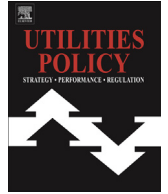




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The EU internal electricity market: Done forever?

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A B S T R A C T

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Taking a quarter-century to build Europe's internal market for electricity may seem an incredibly long journey. The aim of achieving a Europe-wide market might be reached, but it has involved – and continues to involve – a process subject to many adverse dynamics. The EU internal market may derail greatly in the coming years from the effects of a massive push for renewables, as well as a growing decentralization of the production-consumption loop. Moreover, a serious concern is the risk of a definitive fragmentation of the European electricity market due to uncoordinated national policy initiatives with respect to, for example, renewable support and capacity payments.

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1. Introduction

It took us a while to build an EU internal market for electricity. According to the Single European Act strategy of Commission President Jacques Delors, signed in 1986, it should have been implemented back in ... 1992 – but that turned out to be only the first chapter of a 25-year, and still ongoing, process.

The liberalization of the electricity sector started in the UK, followed by Norway, from the premise that while networks are natural monopolies that require regulatory control, generation and trade are potentially competitive activities. The reform of this sector was built on several pillars, including the unbundling of monopolistic activities, the introduction of competition in wholesale markets, the gradual extension of competition to the retail level, and incentive regulation à la RPI-X of network services. The European liberalization process had been set out to simultaneously target two goals: first, to achieve competitive prices through the game of market forces; second, to establish a unified energy market and thus contribute to the “ever closer Union” that will also be conducive to ensuring secure energy supplies.

Much has been achieved since the early 1990s. Wholesale and retail markets are now open, and the eligibility of customers is mandatory in the EU, with a general increase in the choice of suppliers and tariffs and more competitive pricing (ACER/CEER, 2012 November 2012). Consumers can respond to price signals by changing their supplier or by adapting their consumption behavior.

Innovative business models evolve in retail markets. Incentive regulation has brought the costs of grid operators down. Even though there are still significant differences among Member States in terms of electricity generation structure and concentration of generating companies and suppliers, in general, we no longer have a patchwork of closed national energy systems, each with a national-only company controlling the entire electricity sector (EC, 2012a). However, certain anti-market arrangements, such as ill-designed regulated end-user prices or insufficient unbundling of distribution and retail activities, still prevail in many countries.

EU officials claim that a first version of this European-wide power market should work by 2015¹ – while we also know that this market is only going to implement the “old” goal of 1996; that is, of the first EU Internal Electricity Market Directive.² Thus, one may wonder whether this will be the end of the journey, or just a coffee break. The EU's internal electricity market is already seriously challenged by two waves of disruptive innovations – the renewable energy sources and the smartening of the energy-system's interactions. It is also challenged by exogenous shocks like the economic and financial crises, the Fukushima accident, or the flooding of cheap gas and cheap coal as a consequence of the US shale gas revolution. Accordingly, the goal of building a cohesive set of market arrangements in the EU cannot stop today or tomorrow, and we already know that what we need will be of a different nature than in the 1990s. This paper argues that existing regulation

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¹ On 4 February, 2011, the European Council set 2014 as a target year for the completion of the internal market for electricity and gas.² Directive 96/92/EC “concerning common rules for the internal market in electricity.”

– once fully implemented – adds up to a “European market” even though many market arrangements differ from the perfect textbook case (Stoft, 2002), (Kirschen and Strbac, 2004) (Section 2). However, since the initial power sector reform draft has neither been conceived for systems with a massive penetration of intermittent renewables, nor for a decentralization of the production–consumption loop, we need to revisit regulatory practices in the whole spectrum of market and network arrangements (Section 3). This obvious need to adapt market design and regulation to “unforeseen” developments, however, is not the only challenge. What is currently becoming a growing concern is the risk of a deep fragmentation of the European electricity market due to uncoordinated national policy initiatives in the areas of support of low-carbon generation technologies and possible capacity payments (Section 4).

2. Europe's single electricity market: done by 2015?

Taking a quarter-century (from 1990 to 2015) to build Europe's internal market for electricity may seem an incredibly long journey, as well as an example of the EU's inability to accomplish serious industry reforms. But we should remember that no other “federal-style” government of a major country (such as the US, Canada, Brazil, Russia, India or China) has achieved an internal, continent-wide, open market for electricity so far.

There are many good reasons why Europe has been so slow with the liberalization of its electricity sector, as discussed in-depth in Glachant (2013). This market project aimed to open up national monopolies' territories to foreigners, which of course was a radical project that inevitably triggered huge and fierce opposition. Second, there was no wave of disruptive technological innovation – unlike in the case of telecoms – to challenge the incumbent energy giants. Third, electricity is a difficult product to trade, as it requires hundreds of technical, legal and economic rules and standards to be agreed upon before it can become tradable. Electricity is, after all, not more than a coordinated flow of electrons inside the millions of metallic wires of a gigantic, interconnected network. Therefore, for decades electricity was considered to be a typical “anti-market” product, best suited to natural or franchised monopolies. In fact, it has been the revolution in the information communications technology (ICT) sector that has enabled new market arrangements in the electricity industry. New ICT gave us the tools to register every move of electricity generators and consumers alike – thereby allowing one generator and one consumer to trade bilaterally in a market, in parallel to the electron flow variations. The fourth reason is that the various national arrangements that were historically developed between industry players and public authorities cannot be easily merged at the EU level into a common scheme of interoperable markets.

Several successive packages have then been needed in order to get (almost) all EU countries to implement compatible market arrangements. These include the European Commission's three energy packages (adopted in 1996, 2003 and 2009, respectively), with the third³ calling for the effective unbundling of generation and supply interests from the network, and increased transparency of retail markets. It also includes the establishment of the Agency for the Cooperation of Energy Regulators (ACER) in order to ensure effective coordination among national regulatory authorities, and to make decisions on cross-border issues. Moreover, it incorporates

the establishment of the European Network for Transmission System Operators (ENTSO-E), which pushes all grid operators to cooperate and to develop common commercial and technical codes and security standards.

In addition, a supplementary Infrastructure Package⁴ (adopted in 2013) defines rules to identify “projects of common interest” (PCIs); that is, infrastructure projects that will help Member States to physically integrate their energy markets and to enable the power grid to cope with increasing amounts of electricity generated from intermittent renewable energy sources within a number of key trans-European energy corridors and areas.

The building blocks for the internal electricity market are laid out in the third energy package. If today we ask ourselves whether these existing arrangements – once fully implemented – add up to a “European market,” the answer is yes. Whereas in the old times, trade across borders of areas controlled by different transmission system operators (TSOs) was mostly guided by security, rather than economic considerations (Newbery, 2009), today we have a set of national, day-ahead wholesale markets that are mostly connected by implicit access given to physical interconnections from the trade floor. Any bid accepted in an exchange is simultaneously taken into account by the other exchanges, and by the TSOs that manage the interconnections in between. Whenever there is significant congestion in the network, the European market splits into smaller regional or national markets until the congestion ends. Second, we have more and more intraday and “real-time” arrangements by which offers of capacity and energy services also cross the borders of electrical zones. Third, the network is itself becoming more and more Europeanized. New grid operation codes are being conceived at the EU level, and a common strategic planning of the EU grid is taking place under the “Ten Year Network Development Plans” adopted bi-annually by ENTSO-E. The set of PCIs is also meant to better adapt our infrastructures to the internal market's needs.

Having said all this, it is nevertheless true that many anti-market arrangements still survive in too many European countries. At the *wholesale level*, byzantine market arrangements can add up to a “re-regulated access regime,” not only in France and Spain but also in the UK, in light of its new nuclear power program (UK Government, 2013). At the *retail level*, national governments have typically been reluctant to eliminate regulated end-user tariffs (de Suzzoni, 2009), (EREG, 2010), though these tariffs discourage consumers from searching for alternative suppliers and, even more consequentially, might prevent their exposure to more elaborate price signals. Unfair competition arises if these tariffs are not even aligned with wholesale prices, and instead establish values that are deliberately below the minimum levels needed to cover the cost of energy (plus the regulated charges, which also include network tariffs, subsidies to renewables, or taxes). This may result in billions of euros of “tariff deficits,” as has notably been the case in Spain (Marañón and Morata, 2011). Moreover, insufficient unbundling of distribution companies can be a serious obstacle to competition (Davies and Waddams, 2007), (Nikogosian and Veith, 2011), provided that DSOs shall act as “entry gates to retail markets [...] making them an important influence on the level of competition as well” (CEER, 2013a).

The degree of market liberalization and competition still varies significantly across the EU, and there is broad consensus that there is “room for more competition in power markets” (Lowe, 2011). Energy markets in general are perceived not to be very transparent or sufficiently open for new entrants, including demand-side service providers (EC, 2012b), while prices have significantly

³ Directive 2009/72/EC, “concerning common rules for the internal market in electricity;” Regulation 714/2009, “on conditions for access to the network for cross-border exchanges in electricity;” and Regulation 713/2009, “establishing an Agency for the Cooperation of Energy Regulators.”

⁴ Regulation 347/2013, “on guidelines for trans-European energy infrastructure.”

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