Balancing between competition and coordination in smart grids – a Common Information Platform (CIP)

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Summary

With large-scale integration of decentralized renewable electricity generation, the value added to the distribution network is rapidly increasing. Accordingly, concern whether competition is on a level playing field intensifies. In other words, the debate on unbundling of monopoly parts from commercial stages, which dominated the EU directive 2009 for the transmission networks, has now reached the distribution level.

However, what should unbundling of smart distribution grids look like? How do we balance between competition and coordination in smart distribution grids? We argue that information and data management is the key task in smart grids that should increase coordination and enable competition.

Information and data management (IDM) is the interface between the regulated network business and the commercial side, i.e. power supply and demand that are open to competition. IDM is therefore at the heart of coordination in smart grids. IDM should provide access to the existing data (e.g. from smart metering) for those actors that need it and are entitled to it. Such actors can be in the regulated business of network operation as well as commercial service operators.

Within this paper we show that the governance models, which currently dominate the discussion, are unbalanced between coordination and competition. Addressing this unbalance we propose a new governance approach for information management, the Common Information Platform (CIP).

The CIP is a cooperative, not-for-profit organization constituted by the relevant stakeholders of smart grids. It is a rule-making institution for IDM that ensures neutrality by involving all eligible stakeholders.

The CIP is a club in which members collectively determine the rules for IDM. The CIP:

secures non-discriminatory access to data allows third party stakeholders to have a voice determines the rules and the players of the game secures data security and privacy can be arbitrator and mediator in cases of conflict demarcates and tenders the various tasks of data-processing

The main idea of the CIP is to balance between competition and coordination at the distribution grid level. The common structure serves to balance the different interests and thereby avoid discrimination. Hence, no further unbundling i.e. no ownership unbundling is needed to enable competition in generation and supply on a level playing field. The current unbundling regime of the distribution networks does not need to be changed. Network and commercial business might even stay integrated (as it is often the case for local distribution in the US or under the de-minimis exception in the EU), securing coordination and alignment of incentives between the network and commercial businesses.

We briefly discuss design options for a CIP approach. This includes (1) the demarcation of roles and responsibilities within the CIP, (2) the question of membership and eligible stakeholders, (3) the design of decision-making and voting rules, (4) the scale and scope of the CIP and (5) the regulatory effort that comes with the CIP.