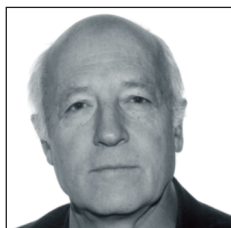


Hydrocarbons – Jobs with Prospects

a report by

Bruno Wiltz*President, Association française de techniciens du pétrole (AFTP)*

Bruno Wiltz is the President of the Association française de techniciens du pétrole (AFTP). He has 41 years of experience in industry working for Total and ELF Groups in Refining (technical studies, operation, development) and in the petrochemical and chemical areas (with ex-Atochem group) in France and in Spain. Positions of senior management that he has held include General Manager of all chemical plants of Atochem, Technical Manager of Atochem and, last of all, of the chemical branch of the new group Total (after the merge with Fina and Elf). He is the Vice President of the Conseil National des ingénieurs et scientifiques de France (CNISF).

The price of oil has reached, in approximately four years, a sort of 'plateau' at the extremely high level of US\$76/bbl from a level of US\$17/bbl. Experts considered that an average level of US\$60/bbl will be maintained or increased. In this last hypothesis, a plateau level in the long term could become US\$100–120/bbl (with peak oil prices temporarily at US\$300/bbl!), where competition with other sources occurs: for instance biomass for ground transportation.

Concerning the date that we reach the peak in oil and gas production, the majority of experts have some disagreement only on the date of occurrence, varying between 10–20 years for oil and gas and with this period the main energies will remain: oil and gas which will decrease, coal providing it is clean coal, nuclear and economy of energy reduction programmes. (The other energy sources accounting for taking a share of something like 25–33%.)

Prices and the future peak in production add to the bad image that people and especially the young in search of jobs attribute to the petroleum and gas industry. They do not know that safety and environmental records are good, and they are influenced by the spectacular events emphasised by the media. It is reported that corruption exists in some of the producing countries. They are attracted to commercial and financial jobs, where they believe they will be paid more, for less effort. We can see that we have to do something to meet the immense new human resources that our industry needs for the short, medium and long term.

The short-term needs are clearly linked to the big increase in oil and gas industry over the last four to five years. Medium term needs are linked by natural retirement of nearly 50% of professionals in the next 10 years. Long-term needs will be the natural result of development of new technology, permitted by the availability of financial resources, imposed by the 'necessity' to find more resources (classical with increase ratio of the production/reserves, non-classical such as bitumous sands, shale oil or later on hydrates of methane for gas) to adapt refining to 'new crudes' or demands for example (in Europe double the amount or more of products for transportation

needs in refining) will impact upon the field of other energies. All national and international oil companies will become multi-energy producers, such as electricity, nuclear, wind, solar, coal, biomass. Moreover, the oil and gas companies have the best knowledge and means to manage and invest in CO₂ segregation, transportation and storage.

The leading dominance of any successful activity has always been innovation, and that has been the case for our industry, probably because each project is different, because the difficulty of production is always increasing – due for instance to geology, deepness, water, size, etc., evolution of refining (quality of crude, evolution of finished products in term of quantity or specification constraints), purchasing, marketing and distribution. Other sciences interact more and more: chemistry for instance from oil production up to refining, or mathematics such as numerical simulation. Technology must follow, in terms of size, quality of materials, mechanics, safety, environment, project management. All this is dominated by a pertinent strategy, playing between long-term and huge investments and non reliability of long-term forecasts.

What could be more attractive for young people than a permanent technical challenge, linked to the possibility of geographical and technical mobility, mainly working in teams, but with important personal responsibility and the probability of a better salary, relative to other jobs which are supposed to be more attractive?

If it is important to consider the long-term future for companies, it is also important to take into account that the general tendency for the young is more mobility from one job or company to another, in Europe and in France, as it exists in US. It is possible to have a long-term successful career in this industry which in itself has a long-term future – because the world of energy, the most important provider for the needs of humanity, is so huge and diverse that it can satisfy any individual need.

The hydrocarbon industry needs the best for the long term. ■