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## Electricity markets operation planning with risk-averse agents Stochastic decomposition and equilibrium

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# **Electricity markets operation planning**

# with risk-averse agents: stochastic decomposition and equilibrium

Nenad Jovanović

## 5th November 2019

- 1. Too many scholars overlook the computational challenge of CVaR constraints in stochastic optimization problems.
- 2. Obtaining a joint solution of a set of uncertain scenarios provides a good hedge for the realtime electricity market operation.
- 3. Knowing the influence of different agents' risk-averse levels is required for the everyday operation planning of its generation units.
- 4. A risk-neutral agent in a Nash-equilibrium electricity market game with risk-averse agents, will become a risk-seeker.
- 5. Having a higher level of risk-aversion than your competitors in wholesale electricity markets will bring higher payoffs.
- 6. The true notion of the Game Theory is that nobody plays against you, but they are just playing for themselves.
- 7. Getting to know the basics is crucial, as solutions to some complex problems can be found in books written decades ago.
- 8. Sacrifices in the short term provide high dividends in the long term.
- 9. Studying abroad teaches you that every grandmother prepares great meals and believes that their grandchildren do not eat enough.
- 10. Behind every successful optimization-modelling man, there is a successful decision-making wife.

*These propositions are considered opposable and defendable as such have been approved by the promotor, prof.dr.ir. P. M. Herder.*