"Principal Agent Theory from a Practical Perspective: Incentives for Reducing Congestion Management Costs in Electricity Network Regulation "

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Abstract:

Costs for congestion management measures in Germany have been one of the drivers of rising network charges, a major price component of the retail electricity price. Congestion management measures are necessary whenever electricity traded on the market cannot be transported due to line network limitations. Network operators are then legally entitled – and obliged – to take certain measures to maintain the security and reliability of the electricity supply system. Over the course of the "energy transition," generation capacities in the south have declined while generation capacities in the north (especially wind, but also hard coal) have increased. As a result, network limitations have augmented and network expansion does not follow suit behind changes in generation capacities. In the regulatory system, costs for these measures are classified as "costs which cannot be influenced on a permanent basis." Thus, they can be passed on to the network user on a purely "cost-based" approach without a regulatory incentive for reduction. Network operators are legally bound to use cost-efficient congestion management measures. However, the regulatory authority that examines and approves the costs has limited access to "control" whether measures have been applied cost-efficiently due to information asymmetry. Taking into account principal agent theory, the consequence should be the development of system inherent incentives for the agent to comply with its obligations. However, in practice such incentives for single agents seem to collide with the externalities embedded in the electricity system. If it is impossible to make the agent responsible for its action, how can we develop the "right" incentives, or is it even worth trying to reduce the information asymmetry? The talk presents this "dilemma" from a practical perspective and opens the discussion for different options to reduce congestion management costs.

Presenter:

Linda studied international economics in Tübingen and Rio de Janeiro, after which she worked as a consultant in the field of cross-border river basin management and as a researcher in Klaus Eisenack's working group at the University of Oldenburg. Her research dealt with incentives to cooperate in cross-border electricity systems, focusing especially on congestion management. Today she works at the national regulatory agency (Bundesnetzagentur) in the area of electricity regulation. She still deals primarily with congestion management, although she now incorporates transparency, data collection/analysis, and evaluation, as well as policy implementation regarding operational congestion management processes.