

# Energy Markets and European Integration: the WEC Role

Jan Murray  
Deputy Secretary General  
World Energy Council  
Address to Opening Ceremony,  
Energy Forum 2002, Varna, 14 – 17 June 2002

## *Abstract*

Energy market reform brings many benefits. Central and East Europe's challenge is to establish such markets when, at least in the case of electricity, the established market economies are still wrestling with how to apply competitive principles to this market. Design challenges include the natural monopoly elements within the electricity supply chain and the fact that it is, in practical terms, an essential social service. There is no one single model suitable to all markets at all stages of development. At the same time, there is a need for sustainable energy pricing, which means prices should cover all costs, with transparent and time-limited subsidies bridging the affordability gap. Cross-border integration extends the benefits available from market reform by overcoming constraints at the national level and by broadening the geographical limits of a market. The World Energy Council works with its Central and East European members to analyse, understand and meet these challenges.

Mr. Minister and Chairman of the Bulgarian Member Committee of the WEC  
Professor Batov  
Dear colleagues

This is my first visit to Bulgaria and I look forward to learning more about your country and region in the coming days. I am of course aware of the years of tumultuous changes you have lived through, and the challenges that you face to accelerate economic growth, attract investment, raise living standards and improve the environment. The topics of this Forum – Restructuring, privatising and modernising the energy industries – neatly encapsulates a number of these challenges.

## *Energy Market Reform*

The transition from centrally planned systems to market-based economies is a process entailing deep and fundamental change. The World Energy Council recognised the special nature of the challenges faced by the countries of Central and Eastern Europe by launching its East-West European Energy Programme in 1992. Under this programme, reports have been written covering regional legislation, investment and financing needs, energy economics and the coal industry,<sup>1</sup> and workshops and fora have been held, such as this one we are at today. Indeed this work in Central and Eastern Europe became the model for WEC extending the regional programme world wide, as we learnt the value of both taking a global view and tailoring work to regional specifics.

In the case of electricity, you have the particular challenge of trying to move to market based systems, while the established market economies are themselves still wrestling with how to apply the market system to electricity supply. The WEC Congress in Buenos Aires in October 2001, which attracted over 3000 delegates from 99 countries, reaffirmed the key benefits of market reform – in particular in introducing competition and in promoting technology diffusion as key drivers of enhanced efficiency.<sup>2</sup>

There is growing recognition, however, that electricity is not simply another commodity like grains or metals. Ultimately, if electricity supply breaks down, the population will hold government responsible for what is in practice an essential service. Governments cannot, therefore, wipe their

hands of that responsibility. It is also an industry with some intrinsic features, which do not lend themselves easily to market operation (this is to some extent also true for gas distribution, though not for the extractive energy industries of oil, gas and coal). Accordingly the 2001 WEC Congress recognised that what is needed for electricity is a careful blend of competitive elements with appropriate regulation.

Work which the World Energy Council undertook in Asia Pacific probed further how this blend could work<sup>3</sup>. With many of our members in that region also embarking on electricity market reform, we wanted to be sure that all relevant lessons were learned from available experience. While the study focused on Asia Pacific countries, its conclusions are of more general relevance.

We observed that the objectives of electricity reform could vary markedly. While optimising efficiency is a common feature of all the goals, the benefit that that efficiency should deliver might, for example, be to:

- Lower consumer costs,
- Attract investment,
- Repay debt through the privatisation of assets, or
- Increase transparency.

These goals are not necessarily mutually consistent and they therefore need to be clearly and carefully prioritised. A problem of electricity market reform is that it has normally been "sold" to the public on the basis that it will yield lower costs, yet where, like in South-East Europe, costs are close to or, through subsidy, below the long-run marginal cost, this is not an appropriate goal. In reality, all that reform should seek to deliver is the lowest possible costs consistent with on-going sustainable supply. In other words, it should result in lower long-term prices than would otherwise be the case without the discipline of competition. These prices may be below or above the existing level, depending on the preceding circumstances.

In particular, lower costs will not help if attracting investment for additional capacity or significant up-grade of operating performance is the prime goal. Similarly with the privatisation of assets to repay debt, the goal calls for maximisation of asset values. Asset value depends on anticipated future cash flows, which is clearly in conflict with low prices. Equally transparency will reveal cross-subsidies and will tend to add pressure for their elimination, resulting in at least some customer groups paying more.

Not only do the goals need to be carefully prioritised, but evaluation of competitive potential has to embrace the whole supply chain – fuel supply, infrastructure construction and up-grade, generation of kilowatts, transport and delivery to the end customer. Often attention has been focused too exclusively on introducing competition into the generation of kilowatts. We identified critical conditions for competition in generating kilowatts to be effective. Our list includes the following minimum conditions:

- excess capacity of around 20-25%, without which all generators will be needed to supply and they will be able to manipulate the price.
- many generators, depending on the similarity of generating plant, but in any case no generator should have more capacity than the market's excess capacity (probably between 5 to 10 %), and
- easy access to a well-connected grid

In addition when investment is urgently needed to either expand or up-grade capacity, an attractive investment climate is a further essential condition if the needed amount of generation and transmission capacity is to be maintained.

From this analysis, we concluded that market design needs to be carefully tailored to the particular objectives to be attained and it needs to be adapted to the specific circumstances to which it will be applied. From this it follows that the optimum blend of competition and regulation will not be the same in all cases. Incidentally, we assessed that very few electricity markets anywhere are operating in a fully competitive manner because there are few cases where all of the necessary conditions apply. This underscores again the importance of the regulatory role.

As pricing lies at the heart of energy markets, the World Energy Council has also been working on this subject. Our Millennium Statement<sup>4</sup> stressed the importance of full cost pricing of energy if markets are to lead to the optimum energy mix, economically and environmentally. This is, of course, easier said than done. First the full costs of each energy option need to be established and then consumers have to be persuaded to pay them. Even with wealthy populations who set store on a clean environment, energy price increases are not popular as we saw when petrol prices spiked in 2001 in a number of countries of Western Europe. Energy price increases are all the more difficult for poor populations such as in South-East Europe, where there can be genuine difficulty in affording the energy essentials, yet these same consumers are the ultimate victims of unsustainable energy pricing. So the World Energy Council sees full cost pricing as the essential policy goal, but in our study on energy pricing in developing countries<sup>5</sup>, we recognised that subsidies may be needed in some situations to bridge the gap between market operation and social need where subsidies are used, we argue that they must be transparent and temporary in nature. In short the market system does not necessarily provide simple answers, but we still have not found any more reliable way to drive efficiency and determine long-run marginal cost.

### *European Integration*

Bulgaria lies at the crossroad of transmission and transit lines of regional and all-European importance. Let me spend a moment on this issue.

Just as the WEC's 2001 Congress underlined the benefits of market reform, it also called for enhanced regional integration. If markets provide the most reliable way we have to drive efficiency and determine marginal cost, the extension of markets across borders is the next logical step. Regions like Latin America, Asia Pacific and Africa are all looking at their potential to achieve greater regional integration in energy.

Bulgaria has long been involved in electricity market integration in Eastern and Central Europe and in gas market integration as a transit country of Russian gas to other Central and East European countries (with Caspian gas potentially to follow). Bulgaria can also play a strategic integration role in the oil market as a Bosphorus bypass option, though the Government is certainly aware that they are not the only country in the region aspiring to benefit from this transit opportunity. But Bulgaria's goal of accession to the European Union presages a deeper integration than this – it presages full merging of energy markets and adherence to the EU's environmental requirements.

Cross-border integration of markets brings with it the challenge of harmonisation of regulation, but it also provides a key to meeting the conditions for the effective operation of competition mentioned earlier. As a Swedish author put it at our 2001 Congress<sup>6</sup>, "an immediate effect of these steps towards integration of the national power markets in the Nordic countries is that the relevant market has radically expanded for the major power companies, leading to the dilution of their initial market power". In other words, if the conditions for the effective operation of competition cannot be met within the national borders (as is almost certainly the case for certain East and Central European countries), cross-border integration offers the possibility of meeting them. Just to take just one example, Slovenia – which has total capacity of 2.9MWe of which 23% is just one nuclear plant – will find it hard to meet the conditions for competition without cross-border integration. This in turn highlights the importance of adequate transmission capacity both within and between countries.

So it is clear that our Forum theme – energy market reform is crucial for regional and European integration. What is the World Energy Council doing to help?

#### ***The WEC Role***

Time does not permit me to cover all the many projects that WEC is working on. I shall just highlight those especially relevant to our theme:

- Electricity and gas market design is clearly an unfinished task. In our current work cycle (2002-2004), we shall continue our work in this area through a further major review of global experience in market reform. As to regional aspects, Klaus Brendow will in a moment talk to you about “Gas in South-East Europe – what perspectives for Bulgaria”
- As noted, pricing is central to the proper operation of markets, but full-cost pricing requires us first to identify all the explicit and implicit costs involved. We will review the extensive life cycle analyses already undertaken by many organisations of different energy sources to form a syntheses view of life cycle costs
- Enhanced efficiency is the holy grail of energy market reform. The World Energy Council’s Technical Services on Performance of Generating Plant and Energy Efficiency Policies are on-going programmes addressing efficiency.
- The coal industry has the potential to continue to play a central role in energy supply in Eastern and Central Europe. Following from our study of the region’s coal industries, completed in 2000, we are now putting this in a global context through a study of the world-side coal study.
- Taking note of the extent to which district heating infrastructure is already installed in Central and Eastern European countries, WEC’s Regional members, under the Chairmanship of Mr Natan Bernot of Slovenia, are undertaking a special regional study on how such systems may best be integrated into liberalised energy markets. We just held a workshop on this issue in Neptun.

Our work is accomplished through our world-wide membership. Our goal is to place its results at your service for meeting the challenges you face.

#### **References**

1. *Energy Transition in Central and Eastern Europe: Investment Needs and Financing Possibilities* (1995) *The Energy Economy in Central & Eastern Europe in Transition* (1995), *Emerging Energy Legislation in Central Europe* (1998, 1999).
2. Energy for People, Energy for Peace. Results of the 18<sup>th</sup> World Energy Congress, Buenos Aires, Argentina, October 2001
3. Electricity Market Design and Creation in Asia Pacific. World Energy Council, May 2001
4. Energy for Tomorrow’s World: Acting Now!, World Energy Council, 2000
5. Energy Pricing in Developing Countries, World Energy Council, 2001
6. Regulation and Competition in the Nordic Power Market, Lars Bergman, World Energy Congress, Buenos Aires, 2001
7. WEC handout listing papers and studies pertaining to energy transition in Central & East Europe ([www.worldenergy.org](http://www.worldenergy.org))