María Luisa HUIDOBRO

President of the Electricity Market Operating Company (OMEL)

Mrs. Huidobro has been professor in ICADE (University of Comillas) of Economic Theory and latter joined the Public Administration in the special branch of Commercial and Economics Advisers. She reached the highest responsibility of the Energy Administration as Director General of Energy of the Ministry of Industry and Energy from 1990 to 1997. In September 1997 she was designated Vicepresident of REE until 1998. Since October 1997 is President and CEO of OMEL the Spanish Power Exchange. She is also member of the Governing Board of Red Eléctrica de España, S.A. (REE), member of the Board of APEX (World Association of Power Exchanges) and of EuroPEX.

Liberalization of the Spanish electricity market became a reality on January 1, 1998, although those in charge of bringing this about had for several months been preparing the implementation of a system that would make it possible to open the "electric exchange", the market on which generators offer their kilowatts and buyers submit their product demands.

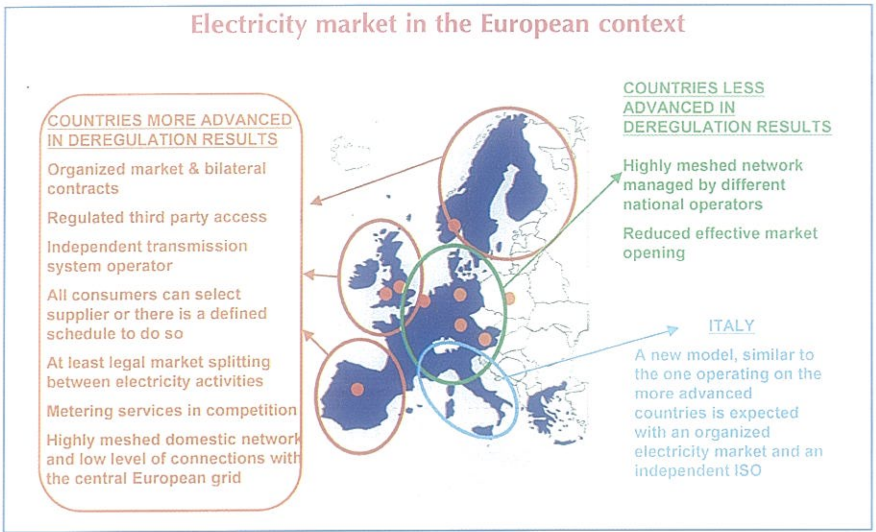
Maria Luis Huidobro has been at the head of this team since the very beginning of the project. She describes for Nuclear España the evolution of this market over the years and the preparations for complete liberalization, which took place this current month of January, 2003.

MARKET OPERATION AND PRICE

The market for the purchase and sale of electric energy is completely electronic, it works via Internet, and it is governed by supply and demand. There are currently seven sessions: the "daily" market and six "intra-daily" markets, where energy can be renegotiated and prices can be readjusted.

Prices are set by an auction system, which results in a curve of the production offerings made by the different producers and a curve of consumption bids made by consumers. The intersection of these two curves will determine the price for both the daily and intra-daily markets. This fully automated system provides immediate references both of market behavior and price evolution. The offering period closes at 10 in the morning, and the prices are defined for each hour of the following day. This entire process is transparent because, whenever a session on either the daily or intra-daily market is over, the prices, the total amounts negotiated and the demand curve are made public.

The President of OMEL stresses the market's liquidity. "There is a high volume of negotiation, so that any buyer or seller is always sure that it can make the transaction it wants. From the standpoint of production and in the case of producers in the special



regime that have only been operating in the market since last September, many of them have opted for the market price instead of for a fixed price. As for demand, which involves a slower process of adaptation, it is interesting to note that the early contracts with traders were for periods of one or two years and linked to the earlier tariff price, whereas now they are beginning to take into account the market prices.

Maria Luisa Huidobro clearly affirms that "for the electric energy market to be efficient and competitive, it must admit purchases and sales with a high degree of liquidity: it must offer confidentiality and transparency in transactions and know how to adapt to all kinds of agents interested in entering the market."

DEVELOPMENT

All purchases and sales of electric energy are transacted through the OMEL Web. A qualified consumer can log onto this site and, in addition to performing operations, the consumer can see how the market is performing, the prices of preceding days, the volume of energy sold, or at what price energy can be bought the following day at a certain hour. To access this innovative system, the user only needs to have a PC, an Internet connection and a card reader, for use a certificate provided by the operating company. In addition to this restricted access for qualified agents, any interested person can enter www.omel.es and see complete information on the electricity market.

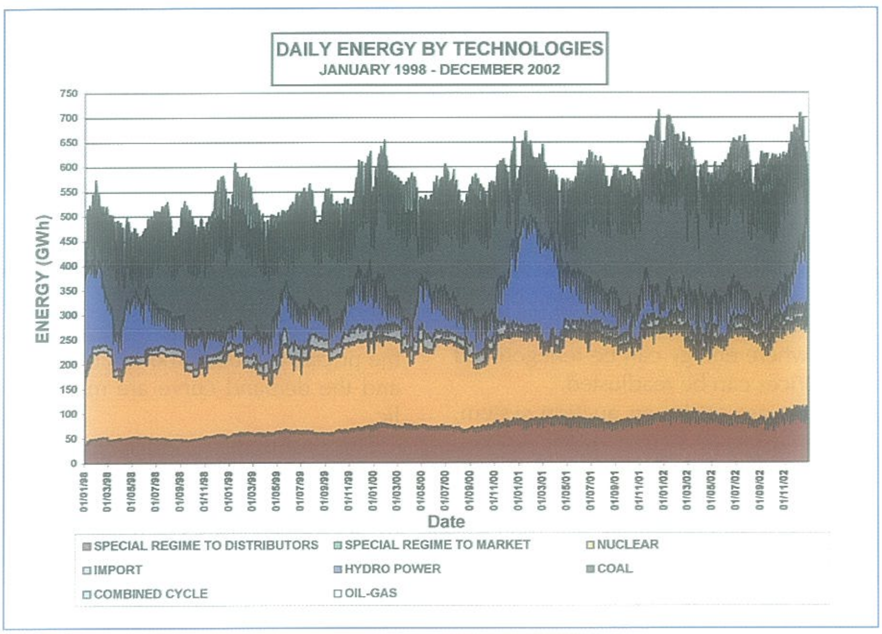
It is important that the change of supplier be organized in a reasonable, easy way, and that provisions be made for all aspects related to associated services and metering equipment.

For Maria Luisa Huidobro and her team, this computer development is cause for pride. "We made the decision to adopt this market system in 1997, and at that time it was a very innovative line of work. In the United Kingdom, for example, the demand was not considered, and the market in the Nordic countries, as it was designed earlier, was not electronic. We were the first to publish the supply-demand curve after the trade, and now countries such as Holland, France and the Nordic countries are working along these lines. It should be noted that we have sold our computer development to countries such as Portugal, Holland and the Czech Republic, which now design their markets in a way very similar to ours."

MARKET EVOLUTION

When we asked the president of OMEL how she would qualify market evolution in the last five years, she says without a doubt that it has been "completely normal. At first, there were much fewer participants than now, but in the last few years many more agents have joined the exchange, including producers, distributors, dealers and consumers. If we compare March 1999 with December 2002, we see that the number of producers has grown considerably, as has the number of distributors, dealers – currently some 70 or 80 – and qualified consumers that directly trade on the market, although in the latter case the immense majority has bilateral contracts with dealers."

In addition to all these market players, there are foreign agents that also operate within our borders, such as the case of the leading European electric utilities and those from North Africa, primarily Algeria and Morocco. "These agents began to show an interest in our market almost from the beginning, especially those from Portugal and France, but it was not until late 1999



Behavior of the Qualified Consumer

Qualified consumers have several options: to stick with tariffs at least for awhile; to sign a bilateral contract with a producer; to enter into a bilateral supply contract with a dealer; or to go to market.

Market analyses show that in 1998, a large part of the consumers of more than 15 kW-h decided to give up the tariff after several months. The government subsequently decided to move up the liberalization calendar, and at this time more than 70% of qualified consumers has decided to give up the tariff, and the immense majority has signed a bilateral supply contract with dealers. Some large consumers stick with favorable tariffs.

and early 2000 that high numbers of them began to trade on our market."

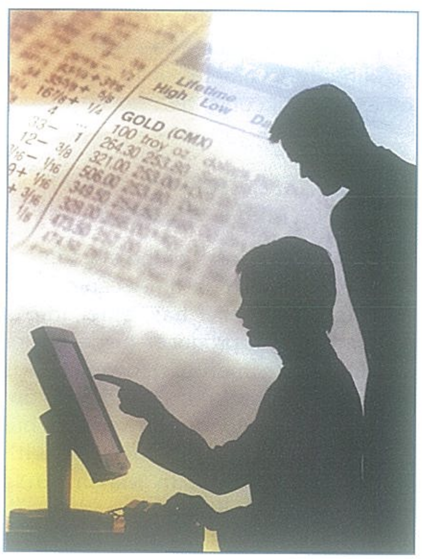
There is still not a very high level of participation of foreign agents in the Spanish market because of the existing difficulties of physically interconnecting all the electrical grids of the different countries, which also makes it harder to import and export energy. "In 1998, we began with less than 1,000 megawatts of interconnection capacity with France. That capacity is currently some 1,400 megawatts, but if we consider that the Spanish grid manages 37,000 megawatts of demand points and that in Europe this figure exceeds one hundred thousand, we can see that this interconnection capacity is truly insignificant.

"The European Commission has said on many occasions that there is a major problem of physical interconnections between the member countries, and we really cannot speak of an interior market as long as the physical conditions for it do not exist."

We cannot speak of an interior energy market in the EU as long as there are not enough interconnections between member countries.

THE EUROPEAN SITUATION

A comparative analysis between implementation of the liberalization model in Spain and other European countries shows positive results. "The liberalization model adopted in Spain is obviously not perfect, because everything can be improved, but it contains elements that make it more adequate than others. For example, regulated access is much more suited to liberalization and the independence of grid managers than negotiated access, which is the way it is done in the German market. In fact, countries such as France, Italy and Germany itself, which at first did not plan on having an organized market like Spain's, are now adopting this system.

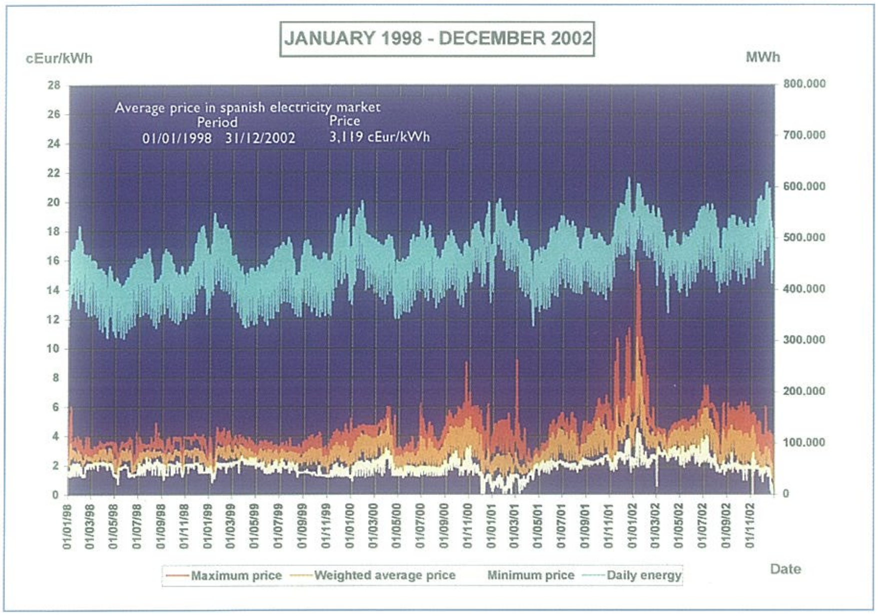


"In the case of the United Kingdom, although we are not sure how the current situation came about, it seems odd that they decided to have more than one organized market when one of them is very small and barely generates any transactions and without transparency in the prices of the bilateral contracts. For this or other reasons, the price is very low for generators but this price has not been passed on to end consumers. This is not a problem that can be explained merely on the basis of generation capacity, as in that case the price would be very low for the entire chain. This is a much less risky point in an organized market, which sets an equal price for buyers and sellers and where the transparency means there cannot be big differences between the prices received by the sellers and the price paid by the buyers."

In spite of these advantages, the president of OMEL is aware of the need to evolve. "We still need contracts between producers and dealers, although we could run the risk of having a high number of these contracts being made betweencompanies in the same group. The essential thing is to have the market maintain its liquidity and a sufficient volume of trade so that the price is significant."

COMPLETE MARKET LIBERALIZATION

As of January 1, 2003, all consumers can choose the company they want to supply them with electricity. But what



Liberalization in the EU

Complete liberalization of the electric market is a reality in some European Union countries: Germany, Austria, Norway, United Kingdom and Sweden. In 2003, in addition to Spain, Denmark and Holland will join this select group.

The goal is to have the supply liberalization process in place in all of Europe before 2007, a date set during the last meeting of the Council of Ministers in Brussels. Thus, the direction in which Europe is moving is to achieve complete liberalization of all non-regulated electric sector activities.

This trend is also found in other countries such as USA, which intends to reach an agreement so that all States will have a similar situation of supply liberalization.

has happened in the countries that have preceded us in this process? Maria Luisa Huidobro notes that these countries may each perform differently. "The public's response is hard to anticipate, and it is not easy to make a comparison with other countries because each has its own peculiarities. For example, in the United Kingdom, nearly 30 percent of consumers have changed suppliers, and this figure is also significant in the Nordic countries with 15 to 20 percent. Then there is the case of Germany, where only 5 percent of consumers have changed suppliers, and this is possibly due to the fact that it is hard for consumers to access the grids. In any event, a change of supplier does not occur immediately, but rather it is a gradual process.

"What happens in Spain will depend on the facilities offered to consumers. It is important that the change of supplier be organized in a reasonable, easy way, and that provisions be made for all aspects related to associated services and metering equipment. These are matters that interest the consumer and are relevant when planning a supply liberalization model.

At this time, individuals and small- and mid-size enterprises will become qualified consumers that can negotiate their energy purchases directly from the market. For the market operating company, this complete liberalization is a major challenge. "We have provided the means to be prepared and have basically considered two aspects: that there will be a larger number of agents interested in going to market, and that a lot of information will be required of us. For this purpose, we have adapted our application and made it easier to access the market, which operates much like electronic banking does. In addition, we are prepared to reduce the minimum volume of consumption.

If we promote advantages that reward responsible, optimized consumption, we would succeed in lowering the winter peak, productive equipment would work better, and the consumer would save money.

"As has been happening up to now, we think that the normal thing will be for consumers to sign contracts with dealers, but we do not rule out the possibility that some SMEs will want to go directly to market or to enter into other kinds of contracts."

LIBERALIZATION VS. TARIFF: AN INFORMED CONSUMER

With liberalization of the electric energy market, any consumer can choose to keep the tariff it has, enter into a contract with a producer or dealer, or go directly to market. However, it is important not only to provide the opportunity of entering the market, but also to provide the consumer with good information. In Maria Luisa Huidobro's opinion, "the market will not be completely liberalized as long as consumers continue to think in terms of tariffs and do not consider electricity as any other product or service, with prices that vary in terms of demand. In Spain, the price of electricity is the same at any time of day, and therefore no one sees any benefit in doing something as rational as consuming less during peak hours. If we promote advantages that reward responsible, optimized consumption, we would succeed in lowering the winter peak, productive equipment would work better, and the consumer would save money."

To conclude this interview, the president of OMEL refers to the future. "This market has just been born, but there are clear plans for the future, most notably the inclusion of long-term operations. The goal is to make it possible to buy and sell energy not just in a period of one day, as is currently stipulated, but rather in a period of one month, six months or even one year."

An integrated European electric energy market is slowly beginning to take shape, but there is still a long way to go. In addition to drawing up guidelines and common regulations, there are other issues to be addressed, such as the date of liberalization of the supply or the independence of grid managers. "Liberalization in the framework of the European Union has a long but sure way to go, based on competition liberalization systems and equal opportunities for all."