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## Time to act: the case for developing Europe's Single Electricity Market

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### BACKGROUND

The Single Market has long been one of the most significant achievements of European integration, bringing numerous advantages to consumers and businesses alike.

For consumers across the European Union, the establishment of a Single Market for Electricity would mean that supply would no longer be limited to electricity produced nationally. As a result of increased competition, suppliers would no longer easily be able to pass on price increases to consumers without suffering market penalties.

The opening of national electricity markets to competition would give consumers more freedom to choose supplier, especially in smaller countries or where markets are dominated by a limited number of players.

For businesses in the electricity sector, a Single Market would create a much larger market, as well as more trading and investment opportunities. For the EU as a whole, such a market would potentially improve the bloc's energy security and reduce its dependency on expensive fuel imports by improving access to domestic energy sources, such as renewable energies.

The importance of making a sector as crucial as the electricity market an integral part of the European Single Market should not be overlooked. To quote José Manuel Durão Barroso, the president of the European Commission, "energy is a key driver for growth and a central priority for action: we need to complete the internal market of energy, build and interconnect energy grids, and ensure energy security and solidarity. We need to do for energy what we have done for mobile phones: real choice for consumers in one European marketplace."

As 2010's Monti Report suggested, a Single Energy Market is the centre-piece of achieving competitiveness, security of supply and sustainability in Europe.

European integration has resulted in the delivery of a wide range of European public goods, which cannot be provided sufficiently at national level but should instead be managed at EU level. Electricity should be one of them. According to the concept of subsidiarity, EU-level intervention in this sector is justified. Ever since the 1990s, there has been an ambitious policy agenda at EU level.

#### Regulatory developments

Before the adoption of 1996's directive on common rules for the Internal Market in electricity, in many member states the market was dominated by a small number of firms. The 1996 directive was a first, important step in the gradual liberalisation of the European electricity market. New rules governing the organisation and functioning of the electricity sector, requiring the legal separation of electricity generation from transmission operations, were enshrined in Directive 2003/54/EC.

While both of these directives imposed many requirements on member states, their central objective was to shift the electricity sector from a monopolistic or oligopoly basis to a competitive one, in the hope of creating a more efficient market.

In 2006, realising that the way in which member states were opening up their electricity and gas markets was impeding the development of a truly competitive single market, the European Commission took action to monitor the implementation of the relevant directives and opened infringement procedures against member states that had failed to transpose the directives into national legislation or to apply them properly.

The countries concerned were Germany, Austria, Belgium, the Czech Republic, Estonia, Spain, France, Greece, Ireland, Italy, Lithuania, Latvia, Poland, Sweden, Slovakia and the United Kingdom.

The following year, the Commission launched an inquiry into competition in the EU gas and electricity markets. This led to a report that identified major shortcomings, including too much market concentration in most member states, too little integration between national markets, lack of transparency, and customers being tied to certain suppliers through long-term contracts.

Further action followed in 2009: the so-called 'Third Energy Package' of legislation aimed, inter alia, to separate supply and production from transmission activities, giving member states the opportunity to choose between three options: full ownership unbundling, the independent system operator (ISO), or the independent transmission operator (ITO).

Ownership unbundling (OU) refers to the total separation of electricity networks from the business of generating power, which effectively means that an integrated company cannot generate power and at the same time own the grid.

Under the ISO system, companies can remain owners of the network if they agree to cede management control to an independent entity.

The ITO option is the least liberalising of the three, because it still allows integrated supply and transmission companies to exist. But it requires them to follow a set of rules designed to force the two divisions of the company to operate independently from one another.

Debate on the subject has been heated and drawbacks undeniably exist: for example, regarding the additional administrative and operational costs that OU can bring. Moreover, there is a lack of consistent evidence that it has a statistically significant impact on final consumer prices.

However, OU offers the benefit of avoiding a dangerous, competition-damaging conflict of interest: whenever an integrated company is supposed to grant access to its network to a new competitor entering the market, it would be in its own self-interest to do the opposite - raise barriers in order to protect its market share.

## STATE OF PLAY

Electricity has a huge influence on our lives, but we often take it for granted. We only tend to realise how important it is when the power goes out. For an energy-dependent EU that is seeking to reach ambitious energy-efficiency and climate-change targets, where electricity comes from, what it costs and how efficiently it is delivered matters.

An assessment report published by the European Environment Agency (EEA) gives a good indication of the current main sources of electricity. According to the report, in 2008 Europe was still relying heavily on fossil fuels and nuclear energy for electricity production. The share of fossil fuels in the EU-27's total gross electricity production was 52.9%, while the share of nuclear power was 27.3%. Renewable sources only produced 18% of Europe's electricity in 2008.

Recently, the Commission's 2010 Communication on 'Energy infrastructure priorities for 2020 and beyond' identified Europe's energy infrastructure priorities and highlighted the importance of upgrading Europe's electricity grid. This is crucial not only to foster market integration, but also in order to transmit and reap the benefits of electricity produced from renewable sources.

The communication indicated that massive investment of up to €1 trillion will be needed by 2020 if the energy sector is to meet its policy objectives, including climate targets. An investment of €200 billion will be required solely for energy transmission networks. The challenge lies in delivering this ambition and meeting the investment needs.

In February 2011, during the first EU summit on energy, the European Council agreed that Europe needs a fully functional and integrated electricity market by 2014. Furthermore, on 12 April this year, the Commission adopted a Communication on 'Smart

Grids: from innovation to deployment', setting policy directions to support the development of a modern, upgraded electricity network. Making use of the latest developments in ICT and network technology would help to design and implement a system in which electrical current flows precisely when and where it is needed at the lowest possible cost.

The current political context, which saw Germany decide to phase out all of its nuclear generation capacity by 2022, brings new challenges and grants even more weight to the future development of the electricity sector, and particularly to the integration of renewable energies. In the long run, this decision will – probably – shift energy supply in Germany towards renewable energy sources.

But the road to a 'green' future will paradoxically be paved with increased dependency on fossil fuels and the EU will as a consequence struggle to achieve its CO2 emission targets: despite a Europe-wide increase in the total volume of electricity produced from renewable power of 87.2% between 1990 and 2008, renewable sources alone are far from able, at the moment, to satisfy Europe's electricity needs.

Also, Germany's decision to phase out nuclear has led to a general increase in energy prices. This constitutes a good example of how energy questions remain an issue of national competence, but at the same time member states' unilateral decisions can affect others.

For the time being, nuclear power is still needed, particularly for reasons of ensuring supply security and reducing Europe's dependency on outside sources of gas and other fossil fuels.

In response to the Japanese crisis, Germany has perhaps one of the strongest anti-nuclear policies. In France, however, a country that obtains over 75% of its electricity from nuclear energy, there are significant

divisions over the issue. While President Nicolas Sarkozy defends France's nuclear industry as a "considerable economic and strategic strength for France," the opposition parties would prefer to slash the share of nuclear in the country's energy mix to 50% by 2025.

Nevertheless, at present interest in deploying new power plants remains relatively high in EU member states including the UK, Finland, Sweden, Romania, Slovenia and the Baltic countries. Such reactions are the result not only of growing concern regarding security of supply, but also of oil price volatility and tougher climate legislation.

The high share of fossil fuels in current electricity generation processes poses an enormous challenge for EU's ambition of developing a greener economy. Nonetheless, this can be mitigated through innovative solutions, like for example carbon capture and storage technologies (CCS), which can potentially reduce CO<sub>2</sub> emissions derived from the use of fossil fuels by up to 85%.

But Europe must do more; it needs a Single Market that supports greener electricity production, which would also make it much easier to integrate renewable energy sources.

## PROSPECTS

### Obstacles and how to overcome them

Regardless of how electricity is produced in Europe, the Single Market for electricity remains far from complete. Despite an evolving regulatory framework and a lively debate surrounding potential future energy sources, numerous obstacles to a European, integrated market for electricity are still in place, and need to be addressed.

To begin with, the EU's interconnection capacity is generally still low, with parts of Europe still isolated, such as Spain, Portugal and the UK. In 2002, the European Council agreed on a target for member states to develop a level of electricity interconnection of 10% of their production capacity.

But this will not be enough: as electricity generation from renewable energy sources necessarily becomes more widespread, the 10% interconnection target must be raised, as these sources are often further away from the consumption location and supplies are more variable than fossil fuels. Their natural distribution across Europe is heterogeneous.

Moreover, even where interconnection is relatively sufficient, there is often not enough harmonisation of market rules for different countries, leading to a fragmented market, higher transaction costs and counter-productive electricity flows from high-price areas to low-price areas. Harmonised market rules for electricity must be adopted and properly enforced, and cross-border barriers should be eliminated, to allow for more efficient use of electricity transmission capacities and to boost competition.

However, the application of EU rules and legislation is still weakly enforced by national energy regulators, despite the European Commission having sent a total of 35 reasoned opinions to 20 member states in 2010 over their failure to comply with regulations regarding the Single Market for gas and electricity.

Among the violations identified were: the lack of information provided by transmission system operators (TSOs) to supply companies, a lack of transnational cooperation between TSOs or national authorities, no adequate enforcement of EU legislation by national authorities, and no proper consumer protection measures.

On 29 September 2011, the Commission launched infringement proceedings against those member states that are yet to transpose the Third Energy Package into national law. In the field of electricity, this included 17 member states. Out of the larger economies, France, UK and Spain were part of this group, while Germany, Italy and Poland were not pursued. This is an important step forward, and the Commission must continue to exercise such power when needed.

For their part, member states need to correctly implement the Third Energy Package of legislation, particularly rules governing the unbundling of networks and the functioning of retail markets, and new rules granting more power and independence to national regulators.

Regarding the latter point, it is important to support pan-European bodies like the Council of European Energy Regulators (CEER) and the Agency for the Cooperation of Energy Regulators (ACER) in their efforts to encourage cooperation and exchange of best practice, as well as to assist national regulatory authorities.

Electricity markets in most member states remain highly concentrated, with few entries of independent suppliers. This oligopolistic situation puts consumers at a disadvantage and is a reason in itself to open up national markets and integrate them into a Single European Market. This will by no means be an easy task. Indeed, the fragmented nature of many national markets makes completing the Single Market for electricity a daunting task. And yet it is an economic necessity.

Customer switching rates in the electricity sector remain very low, and consumer choice is generally sub-optimal. Consumers often complain of being uninformed about the choices available to them and complain that billing information is not tailored to their personal circumstances.

Deepening the internal electricity market should go hand in hand with empowering consumers. Providing them with real-time data concerning electricity consumption, allowing them to adapt their consumption patterns in order to benefit from lower prices, facilitating easy price comparisons and making it easier to switch between suppliers are just a few of the advantages that measures such as rolling out smart meters could bring.

Additionally, at the electricity retail market level, there are still significant disparities between member states regarding prices, as indicated by Eurostat at the end of June 2011. Falling wholesale prices have not always been reflected in retail prices. A Single Market for electricity would help reduce price disparities and costs by boosting competition. Consumers must be effectively informed about such potential benefits.

Upgrading the power network, deploying smart grids and rolling out smart meters is essential to improve network security and reliability, allow large amounts of variable renewable energy to be connected to the grid, produce energy savings, encourage greater transparency and improve consumer welfare.

As previously mentioned, one issue with renewable energy sources is that their natural distribution is obviously heterogeneous, with wind energy more abundant in the northern areas of Europe, more solar energy in the south, or more hydroelectricity potential in mountainous regions like Scandinavia and the Alps.

As well as reducing CO2 emissions in the EU by an estimated 9%, thus significantly contributing to building a low-carbon economy, smart electricity grids offer technological solutions to balance out the natural distribution of renewable energy sources. Significant investment in smart electricity networks is therefore needed.

Inconsistencies between support for innovation and renewable energy sources in member states, such as major differences between national feed-in tariffs, make it more challenging to meet the EU's energy and climate objectives.

Such differences need to be reduced, because they promote inefficiency in that non-carbon electricity is not produced in the most efficient and therefore the cheapest manner. It is also important to encourage the development of specific renewable energy sources in locations where they are most efficient, in accordance with local natural potential.

Europe's energy infrastructure needs to be improved in order to allow electricity to flow freely within the EU. The new energy strategy for 2011-2020, 'Energy 2020, a strategy for competitive, sustainable and secure energy,' makes further reference to the huge investment in the energy sector required in the next decade, putting the renewal of electricity networks among the main objectives. Europe must identify major sources of financing in order to satisfy these needs.

The new Multiannual Financial Framework 2014-2020 features some innovative instruments that could be used to this end, in particular the Connecting Europe Facility. This new instrument will finance infrastructure projects with a strong European and Single Market dimension in the energy, transport and ICT sectors. It is certainly a vital step towards addressing the need for €200 billion-worth of investment to complete the trans-European energy network by 2020 (for gas pipelines and power grids).

Yet many more sources of financing must be identified. Given the strain that public budgets are already under, it is clear that any solution must also include private sources. Thus both private and public investment will be required, with only half of the investment expected to be delivered unaided by the market. Innovative funding mechanisms like Public Private Partnerships can help leverage private capital and generate more investment, but other, new ways to create genuine partnerships between public, private and other stakeholders are also required.

### The way forward

Few dispute that significant economic gains would result from establishing a Single Market for electricity in Europe. However, there are numerous hurdles that stand in the way of achieving such market integration, and thus hinder to a certain extent additional sustainable economic growth and security of energy supply.

Today's Europe is divided over the benefits and risks of nuclear power generation, and renewable energy sources must be better integrated into the grid. Against this background, the EU must urgently act more decisively in creating a Single Electricity Market.

Accelerating the development of its energy infrastructure with the aid of new and innovative financial instruments, empowering consumers, providing transparent information, harmonising market rules (and ensuring that they are implemented and enforced properly) will help to deliver the smart, sustainable growth that Europe so desperately needs.



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