

S01-06 “Interconnection and Market Development”

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Abstract

International interconnections are playing and will play a key role in the development of open electricity markets. Without them, the expected benefits of the implementation of competitive markets, in terms of industry efficiency, quality of service, consumer price reduction and pollution decrease, will stop at the border of each country. Large interconnection allows a better resource management at the scale of a subcontinent or a whole continent. The gains are expected first in the economic field, but also towards environmental and development policies. Some of these driving forces were already behind the expansion of interconnections in Europe and North America during the last half of the XXth century, even if the motivation linked to competition was not so hard than now. Africa has great potential in terms of raw energy sources : oil and gas in the North, hydro in the equatorial belt, and coal in the South. Gaining advantage of using such different and complementary sources through the implementation of interconnections between all these parts represent a challenge for the present decades. In certain African regions, international electricity systems started to be formed by the progressive extension of national networks and their interconnection with the networks of neighboring countries. Some ambitious projects go farther. Such projects are very capital intensive, and a key point in the new context of competitive markets is that the perspective of payback period appears sometimes too long (compared with other industries) to be attractive for private investors. A convenient incentive system should be invented, based for example on a suitable transmission pricing method, to alleviate this problem at least for the most profitable long run investments. New advances in simulation techniques of competitive markets could be used to tune the transmission and wheeling tariffs, in the best interests of all stakeholders (investors, end-customers). This presentation develops this topic, and is illustrated by concrete examples taken on interconnection projects recently commissioned or planned in North Africa and the Middle East, on which the author's company is involved as consultant.