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ECONOMIC AND GEOPOLITICAL ASPECTS OF THE ENERGY ISSUE

There are two ways to look at this vast question :

- the medium term (5 years) horizon,
- the very long term perspective.

I. The medium term horizon is relatively stable :

1. The present energy issue is less a “crisis” than a market phenomenon :

a) Energy demand has been rising by 3 to 4 % a year over the last decade while production has been slow to pick up ;

b) Two combined factors have constrained oil and gas output :

- low prices : in real terms, oil prices have stayed during the years 1986-2003 at levels substantially lower than the 1979-1980 peak¹ ;
- lack of investments : therefore the price of oil and gas has not been steadily remunerative enough to encourage sufficient investment in exploration and production. Even when prices were, at times, trending upwards, private companies -which have more and more difficult access to new oil resources- feared that a downfall could happen and undermine their profitability. Their profits were widely used to pay dividends and to buy back their shares. As for nationalised companies (like PEMEX), most of them were used by governments as a source of public revenues and therefore had little cash to invest².

This low investment trend has reduced output capacity margins and, in conjunction with OPEC policies and the increased demand from China and India, it explains the 2004 “crisis” : i.e. prices rose from 27 dollars the barrel in early 2004 to 36 dollars in mid-2004, and to 50 dollars in April 2005. Since then, oil prices have been hovering around 50-60 dollars.

¹ From 1986 to 2003, oil prices in real terms have remained, on average, at 1/3 of the 1980 peak (the peak was 80 dollars per barrel-2004 \$)

² It is estimated that PEMEX should invest some 15 billion \$ for the development of its reserves.

2. Medium term perspectives :

a) the price outlook is dependent :

- on demand : emerging economies are growing at a fast rate and energy consumption is on a rising trend ;
- on output : with a daily production of 83 millions barrels/day (and a margin of 2 million b/day), any disorderly conditions on production (terrorism, deterioration in the political situation in the Middle East, events in Iraq, Iran, Nigeria...) can translate in price volatility. One can add that the move towards the nationalisation of oil companies (especially in certain Latin American countries like Bolivia, Venezuela), will result in lower investment and production.

b) Therefore, the main consumers of energy (USA, China, India, Europe), are trying to diversify their growing dependency³ on oil imports from the Middle East⁴ and to some degree from Russia⁵.

OPEC -with 77 % of hydrocarbons reserves and 40 % of world oil production- is in a crucially important geopolitical position in this respect. And so is Russia with its huge gas reserves.

This explains :

- the major investments in the Caspian region made over the last decade by private western consortia (production and pipelines south bound avoiding Russian routes) ;
- the focus on African resources (with 9,4 % of world reserves, Africa produces 11,4 % of total world oil production).⁶

We shall no doubt witness over the coming years an increasing political competition in Central Asian and African States from countries like the US (present in Equatorial Guinea, Congo, Gabon, West Africa...), China (particularly active in oil and gas investments in Africa associated to economic cooperation -notably in Libya, Sudan, Angola, Nigeria, Mali...-) and India (India has increased its oil investments in East Africa). Europe -in spite of it's strong positions through Total- seems relatively absent in terms of an active and coherent strategy at the Union's level.

c) With renewed investments in Africa, in the Caspian region and a steady supply by Saudi Arabia (which is one of the only producers that still has available capacity), prices could stabilize around 50-70 dollars in the medium term (in real terms).

³ The US imports of oil amounted to 20 % of their total consumption in 1970 against 60 % today.

⁴ 22 % of the US imports of oil come from the Middle East, and the US objective is to increase African imports from 15 % to 25 %. See : Report on the National Energy Policy Development Group.

⁵ Russia has the largest natural gas reserves in the world and is the N° 1 producer. In 2030, Europe will import 2/3 of its gas from Russia (against 1/3 now).

⁶ See : François Lafargue : "Kriegspiel pétrolier en Afrique" – Revue Politique Internationale, N° 122, Summer 2006.

Oil is a global market. And oil dependency is a common factor for all net importers. For them, the issue is not so much to “reduce their dependency” but to diversify their long term contracts with producers and to avoid excessive reliance on too limited a number of (politically unstable) suppliers. If the US (who absorbs 25 % of the world oil and gas production for 4 % of the world population and 20 % of world GDP) wished to reduce their dependency on imports they would have no other choice but to increase their domestic production and/or reduce their consumption of hydrocarbons (by stepping up nuclear production, energy savings....).

Oil has yet no substitute for road transportation. Thus, a price hike could have immediate macro-economic consequences, since demand elasticity for oil is rather low.

But it is to be underlined that the world economy has absorbed remarkably well the so-called “oil shock” over the last three years and that macroeconomic growth (at a yearly rate of 5 %) has reached record highs with very little inflation. This shows that globalization with its low priced imports from emerging markets and the weaker dollar have helped many oil importing industrial countries to keep inflation under control. But, more fundamentally, the energy intensity of GDP has, for technological reasons, diminished over the years especially in advanced countries.⁷

II. The long term outlook is bleak :

But if one takes a long term view, things look very different and the word “crisis” becomes adequate.

1. A growing supply-demand disequilibrium :

At a conservative rate of growth of energy consumption of 2 % per year, usable oil reserves would last some 40 years (60 years for natural gas and 230 years for coal)⁸.

But these estimates -established a few years ago- do not sufficiently take into account the rapid economic expansion of countries like China and India. We have to have in mind that 2.4 billion people are potential consumers of oil and gas (1.6 billion among them have presently no access to electricity)⁹.

From now to 2050, the world population is estimated to grow from 6.5 billion to 9 billion people (India would increase by 600 million, other Asian countries (non China) by 400, the “Islamic arch” by 500 and Africa by 1 billion.)

⁷ Net oil imports of OECD countries amounted to about 1 % of their GDP in 2005, less than half the amount in the 1970s.

⁸ Oil amounts to 39 % of world energy consumption, coal to 24 %, natural gas to 22 %, nuclear to 6 %.

⁹ Electricity consumption per capita in OECD countries represents seven times that of emerging countries. This gap is bound to reduce.

It is therefore obvious that, barring major new oil and gas discoveries which don't seem to be in the offing, hydrocarbon market prices are bound to firm up over the years. Of course, the "depletion scenario" described above will not happen in a linear way in that precise time framework. Prices would go up, presently non profitable resources could be exploited, and coal and substitutes would expand. But the orders of magnitude point to a dire reality : over the very long run hydrocarbon reserves will inescapably be exhausted.

2. A daunting worldwide environmental problem¹⁰ :

The environment conditions enormously compound the issue.

In 2002, total CO₂ emissions amounted to an equivalent of 24 billion tons of carbon (US : 5,8, Europe : 3,7, China : 3,5, Russia : 1,4, Japan : 1,2, India : 1,2....). But China has already stepped up its emissions to 4.7 billion tons in 2006 (i.e. 14 % of total world emissions in 2006) and will probably catch up the US in 2010.

In 2020, the situation would become extremely difficult : extrapolations show that China would emit approximately 2/3 of the CO₂ produced today in the world.

The dilemma is simple.

- If nothing is done, and according to the above assumptions, air CO₂ concentration could reach 420 ppm (parts per million) before 2020 (the actual figure was 379 in 2004).

According to experts of the Intergovernmental Group on Climate Change (GIEC), at 550 ppm, climatic changes would be severe. But at 1000 ppm, life conditions on our planet would become problematic. The dangerous zone (600 to 1000 ppm) could happen towards the end of the century ;

- If one wanted to block CO₂ concentration at 550 ppm (tolerable level) ; emissions would have to be stabilized by 2025. Then, a 30 % reduction would have to be operated (let say 80 % for industrialized countries and 20 % for emerging countries). The Kyoto agreement and the recent European Union objectives are a step in that direction. But it remains to be seen how these orientations will be implemented and whether the US and emerging countries will be ready to contribute to a programme that can only be global if it is to work. This containment of emissions would have to be supported by a systematic development of renewable energies (solar, ethanol...) and nuclear programmes.

Is the world ready to face up to these daunting challenges and to choose between environmental survival and the illusion of power ?

¹⁰ See : « Les prochaines guerres seront-elles un combat pour les ressources ? » (« Are the next wars going to be a struggle for resources ? »), by Mr. Yves-Marie Laulan, President of the Institut de Géopolitique des Populations, Revue de la Défense Nationale, Mars-Avril 2007.