Marktbasierter Ansatz für Versorgungssicherheit

Strommarkttreffen Schweiz, 15. Juni 2018, Zürich

Christian Winzer

Christian.winzer@zhaw.ch

Patrick Dümmler patrick.duemmler@avenir-suisse.ch

Zürcher Hochschule für Angewandte Wissenschaften



In many areas we are used to decentral decision making



Source: Adrian Sulc, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=2192317

However, the preferred level of supply continuity is still determined administratively.



In many areas we are used to decentral decision making



Source: Ian Muttoo - originally posted to Flickr as Alone / TogetherUploaded using F2ComButton, CC BY-SA 2.0, https://commons.wikimedia.org/w/index.php?curid=8808073

However, the preferred level of supply continuity is still determined administratively.



Roll-out of Smart Meters offers new opportunities

Currently, in case of emergency whole districts need to be cut-off from supply



- 1. High costs of supply restrictions
- High level of security of supply needed
- 2. Restriction of individual customers not possible
- Reliability of security of supply is a common good

In the future supply could be restricted individually



- 1. Lower costs of supply restrictions
- No state intervention needed to guarantee supply of critical infrastructure
- 2. Restriction of individual customers possible
- Reliability of security of supply is a private good



Switzerland needs to decide how to handle times of limited electricity supply



Source: Avenir Suisse, https://www.avenir-suisse.ch/massgeschneiderte-versorgungssicherheit/



A market based solutions needs to distribute costs and risks on the basis of customer demand



Ask all consumers to specify, and continuously update their **curtailment cost**.

B Allocate **curtailment risk** by offering curtailment bids in all energy markets.

> Curtailments remunerated at marginal cost



C Allocate **costs of back-up** based on selected reliability levels.

> Grid tariffs for different reliability levels

D Efficient Dispatch and investment incentives

Source: Christian Winzer & Frieder Borggrefe, http://cadmus.eui.eu/handle/1814/50004 p. 54ff





Thank you for your attention

Zürcher Hochschule für Angewandte Wissenschaften

