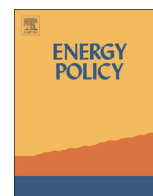




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## National capacity mechanisms in the European internal energy market: Opening the doors to neighbours

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## HIGHLIGHTS

- We discuss the regulatory basis for the effective participation of foreign agents in national CRMs.
- Stronger coordination among TSOs and respect for the Security of Supply Directive is required.
- A new type of firm cross-border nominations linked to the CRMs commitments should be introduced.
- These proposed nominations are to be considered only in situations of system stress.
- No ex-ante cross-border capacity reservation would be needed.

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## ABSTRACT

After decades of strong opposition, several European countries are now in the process of implementing some kind of Capacity Remuneration Mechanism (CRM). Unfortunately, these national initiatives seem to aim at energy autarky rather than seeking a wider regional coordination. This situation can significantly affect the potential benefits of an integrated long-term expansion of the European power system.

In this paper the regulatory basis for the effective participation of foreign agents in national CRMs is discussed. The authors support that two pillars are required: (1) stronger coordination among TSOs<sup>1</sup> and respect for the Security of Supply Directive and (2) introduce a particular type of firm cross-border nominations associated to the CRMs commitments. These proposed nominations are to be considered only in situations of system stress. As discussed here, this allows not requiring any type of ex-ante cross-border capacity reservation, thus avoiding many of the inefficiencies associated to traditional physical bilateral contracts.

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## 1. Introduction

## 1.1. Caveat

The ultimate objective of regional integration of energy markets is to achieve a coordinated planning of generation and transportation infrastructures that allows to exploit as efficiently

as possible the regional resources. Among other necessary pre-conditions, this implies that countries in a regional energy market accept to rely on neighbours at the moment of supplying their national demand. In order to establish confidence in the regional market, countries must commit to face potential system stress events through a coordinated regional approach, fulfilling also during energy scarcity conditions contracts and agreements previously signed, without trying to protect exclusively the rights of their national demand. Following this vision, the European Commission, when designing its Internal Energy Market, issued several pieces of regulation which claim for the respect of cross-border contracts also during emergency situations.

Despite of this, the vast majority of people working in the power sector still consider the security of supply as a strictly national issue, assuming that no Member State would allow exports of electricity during scarcity conditions, unless their national

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<sup>1</sup> The following abbreviations will be used throughout the article. CRM (Capacity Remuneration Mechanism); TSO (Transmission System Operator); EU (European Union); EUPHEMIA (EU Pan-European Hybrid Electricity Market Integration Algorithm); PCR (Price Coupling of the Regions); PTR (Physical Transmission Right); UIOSI (Use-It-Or-Sell-It, clause of the PTR); FTR (Financial Transmission Rights); MiFID (Markets in Financial Instruments Directive).

demand is fully covered. According to these experts, it is naive to believe that a stress event can be solved through a coordinated regional approach. Contrary to this widespread point of view, the paper that follows is based on the requirements of the European legislation and on the principles that lie behind the Internal Energy Market. The authors of this document believe that this autarkic vision of the long-term security of supply is totally contrary to the current effort towards the short-term market integration, and that this conflict will limit the scope of the Internal Energy Market to a short-term market for “left-overs”.

Another fundamental premise at the basis of the discussion that follows is the assumption that the widespread implementation of (diverse) CRMs is already a fact in the European context. Therefore, no assessment on the suitability of such regulatory tools is developed. The aim is to discuss how the current regulation should be adapted to allow for a proper development of the EU internal market for electricity when this kind of mechanisms are implemented in different Member States.

## 1.2. CRMs in the European context

Since the early times of power sector restructuring and liberalisation, the ability of electricity markets to provide enough generation to reliably meet demand has been called into question. In Europe, after several years of firm opposition to the implementation of capacity mechanisms (with some exceptions, e.g. Spain, Ireland or Italy), a general rethink is swiftly taking place, as evidenced by e.g. the consultation paper on generation adequacy and capacity mechanisms that the European Commission launched in 2012 (EC, 2012).

This wave of regulatory reforms overlaps in time with another paramount change of paradigm for the power systems in the region: the shift towards the European Internal Energy Market, which, after a long process, is finally taking place. Until now, the efforts of the European Commission, ACER, CEER and ENTSO-E have focused on the security and the economic efficiency of the shorter-term time horizon, concerning day-ahead and operation markets. Recent outcomes of this effort are the Framework Guidelines and Network Codes that will result in an EU-wide Target Model for the wholesale electricity market. Coordination will be accomplished for EU-wide congestion management, with a day-ahead market that will encompass the entire region with harmonised bidding and pricing rules<sup>2</sup>. Further harmonisation is also being sought for more complex short-term issues, such as the coordination of the balancing markets of the different Member States, a very demanding task that requires a great deal of engineering and organisation skills.

While these efforts are already resulting in the integration of the short-term wholesale markets, in the (long-term) system adequacy dimension, an EU-wide approach on capacity mechanisms is far from being achieved. In fact, it is not completely unrealistic to state that the most recent legislation from national governments is moving exactly in the opposite direction. Over the last few years, several countries in Europe have implemented, or are in the process of implementing, a diversity of regulatory instruments that try to address their concerns regarding generation adequacy. However, the mechanisms under design seem to rely almost exclusively on the domestic generation (i.e., directly connected to the network managed by the national system operator) and clearly aim at increasing the self-sufficiency of the national power systems. Foreign agents are not allowed to actively

participate in these capacity mechanisms and they are excluded from the resulting remuneration. This is the approach that, according to the most recent reform proposals, is being followed in the design and implementation of CRMs in the United Kingdom (DECC, 2014), France (RTE, 2014), and Italy (AEEG, 2011)<sup>3</sup>.

So far, European institutions have not yet adopted any direct measure regarding the convenience of harmonising the efforts in the generation adequacy dimension<sup>4</sup>. Nevertheless, limiting the integration efforts to the short-term dimension would be short-sighted and harmful for the future development of the European internal market.

Concerns on this issue have been expressed in several documents recently released by key EU institutions in power sector regulation. Just to mention some of the most relevant:

- In EC (2012) it is stated that “if capacity mechanisms are introduced prematurely or without proper coordination at EU level, they risk being counterproductive” and that “poorly designed capacity mechanisms will tend to distort investment signals”.
- In ACER (2013a) it is observed that the “lack of coordination (on generation adequacy measures) has resulted in a patchwork of CRMs in the EU, which may be at the detriment of the market integration process”.
- In ENTSO-e (2013) it is said that although “there are significant difficulties in standardizing generation adequacy analyses methodologies (...), there would be a clear benefit in reporting in a systematic harmonised fashion the key security metrics across the internal market”.
- EURELECTRIC (2013) outlines as a key message that “CRM should be open to cross-border participation, underpinned by close coordination between Member States and respective system operators (TSOs)”.
- Finally, EFET (2013) underlines that CRMs have to be “non-discriminatory, by taking into account the contribution of non-national generation through interconnection which may decrease local needs”.

However, the strongest position assumed so far can be found in the EC (2013) working document on generation adequacy in the Internal Electricity Market. In this communication, it is specifically stated that “given the increasing integration of electricity markets and systems across borders it is now increasingly difficult to address the issue of generation adequacy on a purely national basis”.

## 1.3. Levels of CRMs harmonisation in the regional market

As regards capacity mechanisms in a regional market framework, different degrees of harmonisation are possible. The highest level would be represented by the implementation of an EU-wide capacity mechanism, covering the entire regional demand. Nonetheless, this scenario is not only extremely unlikely for the

<sup>2</sup> Under this framework, the Price Coupling of Regions (PCR) initiative will allow different power exchanges to use a common clearing algorithm (called EU-PHEMIA) for the day-ahead market (ACER, 2013b). Further details regarding the PCR project are provided throughout the article.

<sup>3</sup> The first auction of the Capacity Market being introduced in the UK will consider a “zero net contribution” from interconnectors (Newbery and Grubb, 2014), as proposed by the System Operator (National Grid, 2014). The capacity obligations mechanism under design in France will implicitly consider cross-border capacity, by somehow reducing the obligation of each supplier (RTE, 2014), but the explicit participation of foreign agents, with the consequent access to the capacity remuneration, is only foreseen as an hypothesis for the future. The Italian CRM will consider cross-border imports conservatively and no active participation of foreign agents is foreseen at the moment (AEEG, 2011). On the general EU context, ACER (2013a) well resumes the situation when it states that “the experience with cross-border participation (in national CRMs) is virtually non-existing”.

<sup>4</sup> Actually, it should be underlined that, at the moment, no EU Agency has the power to issue restrictive legislation regarding national capacity mechanisms. The elaboration of guidelines has apparently not been sufficient to influence decisions from Member States.

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