reasons. Nevertheless this often arrives in newspapers and at the television where every increase of the price of the essence in the pump is the fact of a geopolitical crisis. The crises, which have echoed on the oil price, are the consequence of major structural tensions in the world of the energy. To simplify, there are crises because petroleum risk to miss us and not the opposite. It is necessary to see beyond the wars and the crises the reasons of the increase of the oil price. The economic growth of Asia, the increase of the world population, the increase of the consumption of energy per capita and at the same time the continuous decrease of the oil reserves are the fundamental reasons which provoke these crises, I wished to summarize this only one graph, some lines which follow are there only the comment.

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## **Wars and politics**

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The geopolitical tensions make the prices of the barrel rise of raw product short-term, however it is possible only because the balance between the offer and the demand is more and more difficult. If the world produced ten times more petroleum, these crises would have few consequences on the price of the barrel of petroleum.

### **A. Wars and political crises.**

Here are some events explaining the big movements of the price of the essence for more than thirty years.

- In 17/10/1973: embargo of the countries of the OPEC.
- In 12/12/1978: Iranian Revolution,
- In 4/11/1979: crisis of the American hostages in Iran.
- 05/1979: war Iran Iraq: incidents on the border between Iran and Iraq,
- 09/1980: Beginning of the war Iran Iraq.
- In 2/08/1990: invasion of Al Kuwait by Iraq
- In 16/01/1991: Beginning of the Operation rages of the desert and the 26/02/2006 it is the end of the war of the golf (liberation of Al Kuwait City).

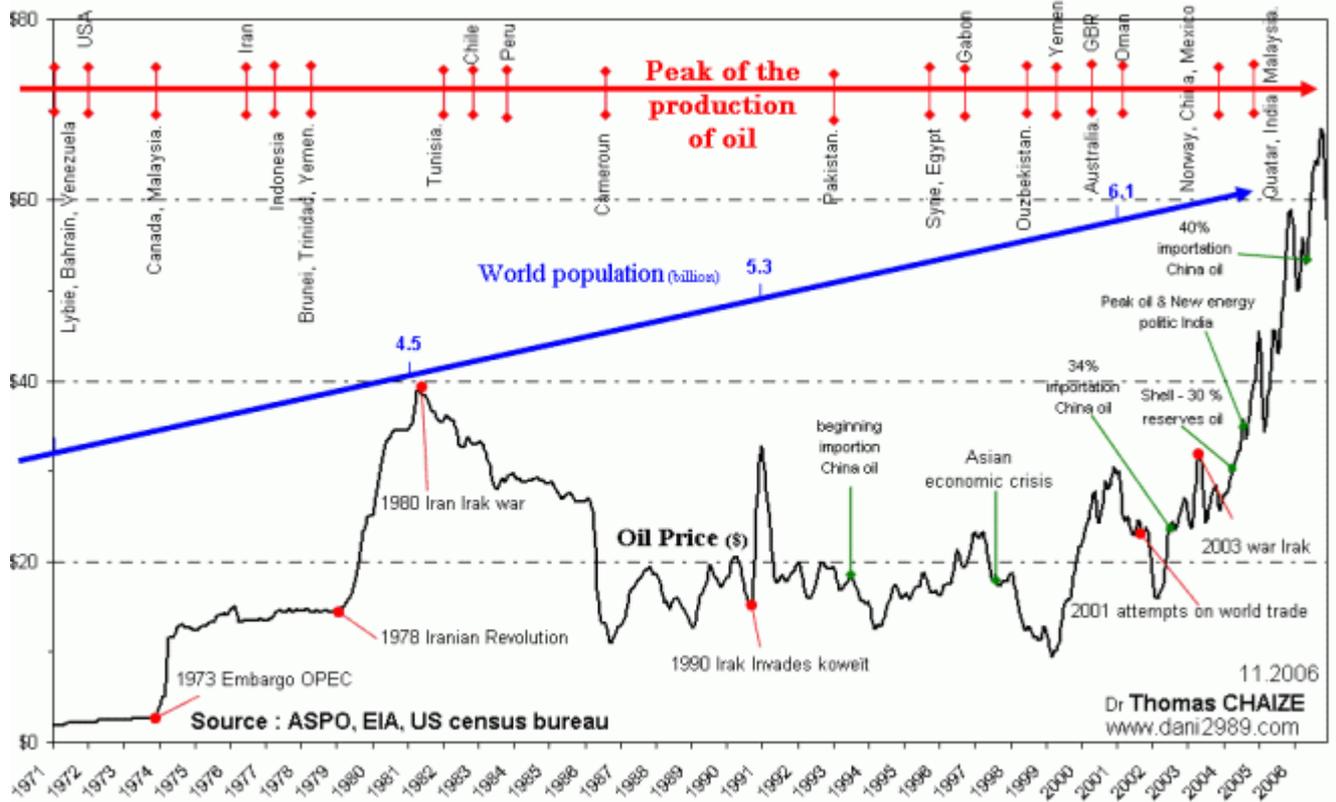
- In 25/12/1991: Beginning of the dislocation of the USSR.
- In 11/09/2001: attempts of the World Trade Center
- In 20/03/2003: Beginning of the War in Iraq.

### **B. Situation of the world economy in front of problems of the energy.**

More abstract and subjective than dates of crises mentioned in the previous paragraph, here are some lines on important points to underline in the graph of the prices of the barrel of petroleum (price in the refinery) :

- 1993 : China becomes importer of petroleum, in 2002 34 % of needs in petroleum are imported then 40 % in 2005. The production of petroleum of China should remain until 2009 to fall then. As a consequence, all the new needs in petroleum of China must be filled by imports.
- 1997: economic crisis in Asia which pulls a temporary decline of the demand in petroleum.
- 2004 : India reaches its peak of production of petroleum, it develops then diplomacy of the energy to assure its supply in long-term petroleum. India and [China](#) often meet themselves in situation of competition to buy oil resources in Russia, in Iran, in Africa, in South America and especially in Central Asia. India plans the construction of several pipelines, the first pipeline would pass by Pakistan to Iran, the second pipeline would pass by Bangladesh to establish an energy link with South's Asia, and finally the third would pass by Pakistan and Afghanistan to Turkmanistan.
- 2004 : in February, Shell announces a revision in the decline of 30 % of its oil reserves on bottom of overestimation of the oil reserves of Nigeria to by-pass the quota of the OPEC.

On this graph, it is possible to add dozens justifiable dates to explain the increase of the price of petroleum in the world. I have to make choose, I especially wanted to show the increase of the Chinese and Indian consumption as well as the very important strategic bend taken by these two countries. The last point is that of the overestimation of the oil reserves by countries and oil companies, Shell is the first company to have made it mea culpa.



[Version pdf](#)

## **Peak of production**

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The graph does not contain all the countries which reached their peak of production not to complicate the reading with it, here is a list was more detailed with the dates of the peaks of production :

1955: Austria  
1966: Germany,  
1970: Libya, Bahrain, Venezuela, Ukraine  
1971: The USA (The forecast of King Hubbert turned out exact).  
1973: Canada, Malaysia  
1976: Iran, Rumania  
1977: Indonesia  
1978: Brunei, Yemen, Trinidad  
1981: Tunisia  
1982: Chile  
1983: Peru, Albania,  
1986: Cameroon  
1987: Hungary, Netherlands  
1988: Croatia, France,  
1991: Turkey  
1992: Pakistan  
1995: Syria, Egypt  
1996: Gabun  
1997: Italy  
1998: Uzbekistan, Argentina,  
1999: Yemen, Colombia  
2000: Australia, Great Britain (very fast decline of the offshore production).  
2001: Oman, Congo  
2002: Denmark,  
2003: Norway, China, Mexico  
2004: Qatar, India (beginning of its energy politics), Malaysia, Ecuador.  
2005: Thailand.

Every day the world reserves of petroleum decrease a little more and at the same time the list of the countries which we reach their oil peak.

## **World population**

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Growth of the world population as well as the need growing in energy of India and China to support their development weighs more and more heavy in the world demand of petroleum.

### **A. Evolution of the world population and the production of world of petroleum.**

- The world population is crossed from 2.5 billion inhabitants in 1950 to 6.5 billion inhabitants in 2006. This increase of the world population came along with an increase of the consumption of petroleum. In 1970, the world production of petroleum (all liquid) was 48 million barrels a day, in 2004, it was 83 millions barrels a day.

- From 1970 till 2004, the world production of petroleum adapted itself to the increase of the world population. The production a year and per capita stayed more or less the same, of the order of 750/760 liters of petroleum per capita and a year, that is on average 2.1 liters of petroleum a day. (For example in 2004, the production is 30.3 billion barrels for 6.3 billion inhabitants, what is 4.7 barrels or after conversion 756 liters a year and 2.07 liters a day and per capita).

### **B. Profound disparities in the consumption of petroleum.**

- The USA represent 4.6 % of the world population, they consume 24 % of the world production of petroleum in 2004 (calculations on the basis of 300 million inhabitants and 20 million barrels a day of consumption of petroleum), either 10.5 liters of petroleum a day and per capita

- Germany, England and France together represent 3.2 % of the world population and they consume 7.7 % of the world production of petroleum either 4.94 liters of petroleum a day and per capita.

- China, with its 1.3 billion inhabitants, represents 20 % of the world population and consumes only 6.9 million barrels of raw product a day that is 8 % of the world production either 0.83 liters of petroleum a day and per capita. An American consumes 12.6 times more that a Chinese and French, a German or an Englishman consumes 6 times more that a Chinese.

- While the production of petroleum has difficulty in answering the increase of the world population, a part of the population adopts the energy bad habits of the Occident. Consequently, the moment when the offer cannot answer any more the demand still gets closer a little faster.

Since the beginning of the use of the petroleum, the answer to the increase of the demand in petroleum is made in the form of the increase of its production.

However, we arrive at the limits of this system, the world population continues to grow and numerous countries increase their consumption per capita by adopting the “*Western way of life*”. All this arrive at the worst one moment, when the world feels more and more difficulty increasing its capacities of oil production due to the lack of new discoveries.

The increase of the oil price in the years to come will not be the fruit of more and more frequent and grave punctual crises, but the result of an increasing gap enters the demand (population in increase and increase of the consumption per capita) and the offer (geologic limit of the oil reserves). To summarize: a world population which grows, which consumes even more, in front of it a geologic resource in limited quantity. It is the problem which [King Hubbert](#) has already underlined here is some years :

*“We are in a crisis in the evolution of human society. It's unique to both human and geologic history. It has never happened before and it can't possibly happen again. You can only use oil once. You can only use metals once. Soon all the oil is going to be burned and all the metals mined and scattered.”*

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Sources :

- l'ASPO
- EIA (Energy information administration)

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