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A REGULATORY INSTRUMENT TO ENHANCE SECURITY OF SUPPLY IN THE SPANISH WHOLESALE ELECTRICITY MARKET

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Overview

Designing a stable regulatory framework, so that electricity can be delivered efficiently and reliably now and in the long term, happens to be a major concern of regulation policies in electricity markets. Since the choice of a regulatory framework that is open to competition whenever possible is an accepted principle, the key issue now is how to introduce any necessary adjustments in the initial designs of the markets that have been implemented already, so that the identified shortcomings are eliminated and any necessary regulatory measures to be introduced interfere as least as possible with the functioning of the market while ensuring the long-term sustainability of the model.

Security of supply has been an issue of concern in Spain since the very start of the process of electricity liberalization. A capacity payments mechanism was designed and implemented, and since then, this methodology has been subject to deep debate. Basically, the question under discussion has been whether a market-based regulation would be able to provide enough generation capacity in the system without any regulatory intervention and, also, if the mechanism that was put in place was properly accomplishing its aim.

The objective of this paper is to describe the mechanism that the “White paper for the reform of the regulatory scheme of the power generation in Spain” proposes to improve the one originally implemented. This White Paper was elaborated by the co-authors of this abstract, under the direction of its first author. The proposed mechanism introduces improvements aimed at guaranteeing at least a minimum capacity reserve margin, as well as at providing a strong incentive for each one of the generators in the system to do their best to be available when needed, namely, in those situations in which supply to the total demand may be at risk. An additional (and very significant in the Spanish case) advantage of the implementation of this mechanism would be a reduction of the pressure on any required market power mitigation and supervision measures, since tight reserve margin episodes should be certainly rare with the proposed mechanism.

Methodology

The basic recommendation is to maintain the existing capacity payment format, consisting of a regulated remuneration to the generators according to their firm capacity (assigned administratively as well and agreed with the generator, which would initially be allowed to ask for a reduction in case it might consider the pre-assigned value to be excessive, particularly in the case of hydro plants). However, we propose to add new elements that can be summarized in two:

- The commitment (in exchange of the capacity payment and linked to a penalty in case of non-fulfillment) to provide the assigned firm capacity, when the system is close to scarcity. It will be considered that the system is “near-rationing” when the energy price in the spot market turns to be above a certain threshold. If the generator at this point in time is not actually producing the committed amount (its firm capacity according to which it is being paid), it shall pay a strong penalty for each megawatt not committed. Under these circumstances, all the energy that is committed by the aforementioned firm capacities will remunerated at the regulated threshold price and not at the current spot price.

- A procedure to guarantee a predetermined reserve margin (available installed capacity related to the expected demand) in case the market might not provide it by itself. The basic idea would lie in empowering the regulator to call an auction only when it might consider that there is not enough investment announced in the system for a prescribed time horizon. Since the default value of the capacity payment appears not to be enough, this auction would determine the new value of the capacity payment that the potential investors require to enter the system. The existing generators would continue being paid the default regulated value, while the new entrants (the winners of the auction) would receive the resulting price for a period of five years. After this time, they would be considered as “existing generators” and they would be paid the regulated default value.

Conclusions

The proposed mechanism improves the capacity payments regulation since it provides, on the one hand, a valid incentive for generators to manage their plants wisely (particularly in the case of hydro plants and fuel procurement contracts) internalizing security of supply considerations and, on the other hand, a real insurance for consumers (and the regulator) to avoid scarcity or underinvestment scenarios, as well as price spikes.

The proposed mechanism takes as a starting point the prevailing state of the Spanish market structure (still a rather imperfect and concentrated generation market) and the current scheme to enhance security of supply (the traditional capacity payment). It can be seen as a rational transition towards a fully market-based methodology, as it could be the one previously proposed by the authors for the Colombian and the Dutch markets ([Vázquez 00] and [Vázquez 03]), the reliability options market.

References

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