

Energy Transition: A Multifaceted Challenge for Europe

1st Symposium: Boosting European innovation after COP21: A prerequisite for a low-carbon future

- Report -

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On the 4th of May 2016, Egmont – The Royal Institute for International Relations and the Development Group held the 1st Symposium of the 2016 series of events dedicated to the European Energy Transition. Around 100 representatives from EU institutions, the economic sector, Member States and other key stakeholders discussed the need to boost innovation after the COP21 if the EU wants to reap the benefits of the transition towards a low-carbon economy.



Keynote address: The impact of COP21 on EU energy and innovation policies

The keynote address was provided by **Marie Donnelly**, Director at DG Energy of the European Commission in charge of renewable energy, research and innovation and energy efficiency. She started by reminding the audience that Europe demonstrated innovation at COP21, leading to the Paris agreement – a strong mind-set shift to tackle climate change globally. In Europe, this means changing old habits.

This year is the year of the delivery of the Energy Union – and the Commission has a lot to do: almost all the EU energy and climate *acquis* has been reopened. A dialogue is taking place across various directorates-general in order to get a comprehensive approach and a clear direction of travel. As most of the revised directives will be applied until 2030, the policy-makers must project their minds forward and identify the future disruptive possibilities. The coherence of this future regulatory framework is crucial to businesses. With respect to the European research and innovation policies, the SET-Plan has been successful in developing the technology pillar and the Horizon 2020 budget for research has been doubled. The next steps are to identify the research priorities, to deal with the issue of integration of new technologies and to take a holistic approach to energy system innovation.



Session 1: How to maintain EU's competitiveness through more innovation in the energy sector?

Jonathan Gaventa, Director at E3G, structured his presentation in three parts: threat, opportunity and action for the EU in the global green race. Firstly, he outlined the threat of complacency. Europe was

instrumental in delivering the Paris Agreement, but policy makers should not assume the Paris Agreement will automatically bring enormous benefits to European firms. The rest of the world considers now low-carbon technologies as a market opportunity. To illustrate this, he took the example of China, which has already overtaken the EU in clean energy investment and on research and development expenditure. China's five-year-plan indicates the trend will only continue in the coming years. Secondly, he explained that investment in four key technologies - namely: electric vehicles, solar PV, LEDs and onshore wind – could bring a revenue opportunity of more than \$600 billion from now until 2025. However, economic opportunities go beyond direct manufacture and many other key opportunities such as systems integration and system balancing, smart infrastructure, new consumer offers and business models should be developed. Thirdly and consequently, the EU has to take action by thinking in terms of ecosystems. Innovation is as much about new markets and new business models as it is about new technologies. Finally, he explained that as the current 2030 targets point a continued slowdown in the clean economy, the EU risks being left further behind in the race towards a low-carbon future.



Besides the position of Europe in the world, **Bertrand Deprez**, Vice President of EU Government



affairs at Schneider Electric, explained how he saw the future for his company in Europe in the building sector. Buildings consume 33% of global energy and will grow to 35% by 2040. Building management is still a complex silo-by-silo business, which leads to inefficiencies. There is thus a huge untapped potential in terms of operational and energy efficiency. The Internet of things, the deployment of renewable energy and storage, and the building life cycle management are disruptive technologies with huge potential efficiency gains. Schneider Electric's long-term vision is to

maximise value through connectivity and context, enabling smart buildings. These buildings will sense, think and adapt. In Europe, enterprises are not calling for more money to be spent on R&D by national governments. Companies need the Commission to play the role of facilitator: adjusting the regulations to the market expectations and integrating demand response should be prioritised among other things.

Finally, **Martin Porter**, Executive Director at the European Climate Foundation, moderated the discussion with the audience, provided feedback on the speakers' presentation and added some personal comments on the issue. He outlined that the Paris Agreement is a strong market signal in the long-term: the direction of travel and pace are now clear. Policies tend to plan for the long term – which is needed – but they need to be flexible enough to integrate disruptions when they arise. He agreed the race to win the low-carbon economy challenge needs an integrated approach that would break down the different silos. Then, he insisted on the importance of an integrated Research, Innovation and Competitive Strategy as the fifth dimension of the Energy Union. We need to continue to invest in research to overcome new technological issues. As a good illustration of that, he took the demand side management focused on consumers, which will request services and products changes. He also pointed out that while the Commission must enable different perspectives (local, national, regional and global) to come together, the system is still highly decentralised and it only continues further.





Session 2: How to speed up the development of breakthrough energy technologies into the market?

Harry Verhaar, Head of Global Public and Government Affairs at Philips, opened the panel by underlining the paradigm shift currently happening. Today's concerns are the same ones as back in 2005/2006 (energy prices, climate change, security of energy supply and research, growth and jobs) but the transition is currently underway. From a linear

society based on lowest cost aiming at increasing the GDP, we are now moving towards a circular society improving the quality of life by focusing notably on resource efficiency and the full lifecycle value of a product. Successful companies are now looking at how products interact in energy ecosystems. This is what Philips has done with the LED lighting. The same principle should apply to policy-making: no more silos and a focus on interactions. Harry Verhaar explained that we are engaged in a race to the future and Europe needs ambition not to lose its competitive advantages. To show leadership, Philips had decided to become carbon neutral by 2020. Europe would need to speed-up breakthrough energy innovation: R&D investment should be 3% of GDP and stimulate the development and uptake of new smart technologies. According to Verhaar, Europe would also need to revise its renovation programme (should be at the level of 3% a year) and the energy efficiency target would have to be upgraded to 40% by 2030 (instead of at least 27%). All energy infrastructure need to become carbon neutral by 2050. Changes would also need to happen in green procurements, off-balance sheet accounting for energy performance contracting and, finally, policy-makers need to mobilise the 'eco-majority' through an engaging narrative. When asked by the moderator, Heinz Ossenbrink – Head of Unit at the European Commission's Joint Research Centre –, how to foster further innovation, Mr. Verhaar explained his mantra: inspiration (sparking imagination and sharing the benefits of innovative solution), aspiration (sufficient level of ambition) and perspiration (determined people that get things done).

The second speaker, **Jonas Wolff** Senior Energy Expert from the European Investment Bank, insisted on the instruments made available by the EIB to support innovation in the European energy sector. According to Wolff, the bank plays a key role: it is the largest multilateral lender and borrower in the world and financed more than 450 projects in 160 countries. These days, the EIB is lending slightly less than 80 billion Euros per year. The bank carefully scrutinised the energy projects and selected only those compatible with the Energy review (including prioritisation of 'no regrets sectors' – energy efficiency, energy RDI projects –, adoption of an emission performance standards for fossil fuel generation and assessment of the environmental sustainability of nuclear and shale gas projects. To support innovation, the EIB has also launched a joint initiative with the European Investment Fund to provide finance and advisory services covering the entire value chain of research and innovation: InnovFin. More specifically, Wolff explained that the Energy Demo project focuses on renewable energy projects at a pre-commercial stage that requires a guarantee of minimum 7.5 million Euros reimbursable over 15 years covering maximum half of project costs. The moderator underlined that most of the entrepreneurial landscape in Europe is composed by small and medium-size enterprises with project costs lower than this threshold. M. Wolff explained that the EIB is also supporting smaller projects by lending to local banks that could, in turn, lend money to innovators.



The last speaker, **Alix Bolle**, EU Campaign Manager from Energy Cities, insisted on the need to adopt a comprehensive and inclusive approach. She explained that the Smart cities agenda is about innovation, but policy-making is still being locked in old habits. Energy planning for instance needs to include new elements such as demand response management, storage, prosumers and flexibility and to do so cities play a crucial role. The Covenant of Mayors, a European initiative involving the development of sustainable energy and climate plans, has proven cities are already thinking in a long-term perspective and are ambitious. For Energy Cities, tapping the full potential of innovation and decarbonisation at the city level can only happen through the 3Ds: Devolving more power to local authorities, Divesting from energy infrastructures that add no value to the territory in the long term and Democratising the European energy policy by bringing it closer to the citizens through better social acceptance, crowd-funding campaigns and optimising the way consumers use energy. The greater goal would be to bring trust back between energy companies, local authorities and the citizens. Asked by the moderator how to go beyond sharing best practices, Ms Bolle underlined that innovation was already happening on the ground, in the cities, and also on the political level: a city in Portugal recently launched a platform where the civil society can take an active part in the new vision of the city.



Finally, the moderator, **Heinz Ossenbrink**, emphasised the need for a comprehensive vision of the energy system and innovation policies. He insisted that tomorrow's cities would put the citizen at the heart and the policy framework should be designed to attract investment. It was in Europe's economic interest to invest in low-carbon technologies and innovation as well as to adopt a systemic approach to particular ecosystems.

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