Gastvortrag

Dr. Ivan Savin
Karlsruhe Institute of Technology, KIT
Bureau d'Economie Théorique et Appliquée, BETA

„Evolution of the electricity market in Germany: Identifying policy implications by an agent-based model“

The diffusion of renewable electricity generating technologies is widely considered as crucial for establishing a sustainable energy system in the future. However, currently the required transition is unlikely to be achieved by market forces alone. For this reason, many countries implement various policy instruments to support this process, also by re-distributing costs related to the policy instruments applied among all electricity consumers. Special emphasis of the model is devoted to the possibility of small scale renewable electricity generation, but also to storage of this electricity using small scale facilities being actively developed over the last decade. Both combined pose an important instrument to be used by electricity consumers to achieve partial or full autarky from the electricity grid, particularly after accounting for decreasing costs and increasing efficiency of both due to continuous innovation. This paper presents a novel history-friendly agent-based study aiming to explore efficiency of different mixes of policy instruments by means of a Differential Evolution algorithm. Among other things, we find that the historical policy mix of Germany introduced too strong demand-side instruments (like feed-in tariff) too early, while it would have been more cost efficient to introduce them later (after a period of intense supply-side support).

Dienstag, 12. Jänner 2016
09:00 Uhr s.t.
L.2.2.01 (Lakeside Park b02, 2. OG)

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