

Energy Transition: A Multifaceted Challenge for Europe

1st Symposium: Securing Europe's electricity supply – Making the switch towards an integrated and long-term approach

- Report -

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On the 5th of May 2015, Egmont – The Royal Institute for International Relations and the Development Group held the 1st Symposium of the 2015 series of events dedicated to the European Energy Transition. Together with around 100 representatives from EU institutions, the economic sector, member states and other key stakeholders, they discussed the need of securing Europe's electricity supply while making the switch towards an integrated and long-term new power system.

Keynote address: Is there a need for an adjustment of Europe's electricity market design?



The keynote address was provided by Dr Florian Ermacora, Head of Unit: Wholesale markets; electricity and gas at the DG Energy of the European Commission. He started by reminding that security of supply is perceived by many as a purely national issue. It is, however, of European concern. Then, he explained that the Commission is currently working on an “electricity market design initiative”, which is part of the Energy Union Strategy. This initiative aims at facilitating the integration of an increasing share of renewables into the electricity system, managing the national reactions for back-up capacities, and addressing the lack of right

investment signals in the current market design. In the meantime, it is essential that Member States implement the third energy package. He also outlined that the internal electricity market will remain an abstract project unless the system adequacy of each Member State is regionalised. Moreover, flexibility must be increased as much on the supply side as on the demand side. Consumers should become prosumers. Regarding the governance, he raised the question whether a local TSO is able and the right player to manage a regional system. Finally, he announced that according to current planning the Commission will adopt a consultative communication in the third Quarter 2015 and a proposal for a new legislation on the electricity market design is to be expected in 2016.

Session 1: What are the main barriers to the completion of the EU internal electricity market?



Michel Matheu, Head of EU Strategy in the Public Affairs Division at EDF, opened the first session by reminding that great progress has been achieved over the past years but some issues still need to be addressed. He explained that the regional and European integration stems from a learning by doing process, starting from national initiatives that, if successful, are replicated at regional level through increased coordination and go further to European standardization when possible. The main barrier is the integration of variable renewables with priority dispatch into the system. Regarding generation adequacy, the point is to get the right capacity amount at the right place and at the right time. It requires to control volumes and subsidies and to introduce efficient capacity mechanisms among countries. National capacity mechanisms are already decided but a joint assessment at regional level is crucial in order to know if they are really necessary. He also underlined that the main barrier to the construction of efficient new infrastructure is public acceptance. The interconnection targets of 10% by 2012 and 15% by 2030 do make sense but cost benefit analyses are needed in order to see in which cases it might be necessary to reach more or less than these targets regarding the circumstances. Finally, he explained that the integration of short-term markets is a good example of this stepwise approach even if much remains to be done for intra-day and close to real time markets. This will require resources from Transmission System Operators (TSOs) and political support.

Afterwards, Olivier Feix, Head of Communications and Public Affairs at Elia Group, pointed out that the energy transition has a huge impact on the electricity system: the massive deployment of decentralised and variable renewables into the grid; the impact on energy prices; the decreasing profitability of conventional generation under current market conditions; the remaining gap between the evolution of the legal framework and the growth of renewables, the insufficient expansion of electricity grids; and the limited public acceptance for the consequences of the energy transition. He also presented the recent experience made during the solar eclipse in Germany which was a successful test for the electricity system of the future. Indeed, the market products developed over the last years have worked well and the TSOs have increased flexibility and secured the system via additional measures. Then, he outlined the major areas to work on, namely: public acceptance and dialogue, grid development, real-time cooperation as well as trading of ¼ hour products and improved liquidity on short-term markets. Finally, he agreed with the bottom-up approach of Michel Matheu, explaining that it starts with the collaboration of a few companies that learn from experience and develop further with the support of the European Commission if it works.





Wolfram Vogel, Director of Public Affairs and Communications at European Power Exchange – EPEX SPOT, outlined three key challenges of short-term markets. The first one is to consolidate a power exchange in Central-Western Europe, where regional players are currently organising the market. The second challenge is cooperation between the different markets in order to have one single price for the EU. Market coupling is driven by the price coupling of regions (reducing price peaks) and by the optimisation of transmission capacity (improving security of supply). In 2014, the convergent prices rate was at 40% in the market. The third challenge is flexibilisation with the trading of ¼ hour products to better balance demand and supply.

According to Mr Vogel, the missing blocks of the European energy policy are: market-based and truly European energy policy; efficient cooperation between Member States, European institutions and industry stakeholders; swift completion of the European electricity market; flexibility to ensure security of supply; let electricity prices be determined by the market, not by regional regulation; and actively promote market transparency and integrity.

As discussant, Jonathan Gaventa, Associate Director at E3G, insisted on three key points. Firstly, the energy transition is changing the nature of the market and all energy actors recognise that they have to act accordingly. Secondly, electricity grids must be expanded in order to integrate an increasing share of renewables. As there is no clear price signal, the energy actors have to make assumptions on what the market will look like in the coming years. We are transitioning from an old system to a new one without knowing yet if the “learning by doing” process will work. To illustrate this, he said that it is not easy to change the wheel of a bike that must keep running. Thirdly, he outlined the key role of politics in integrating the markets. According to him, the Member States’ different decisions on their energy mix are not a problem if they exchange their capacity across borders without worrying where it comes from and by what it was produced. That is why the project of an Energy Union through regional cooperation is so important.

Session 2: What are the next steps towards an integrated and long-term electricity market?

Holger Gassner, Head of Strategy and Regulatory Affairs at RWE Innogy, opened the second session by stating that we need only one electricity market. He outlined that, on the European and national level, one can observe a strong trend towards decarbonisation and renewables. The EU state aid guidelines help to shape the future of support schemes in Member States. Feed-in tariffs are being progressively removed to the benefit of an integration of renewables into the market. The state aid schemes will be authorised in the future for a maximum of 10 years. The state aid guidelines help to foster a more European approach by opening up tenders for cross bidding, improving competition. Each Member State chooses its own individual design for tender schemes. He also stressed that the necessary development of renewables and conventional generation requires a stable long-term investment climate. This requires earning back the invested capital, avoiding regulatory boom and bust cycles as well as retroactive changes in legislation. Investors can manage project and market risks but no regulatory risk. Finally, he mentioned that the rising share of renewables demands an evolution of the market design for conventional power generation.





Then, Harry Verhaar, Head of Global Public and Government Affairs at Philips Lighting, recalled that we live in fast changing world, where global trends pose new challenges to government, business and society. He explained the four drivers for action of energy efficient lighting and energy efficiency as a whole: rising energy prices, climate change, security of energy supply and economic growth. In order to catch these four birds, companies should change their business models by being more energy efficient. At Philips, lighting is evolving from offering products to energy efficient solutions integrated in smart energy eco-systems. In order to turn energy efficiency into economic growth, he presented an Ecofys study¹ that proposes to double the rate of energy productivity in order to reduce energy expenditure by 35%, improve security of supply and create 1.2 million jobs by 2030. Another study of the World Economic Forum on “the Future of Electricity”² shows that the electricity value chain is evolving with new business and investment opportunities emerging beyond the meter. A balanced approach to ‘supply’ and ‘demand’ must be found, leveraging the utility customer base and moving from ‘electricity’ to ‘electricity services’. Thanks to smart meters, customers could play a key role on flexibility, energy efficiency, electrification and distributed generation. Finally, he introduced the Global Energy Efficiency Accelerator Platform, an initiative led by the UN Secretary-General and the World Bank, which was established to help meeting the target of doubling the global rate of improvement in energy efficiency by 2030.

John Sinner, Senior Energy Economist at the European Investment Bank, explained that historically energy markets have evolved along national lines and are still largely driven by national interests. However, a stronger integration would have clear benefits in terms



of operational efficiency, investment efficiency and risk sharing. Moreover, he emphasized that there are two requirements for a functioning energy market: (1) hardware, consisting in adequate and secure physical infrastructure and resources, and (2) software, consisting in a regulatory and market framework to develop and operate the hardware cost-effectively and sustainably. Although there must be sufficient capacity at any time to meet peak demand, incumbents are currently reluctant to invest in new capacity because there is no guaranteed return. Regarding the market design, most energy markets in the EU are energy-only markets but with the development of renewables, it has become increasingly difficult to recover the fixed costs of peak and reserve capacity. As energy only markets do not inherently deliver low cost capacity, a capacity market should be put in place in order to send the right market signal for long-term investment. However, there are still many questions on the

¹ Ecofys, The Lisbon Council and Quintel Intelligence, *The 2015 Energy Productivity and Economic Prosperity Index: How Efficiency Will Drive Growth, Create Jobs And Spread Wellbeing Throughout Society*, See more at: <http://www.lisboncouncil.net/publication/publication/121-the-2015-energy-productivity-and-economic-prosperity-index.html#sthash.2O6X889S.dpuf>

² See more at: http://www3.weforum.org/docs/WEFUSA_FutureOfElectricity_Report2015.pdf

capacity market design to be answered: Who pays?, Who decides how much capacity is needed?, How does this work across borders? etc. Finally, he elucidated the main challenges towards an integrated and long-term electricity market: the most critical point for investors is to set investment signals; then there is the future impact of renewables in the market; the cross-border coordination and cost and benefit allocation; followed by the costs and benefits of the final consumer; and the need to do all this in a sustainable manner.



Finally, as discussant, Stephen Woodhouse, Director and Head of Market Design Group at Pöyry Management Consulting, illustrated the unprecedented challenge of the construction of the electricity market by taking the example of different pieces of a puzzle that nobody knows how to put together. The existing delivery mechanisms are not fit for purpose. Moreover, the policy risk is increased by the fact that the consumers' trust in the electricity market and the politics' trust in utilities is dropping. A

long-term regulatory framework is needed. The energy actors can cope with the market risk but not with the policy and regulatory risk. He also insisted on increasing and incentivising flexibility as well as improving intra-day markets in order to cope with the risk of having cross-border balancing wrong. It is also necessary to work on the demand side, which is currently the missing part of the electricity market. He concluded on an optimistic note saying that the future of electricity is bright even if the old model is dead.

To conclude, the answers to all the different challenges mentioned above will require technology developments, political will and coordinated action by Member States, the TSOs, the regulators and all energy stakeholders. Each actor will have to accept to drop some of its individual decision-making powers in favour of a common approach, which is not only more cost-efficient but also more secure.

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