



Optimising electricity transmission in Europe: Technological and regulatory options

**A CEPS/ECN Workshop
20 March 2012, 11:00-16:00**

Venue: CEPS, Conference Room, Ground Floor
Place du Congrès 1 – 1000 Brussels; Phone +32 2 229 3911

Draft Agenda

INTRODUCTION: Power perspectives 2050

Electrification represents a crucial element of the EU's transition to a competitive low-carbon economy by 2050. As a matter of fact, in the decarbonisation scenarios of the Energy Roadmap the share of electricity in final energy demand is foreseen to almost double between now and 2050. A well-functioning internal market for electricity will be essential to ensure that sustainable electricity will reliably be available to consumers at an affordable price. Investing in electricity transmission infrastructure is indispensable to meet this challenge, in particular in a 'high renewables' scenario as recently confirmed by the 2050 Energy Roadmap. This workshop aims to answer two questions: 1) To what extent can technological innovation reduce the need for new transmission lines? 2) What does it take to get transnational infrastructure off the ground (and thus eventually on the ground)?

10:30 *Registration*

11:00 Welcome by **Arno Behrens**, Head of Energy and Research Fellow, CEPS and **Jaap Jansen**, Senior Policy Researcher, ECN

11:05 Introductory comments by **Arne Mogren**, Programme Director Power, European Climate Foundation

SESSION I: Doing more with less: What room for technological innovation?

In the European debate there tends to be a focus on new infrastructure projects. While there is certainly a need for grid expansion, more could be made out of existing lines. In addition, innovative technological options such as an offshore grid that would allow to both connect wind farms to the shore as well as to trade electricity whenever there is spare capacity available could lead to significant synergies. This panel reflects upon the technological options (e.g. AC/DC line conversion, hub-to-hub solutions) that policy-makers should take into consideration and analyses whether the Energy Infrastructure Package that is currently being discussed in Parliament and Council pays adequate attention to such innovative options.

- 11:20** Panel discussion chaired by **Jaap Jansen**, Senior Policy Researcher, ECN
- **Matthieu Craye**, DG Energy, European Commission
 - **Mihai Paun**, Network Development Advisor, ENTSO-E
 - **Luis Costa**, Alstom, Participant in FP7 IRENE-40 project
 - **Nicolaos Antonio Cutululis**, Senior Scientist, DTU Wind Energy, Technical University of Denmark
 - **Gerard Doorman**, Visiting Professor in Electric Power Systems, ECN and Professor at the Department of Electric Power Engineering, Norwegian University of Science and Technology

12:10 Open discussion

13:00 Light lunch at CEPS

SESSION II: How to enable projects with cross-border impacts?

A transmission infrastructure that is optimised from a European perspective is difficult to implement in practice as costs and benefits are not distributed equally across borders. Developing a cost-benefit methodology that is acceptable to all relevant stakeholders would facilitate projects with cross-border impacts. Not only may it be beneficial for effective cost-allocation rules, a clear and transparent methodology could also foster public acceptance. Yet, the challenges of a European cost-benefit analysis are considerable, ranging from identifying the right time horizons to agreeing on what qualifies as a positive externality (and how to measure it). This panel aims to identify the main challenges of such a cost-benefit analysis with a view to finding solutions that can feed into the discussion on the Energy Infrastructure Package and the public consultation on the 2012 ten-year network development plan.

- 14:00** Panel discussion chaired by **Arno Behrens**, Head of Energy and Research Fellow, CEPS
- **Kitti Nyitrai**, Networks & Regional Initiatives Unit, DG Energy, European Commission
 - **Concetta Martens**, Amprion (German Transmission System Operator)
 - **Chloé Le Coq**, Assistant Professor, SITE, Stockholm School of Economics
 - **Mats Nilsson**, Economist, Vattenfall AB Nordic Generation
 - **Adriaan van der Welle**, Researcher, ECN

15:00 Open discussion

CONCLUSIONS

15:50 Conclusions and wrap-up by **Arno Behrens**, Head of Energy and Research Fellow, CEPS and **Jaap Jansen**, Senior Policy Researcher, ECN

16:00 *End of the meeting*