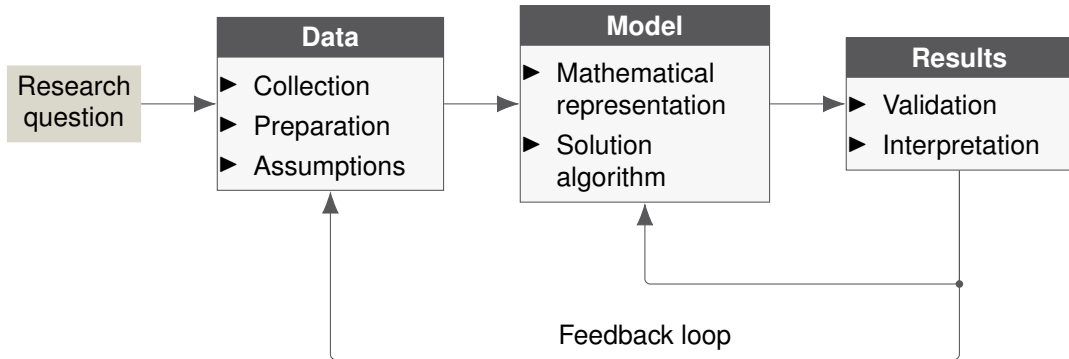


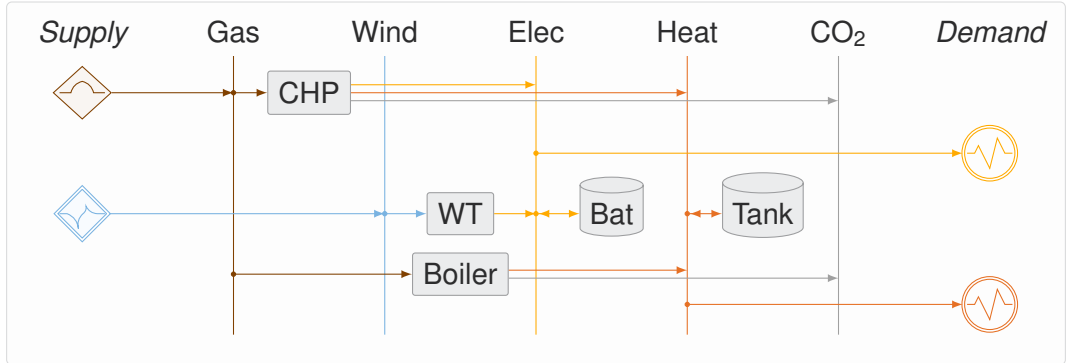
Uncertainty modeling with the open source framework urbs

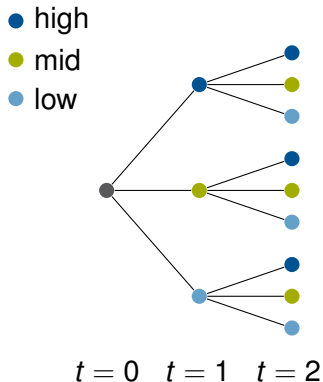
Magdalena Stüber, Leonhard Odersky and Paul Stursberg

Chair of Renewable and Sustainable Energy Systems
Department of Electrical and Computer Engineering
Technical University of Munich

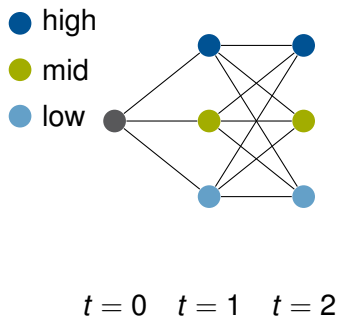
9 October 2019







SDDP

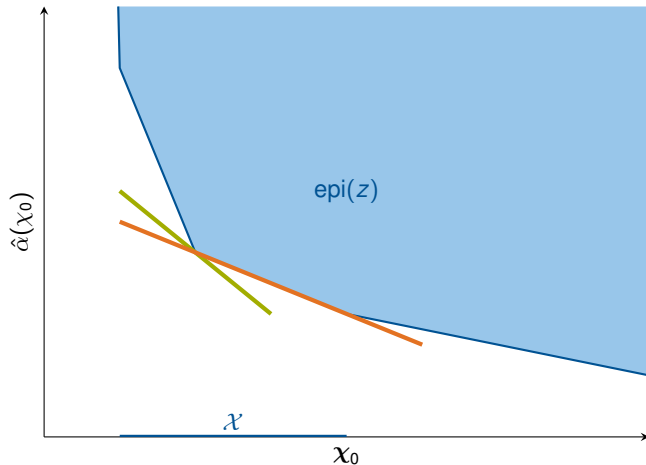


- ▶ Scenario tree
- ▶ Computational expensive
- ▶ Discretization

- ▶ Combine information
- ▶ Approximate future costs

Improved cut

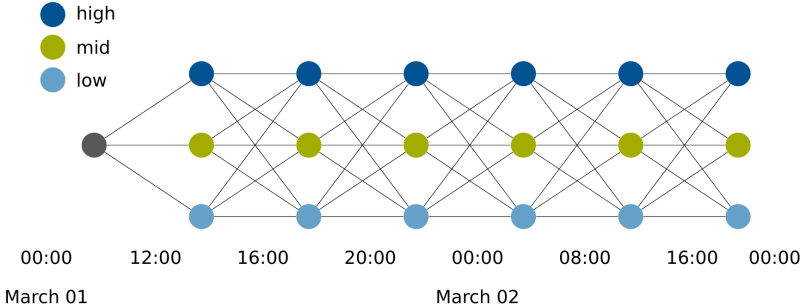
Facet and Pareto-optimal cuts¹



¹René Brandenberg, Paul Stursberg, *Cut Selection For Benders Decomposition*, July 2019, <https://arxiv.org/abs/1906.05583>

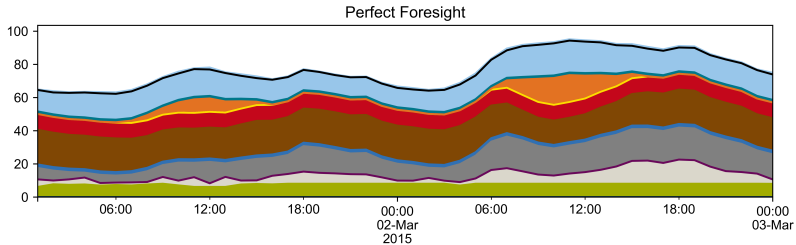
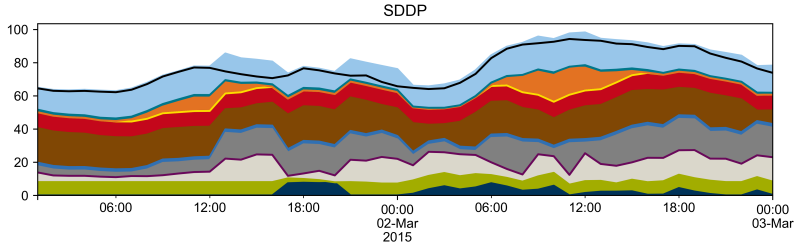
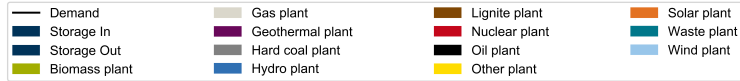
Case study

Optimal dispatch for Germany



Case study

Results



- ▶ Open-data model
- ▶ Open-source framework
- ▶ SDDP implementation with improved cuts

