A Perspective on Energy Markets

*By Luciano Sgubini**

It is with great pleasure that I accepted the invitation to speak at the beginning of this international conference, to discuss the details of a process of transition and transformation of the energy industry so widespread and so profound that it is without historical precedent.

The energy markets are going through a period of great change which are having, and will have even more in the coming years, considerable consequences for the future, not only for operators but also for consumers.

The way companies are structured will be modified so as to better respond to the market's challenges; the integration between oil, natural gas and electricity will develop so as to better employ technology with the objective of more efficiently producing energy for the final consumer.

The level of competition will rise with the opening of many national markets. Prices and tariffs with which one will be confronted will be to the consumers' advantage.

The phenomenon we are facing is a global issue, but at the same time it is particularly evident at a regional level.

The representation of the Mediterranean area on the logo of this Conference is not a coincidence, it represents a great laboratory for the birth of new market equilibria, new strategies, and new alliances.

Since the fifties when oil was about to become the dominant resource, the Mediterranean area has been at the crossroads of energy flows.

Today, during a transition phase, moving towards the globalization of energy markets, this area offers new aspects of interest both for traditional relations with the countries that produce oil in the Middle East and Africa, and for new relations with the Caspian Region that is about to enter international oil markets by opening up to new operators and by realizing large new transport projects.

Further, from the point of view of the development of international gas markets, the Mediterranean, which has seen the creation of some of the most important production and transport projects, represents an important area for new projects relating to supplies from the North, the South and the East.

The changes we can observe in the Mediterranean area take place alongside other important modifications in international energy markets.

In Western Europe the market liberalization trend has become more and more accentuated: in the new context of abundant supply and buyer-market conditions, the energy business has gone back to being open to private investors who have acquired shares of the privatized public companies or developed new enterprises on their own.

The United Kingdom model, for some years in the forefront of privatization of public companies and liberalization of markets, has expanded to most European countries.

The process of liberalization of the European energy markets has not, moreover, been entrusted exclusively to the initiative of National Governments; the European Commission has played and continues to play a fundamental role.

There are various lines of intervention through which the different realities are being brought closer together: taxation systems, standards, price transparency projects, and the adoption of the two directives on the liberalization of electricity and natural gas markets.

Another major factor of change is the new dimension taken on by Eastern European and Central Asia countries.

The republics of the Caspian region are developing policies for the development of their sizeable resources of oil and natural gas.

American, European, Russian and Chinese oil companies are thus launching projects for the development of large fields of hydrocarbons in Azerbaijan, Kazakhstan and Turkmenistan, and for their transport to the West and, eventually to the East.

New strategic alliances are also emerging in the Russian Federation, which maintains a primary role in energy markets and, in particular, in those of oil and natural gas.

The process of energy market liberalization also coincides with the growing appearance of Asian countries on the world scene, in spite of the recent crisis.

In this area the growth in energy demand represents a great opportunity for operators called upon to work in an environment characterized by challenges of a new nature.

The type of population settlements, tending to concentrate in large metropolitan areas, the development of transportation and rapid industrialization make it necessary to find innovative solutions in primary source choices and transformation plants, chiefly refineries and thermoelectric plants, to limit environmental impact and increase efficiency. In this sense the combination of gas and high-efficiency plants is one of the most effective tools currently available to meet the needs of these countries.

Also in other countries, those of South America, for instance, once characterized by state control and ownership, the liberalization of markets is moving ahead with the opening to private capital of companies once controlled by the public sector, and the setting up of regulatory bodies.

The Environment Dimension

Another factor of change which is deeply influencing the energy industry and its strategies is the increasingly greater awareness of public opinion regarding environmental problems and its pressure on governments.

From a phase of growing attention to the problem of the presence of polluting agents (dusts, sulphur oxides and nitrogen oxides, etc.) in the atmosphere, with the resulting pressing demand for measures to reduce them, a more extensive dimension has been reached, with the request for the limitation of CO_2 emissions, which are, by contrast, a combustion product, impossible to eliminate.

In order to obtain a stabilization of the CO_2 emissions, more profound changes will be necessary in the choice of sources and transformation and utilization technologies.

One MWH of energy produced by natural gas in a combined cycle plant entails an emission into the atmosphere of 115 Kg of CO_2. The same quantity of energy produced starting from coal, with the best technologies available today, causes the emission of 273 Kg of CO_2.

The nature of the imbalances is such that it limits the effectiveness of unilateral steps by single nations, while it imposes a limitation on national sovereignties and the overcoming of excessively restrictive geographic solutions.

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* Luciano Sgubini is Chief Operating Officer, ENI, Italy. This is an edited version of his keynote address at the opening of the 22nd annual IAEE international meeting, June 9-12, Rome Italy.

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The 1992 Rio Conference, with the signing of the Convention on the climate and the founding of the Global Environment Fund, moved in this direction. This approach was confirmed further at the Kyoto Conference in December 1997. The signals coming from this conference indicate that, in spite of the uncertainties on the formalization procedures, a process of reconsideration of the connections between economic development and the use of energy sources has been initiated.

The more industrialized countries have agreed to reduce the emissions of gases responsible for the greenhouse effect from the 1990 levels by the year 2010; the commitment of these countries must, however, be accompanied by measures in developing countries also, in order to avoid nullifying the overall result.

This is, moreover, a difficult task, since it is a matter of avoiding routes which may lead to a reduction of emissions coupled with a reduction in the development rate of the world economy. It is, however, necessary not only to export technologies and industrial solutions already developed and available, but to test new processes with a lower "environmental mark".

Energy Companies: Options and Responsibilities

Energy companies cannot choose to endure or, worse, to resist the change, but must play an active and proposal-making role.

Many of the solutions which today are held to be the most promising, starting from the greater utilization of natural gas, were the result of the initiative of energy companies which innovated their behaviors and strategies.

In fact, the increasingly greater presence of natural gas in the European energy balance and its use with innovative technologies in the sector of power generation come from some innovative ideas which date back to the period of the supremacy of oil, when the long-distance transport of gas seemed to present an insurmountable problem from both the technical and the industrial standpoint. These ideas were born and developed also thanks to the capacity and the will of several partners who created the great projects which today make it possible for the European gas system to adapt to growing needs.

Without a precise will to cooperate among countries and companies, many of the most ambitious projects would still be unrealized.

The creation of the first large European gas lines from Holland and Russia required, in fact, the solution of a series of enormous problems of a completely new nature from the contractual, legal and technical standpoint. Thus, there was a transition from a strictly national, or even local (the first fields in France, Italy and UK) dimension to a supranational dimension, but above all to the creation of stable ties among countries and companies. The cooperative approach was also at the basis of the connections between Africa and Europe created with the gas pipelines from Algeria to Italy and Algeria to Spain.

But an energy company cannot just limit itself to thinking about the past; it must look to the future, making the best use of the most significant experiences and investing in innovative technologies.

The Future and the Role of Cooperation with Particular Reference to the OPEC Countires

In the scenario of market globalization which is taking shape more and more strongly in the energy field, the role of cooperation also appears to be crucial for the success and expansion of any company.

Important changes are also underway from the standpoint of the behavior of the OPEC countries which have progressively abandoned their traditional political positions. After the initial apparent successes and the exceptional growth in revenue stemming from unilateral decisions regarding prices, the producer countries came to perceive the limits of this policy.

Through a process which was not always easy, the State oil companies of those countries developed new strategies, entering the downstream phases of the oil cycle (refining and distribution), in a logic of integration with the economies of the consumer countries and not one of mere confrontation.

The growth in the presence of producer country operators on consumer country markets, including the European ones, coincided with the modernization and restructuring of the oil industry, with the prospect of offering the countries most dependent on oil imports the guarantee of stable relations and a greater security of supplies.

The developments of the Gulf crisis have also demonstrated that the option for downstream integration chosen by countries such as Saudi Arabia, Kuwait, Venezuela, Mexico and Libya is based on solid foundations and their behavior is no longer inspired by the idea of simply controlling their energy resources, but by a more complex and structured strategy of safeguarding the role of oil in general.

A cooperative attitude was shown again recently when OPEC, acting in agreement with other non-OPEC major producers, tried in 1998, and more successfully since April this year, to slow the fall in crude oil prices to relieve the financial pressure that the exporting countries of crude oil have been under since 1997.

The short term strategy of OPEC appears to be:

- To reduce the size of the fluctuation in oil prices in the short term, limiting the fluctuations especially at the lower end of the scale, and to maintain a stable reference value.
- To strengthen the leadership of the major producers whether or not they are members of OPEC.

The attempt to reduce conflict amongst the major producers within OPEC, essentially Saudi Arabia, Venezuela, Iran, Kuwait and Iraq (when U.N. restriction on Iraq will be lifted), with the smaller producers, is consistent with this last objective.

In the medium and long term view the necessity appears for OPEC to consider an even wider strategy that is able to involve also the larger oil companies in the process of stabilizing the markets.

The resources and the production in the Middle East are today controlled by the producing countries and by their companies, while the international petroleum companies have their greater strength in North America, Europe, Africa, various Asian countries and in Latin America.

An asymmetry capable of generating imbalance on the price front, is an obstacle to the ordered development of the energy industry. On the other hand, agreements between international companies and the companies of producing countries with richer resources, in the context of a strategy of revaluation of the role of oil and its market quota, can guarantee a prospective of stability and development to the market.

Policies favorable to investments, maintaining respect for

the sovereignty of the country that is the holder of the reserves, would allow an easier exploitation of the income from petroleum by the countries with low costs.

Regarding this point, it is necessary to underline the importance of the conditions that influence the investments of the companies and that these depend totally on the government of the country holding the resources.

What, in fact, has the same importance as the level of prices for crude oil, so as to help the development of petroleum resources at low cost, is the margin guaranteed to foreign operators. If the opening of petroleum resources by producer countries takes place with conditions that allow good margins for the international companies and the rules change favorably for foreign operators, the production of crude oil will expand and at the same time the income in foreign currency from the export of petroleum from these countries will increase.

Companies with a strong upstream vocation can work to reciprocal advantage with companies whose strong points lie in their knowledge of markets. Energy source transformation companies can operate jointly with exploration and production operators to ensure a continuous outlet for the production of natural gas.

Cooperation appears even more necessary if one considers that in the medium-long term the distance between the consuming centers and the energy resources to be exploited will tend to increase.

As far as the development of new hydrocarbon resources, the situation today is certainly different from that of the 1970s with much room for new projects, both in exploration and production as well as in transportation.

If, at present the picture of energy reserves appears to be satisfactory, especially due to the revaluation of the resources already acquired, in the medium and long term, when the problem of intensifying exploration efforts in new areas will be clearly felt, the role of joint-efforts will emerge and will require innovative solutions.

There are areas such as South-East Asia and China which will have to be supplied with energy resources which are located very far away, for example in the Middle East and Siberia. Only comprehensive, far-reaching enterprises which combine technology, finance and contract flexibility may guarantee oil and gas supply to both traditional and new areas.

The role of cooperation does not end, however, with the exploitation of new energy resources, their transport, and their supply to final users; it is also necessary to consider the great environmental challenge, to which the energy companies can and must give the most economic and effective answers possible. In many areas of the world there are low-efficiency energy systems which produce enormous quantities of CO_2 and other pollutants.

The reconstruction of these systems offers enormous possibilities for full-range projects between energy companies of industrialized countries and developing countries.

With the prospect of increasingly complex problems, cooperation, one of the main themes of this Conference will become increasingly a necessity in the behavioral models of those companies which are ready to accept the challenge of the new energy markets.

Italy: an Oil & Gas Producing Country?

*By Andrea Ketoff**

It is an honour for me to welcome you all in Rome on behalf of the Italian Petroleum and Mining Industry Association (Assomineraria) which represents the corporate world operating in the exploration and production of oil and gas in Italy. It is an industrial sector made of hundreds of companies of all size, and a good number of them are foreign.

While Agip–and more recently the ENI Group–always played the lead role in the research and development of oil and gas fields, foreign companies have traditionally come in great number to Italy to invest in onshore and offshore activity.

First was Esso, in the late nineteen twenties, that had an important role in the development of the early oil discoveries of the Northern Appenines. Then, in the fifties, Gulf Oil contributed to the important discovery of the Ragusa oil field in Sicily. And in the late sixties, Shell was a key partner to Agip in the development of the offshore activity in the Adriatic. By the end of the eighties there were over fifteen foreign oil companies concurrently active in upstream operations in Italy.

To give an order of magnitude, overall Italian production up to 1998 has been of around 850 million barrels of oil and 650 billion cubic meters of natural gas. At present, reserves are estimated around 1 billion barrels for oil and 350 billion cubic meters for natural gas.

Domestic oil and gas production is limited but yet strategic to this country, as it reaches 20 billion cu. m. of gas–which represents one third of national consumption *(i.e., the demand of the whole residential and commercial sectors for space heating, water heating and cooking)*–and 6 million tons of oil — i.e., 7% of oil demand *(or households' oil heating and LPG cooking)*, with prospects of reaching 15% within few years.

Over 2000 production wells were drilled onshore and 800 at sea, all along an elongated strip which goes from north of Turin to the southern tip of Sicily, and some key facts have marked this activity in recent years:

- In the Southern Apennines, the oil fields of the Val d'Agri constitute an important discovery–600 M bbl of proven reserves–and provide new indications for research in the whole region. Production activity is starting in the coming months after years of difficult negotiations with local authorities, and hopefully the returns are in view for those companies who believed in the investment (mainly Italian and British).
- In the Northern Adriatic, a consistent discovery of gas fields was made in 1992 thanks to the world largest single geo-seismic campaign–12,000 sq. km. Development has been temporarily restrained for the supposed impact that gas production could have on the coast. The controversy is still open, but the use of hi-tech monitoring might soon allow progressive development of those fields starting from the farthest ones.
- In the Southern Adriatic, the Aquila oil field development

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* Andrea Ketoff is Director General of Assomineraria, the Italian Petroleum and Mining Industry Association. This is an edited version of his luncheon address at the 22nd Annual International IAEE Conference held in Rome, June 9 to 12, 1999.