

# **OECD FORUM 2005**

## **FUELLING THE FUTURE: Security, Stability, Development**

### **Investment and Energy**

Thierry Desmarest – Président de Total

Madame et Messieurs les Ministres, Monsieur le Secrétaire Général, Mesdames, Messieurs,

C'est un honneur et un plaisir pour moi de participer à cette table ronde consacrée à la relation entre énergie et investissement. Ce débat prend un relief tout particulier, alors que les ministres en charge de l'énergie des pays membres de l'AIE sont réunis aujourd'hui et demain à Paris.

Je m'exprimerai en anglais, pour contribuer à rendre notre débat plus fluide.

The OECD and the International Energy Agency carry out periodic surveys to ascertain investment needs in the energy sector. Their analyses are usually split into two parts, with primary energy on one side and power generation and distribution on the other. This introductory statement will focus on primary energy, and more particularly on hydrocarbons.

I will first make some comments about demand, then I would like to underline several issues related to investment.

Let us start then with some remarks about

### ***I - Energy demand***

#### **a) in 2004**

The significant increase in the demand for oil was a key event of last year. Oil is the single largest source of primary energy, making up about 36% of world energy consumption. Oil demand reached 82.4 million barrels per day in 2004, which represents an increase of 3.4% over 2003. This unprecedented rise compares with an average increase of 1% over the previous five years. It merits several comments:

- First, the magnitude of the growth in world demand took the market largely by surprise. Let us not forget the mood at the end of the 90s, after the Asian crisis, when oil demand was sluggish, with prices as low as \$12 per barrel, and oil producers were afraid of excess capacity. Their cautious attitude, dictated by the then prevailing market conditions, resulted in a lower level of investment five years ago which, to a certain extent, is at the root of the problems we have been facing over the last two years.

- Consequently, and this is a second lesson of 2004, spare production capacity has come down to a very low level, around 2 million barrels per day, and this small margin of manoeuvre in a context of geopolitical tensions has been the main cause for the strong upwards move of oil prices since 2004.
- Third observation: the impact of this substantial increase in the oil price on the world economy has so far been relatively limited. In fact, 2004, with an average growth of 4%, was an excellent year, at least for the American and Asian economies.

## **b) in 2005**

The first months of 2005 have been a continuation of 2004 with an ongoing high level of demand, notably in China, a climate of geopolitical tensions, and the oil price pursuing its upwards trend.

In its last market forecast, the IEA predicted a certain degree of relaxation in 2005 - according to its estimate, daily oil consumption would increase by 2.1%, compared with 3.4% in 2004. This slower growth rate, which remains to be confirmed, would be partly due to the negative impact of higher oil prices on world economic activity.

The production increases registered in the OPEC countries, especially in the Middle East whose countries are once again playing the role of swing producers, contributed to smoothing out the fluctuations in the market. In spite of this positive move, spare production capacity continues to remain low, and the market is therefore likely to be volatile.

Let us try now to take

## **c) A medium perspective**

Oil demand is boosted by two main drivers - the level of world economic growth and the reduction of the large gap, in terms of consumption, between the industrialized world and the emerging economies.

Energy consumption per capita, including all categories of primary energy, amounts to about one ton of oil equivalent per year in China or India as against four tons in Europe or Japan and eight tons in the US. More people, more cars, and broader power grids in the developing world, are all likely to exert a strong upward push on world energy consumption.

The central scenario presented in 2004 by the IEA stated that energy consumption taken as a whole would increase by 1.7% per year over the period 2002-2030. The rate for oil consumption growth would be 1.6% a year, and gas consumption would grow by 2.3%. Over 25 years, this would mean an increase in oil consumption of 50% from its present

level and of 80% for gas consumption. Apart from the funding required to finance the corresponding developments, this scenario raises three major issues:

- The first aspect relates to the physical limits of the resource. Even if hydrocarbons have a bright future for several more decades, oil and gas production will reach a peak some time. As for oil, we are not convinced at this stage that the world production will be able to grow by 50% in the next 25 years.
- The second aspect is the geopolitical dimension, given that the largest part of the production increase should come from the Middle East and that the oil producing countries in this area, and elsewhere in the developing world, have to be convinced that it is in their best interest to produce their reserves rapidly in order to meet the growing needs of their customers.
- The third aspect is the impact on the world's climate. A substantial increase of the world consumption of fossil fuels will not be sustainable if we do not reduce the related greenhouse gas emissions, and this in itself will be a major challenge.

## ***II - The investment required to develop oil and gas supplies***

### **a) The global requirement**

According to a study done last year by the IEA, the investment required to meet forecast demand in the upstream oil and gas sector over the period 2001-2030 is estimated at about 140 billion \$ each year. This amount would be split equally between oil and gas, including the gas supply chain.

This figure is basically in line with the present level of E & P worldwide investment, that is US\$ 140 bn in 2001, 150 bn in 2002, and 166 bn in 2003.

I would like to stress that the Major oil companies already make a large part of the E&P investment. In 2003, the five largest international oil companies contributed 14% of crude oil and gas production and they accounted for 24% , that is 40 bn USD, of E&P worldwide investment.

Oil companies are sometimes criticised for not investing enough in oil and gas developments. This is clearly not the case for Total, as we have been consistently able to increase our hydrocarbon production by 4 to 5% a year, which is twice the market growth rate.

### **b) Investing in oil development**

As far as crude oil is concerned, we need to invest enough to offset depletion of currently producing fields and to cover incremental demand. Globally it means that every year we have to bring on-stream new production capacities equal to about 5%.

Where can the industry find year after year the 4 million barrels per day of new crude oil required to meet these needs?

- In the countries with the largest reserves, that is, in the first instance the Middle East where 2/3 of crude oil reserves are located. But this assumes that these countries are willing to develop their production capacity and to open their doors to international oil companies.
- In the existing oil fields, what we usually call "mature fields". Thanks to innovation and investment, we can extend their remaining life and increase the recovery rate of these fields.
- In new, technically complex and very expensive developments such as deep offshore, ultra deep fields, or fields combining high temperature and high pressure.
- In non-conventional hydrocarbons, especially very heavy crude, which used to be seen as non-economical but which is becoming a new frontier for oil development, in light of the very large potential available, mainly in Venezuela and Canada.

I would like to stress that such complex projects are highly capital-intensive and that they require a lot of time, at least five years, to be developed.

### **c) Investing in gas developments**

World demand for gas, linked mainly to the development of power generation, will increase at a faster pace than oil - around 2.5% annually. Meeting this demand does not seem too challenging as gas reserves are abundant and most countries where they are located are ready to open to foreign investment. The fastest growing segment of the gas industry should be LNG, whose growth rate in the years to come is expected to reach 8 to 10% per year. Total is the world's second largest producer of LNG, and we intend to increase our production as rapidly as the market. Liquefied gas demands very heavy investment since it covers the gas production itself, the liquefaction plants, the gas transport capabilities and the regasification units located near the customer. This combination brings the total amount invested close to a figure of 10 bn US\$ per project.

To conclude on the financing of oil and gas development, my conviction is twofold:

- the annual investment required in the oil and gas sector should significantly exceed the 140 bn US\$ mentioned by IEA.
- host countries are opening their doors to foreign investment; the real problem is to know to what extent there shouldn't be any major problem to raise the necessary financing.

Before-leaving the floor to the other speakers, I would like to underline the growing importance for the energy industry of three other areas of investment:

- Alternative energies. To prepare for the future, we have to diversify the sources of primary energy, through a larger reliance on renewables such as solar, wind, bio-energies, and also, this is my strong belief, a greater recourse to nuclear energy. All these options will face their own challenges in terms of investment and financing.
- A second area is energy efficiency. The scarcer and the more expensive fossil fuels become, the more efficient we will need to be in our use of them. This is true not only for the production industry but also for the transportation and residential sectors, where a lot of improvement is needed.
- A third area for action relates to global warming. As fossil fuels will remain the main source of primary energy for the foreseeable future, we will need to make a major effort to capture and sequesterate the related greenhouse gas emissions.

I thank you for your attention