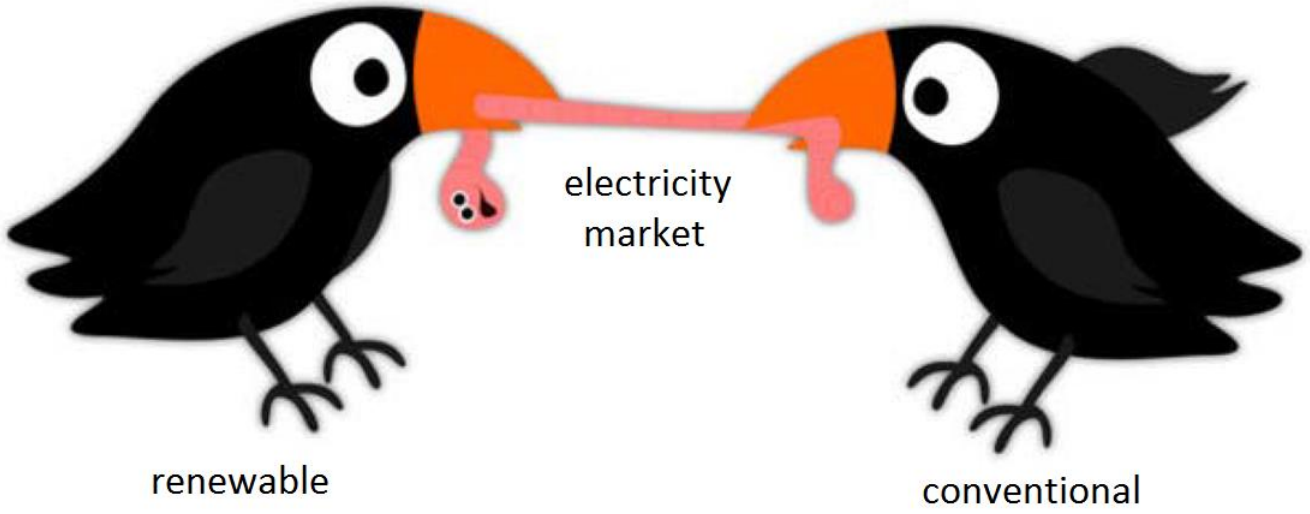
Merit Order Simulation:

Idea, Program, Results

Jens Schneider, David Daßler, Anna Ulmann, Pierre Laurenz

MCC Berlin, Openmod Initiative, 14.04.2015



Source fig.: J. N. Mayer, Fraunhofer ISE, 29. PV-Symposium Bad Staffelstein, 2014

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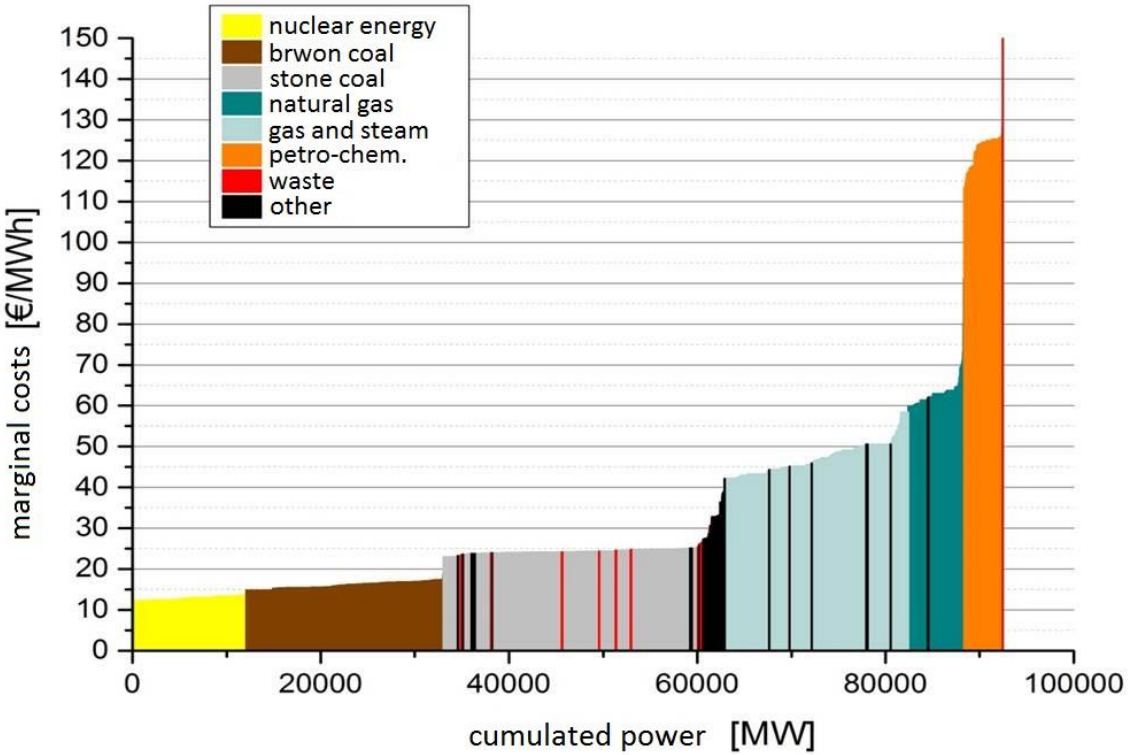
Merit Order



PPs sorted by marginal cost

Demand is covered beginning with cheapest PP

Dedicates electricity price (stock exchange)

Renewable energy privileged: marginal cost = 0

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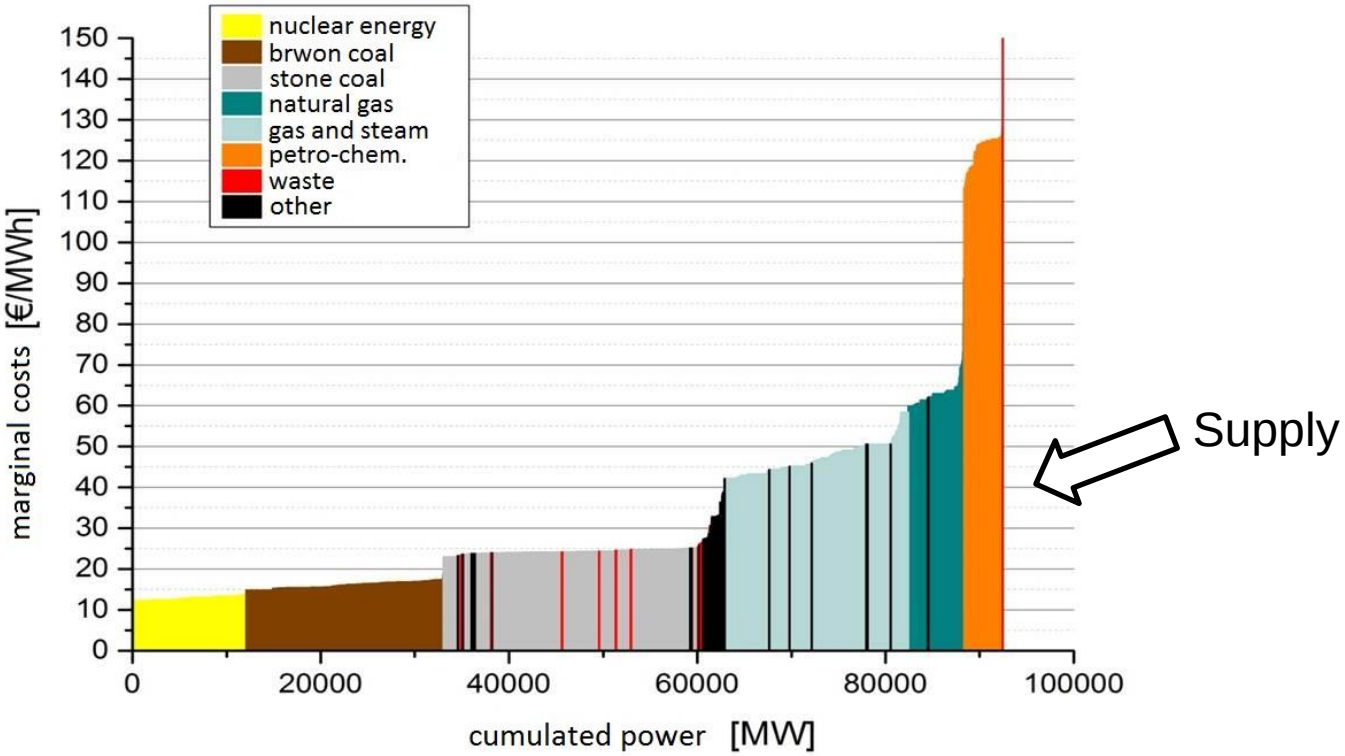
Merit Order



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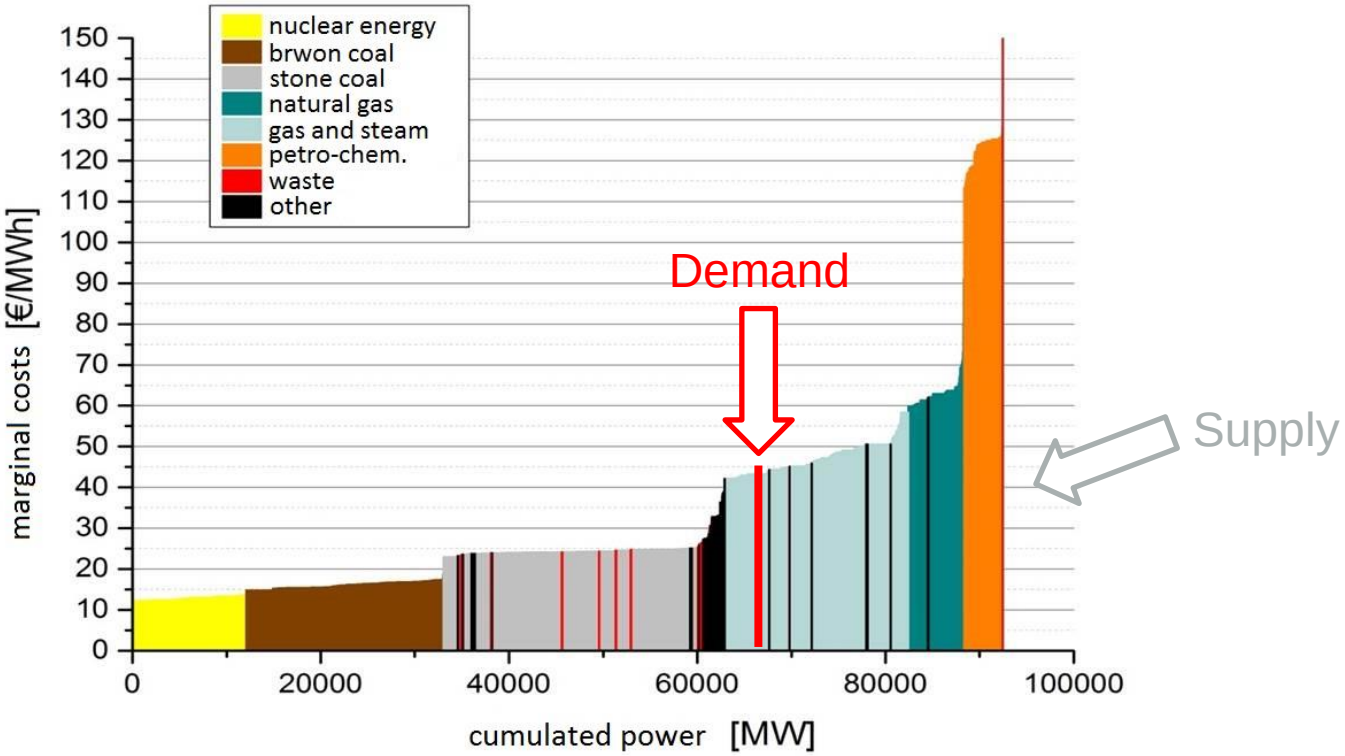

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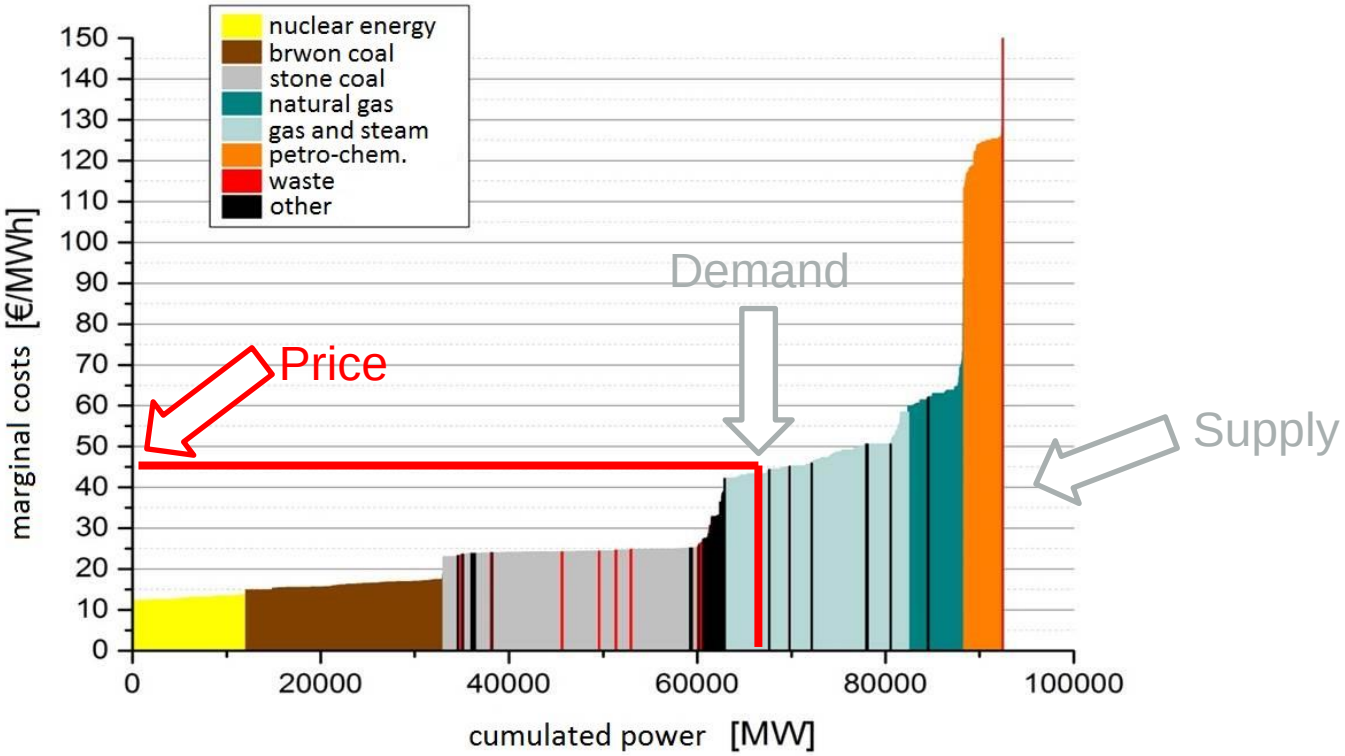

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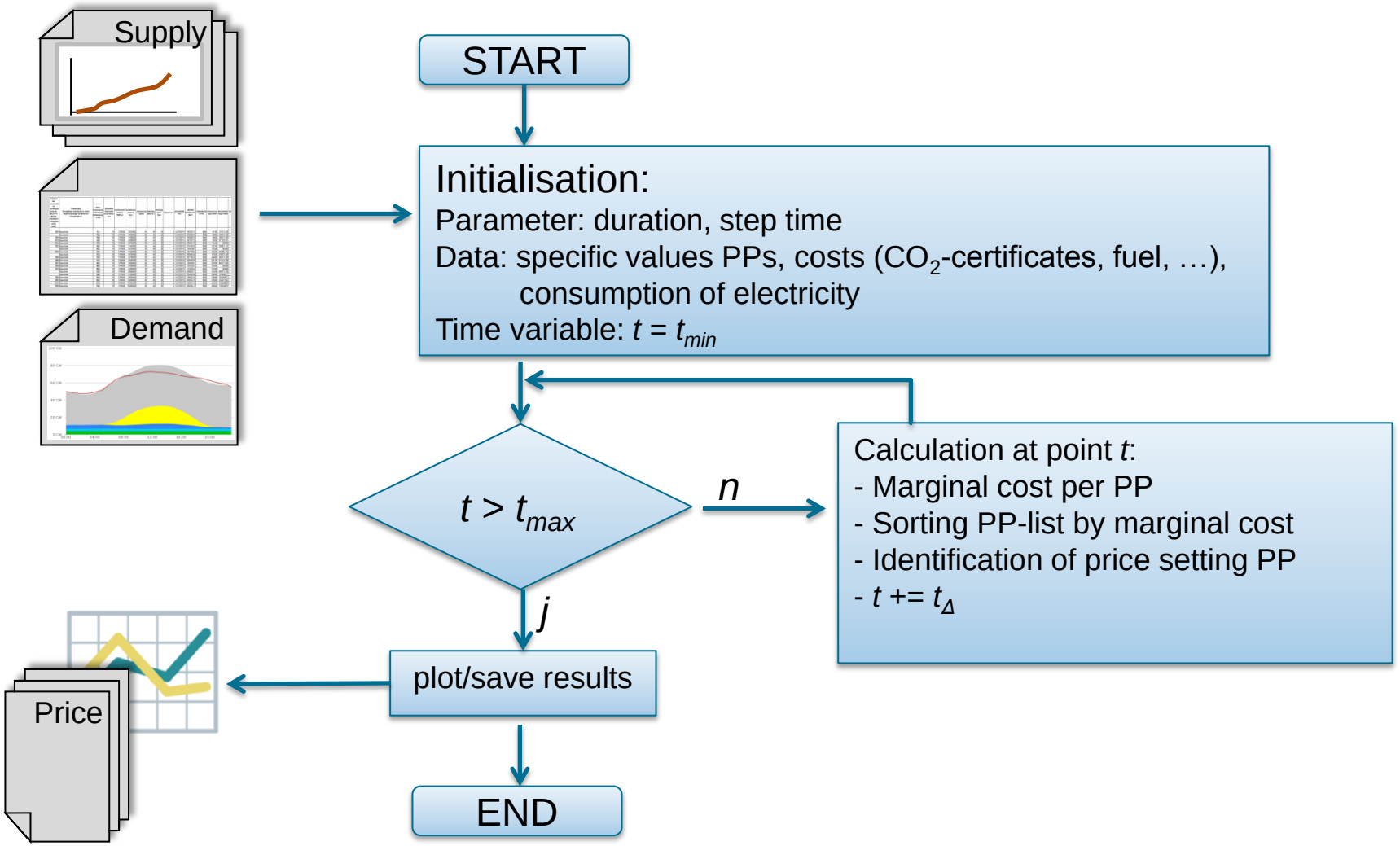
Simulation procedures (simplified)



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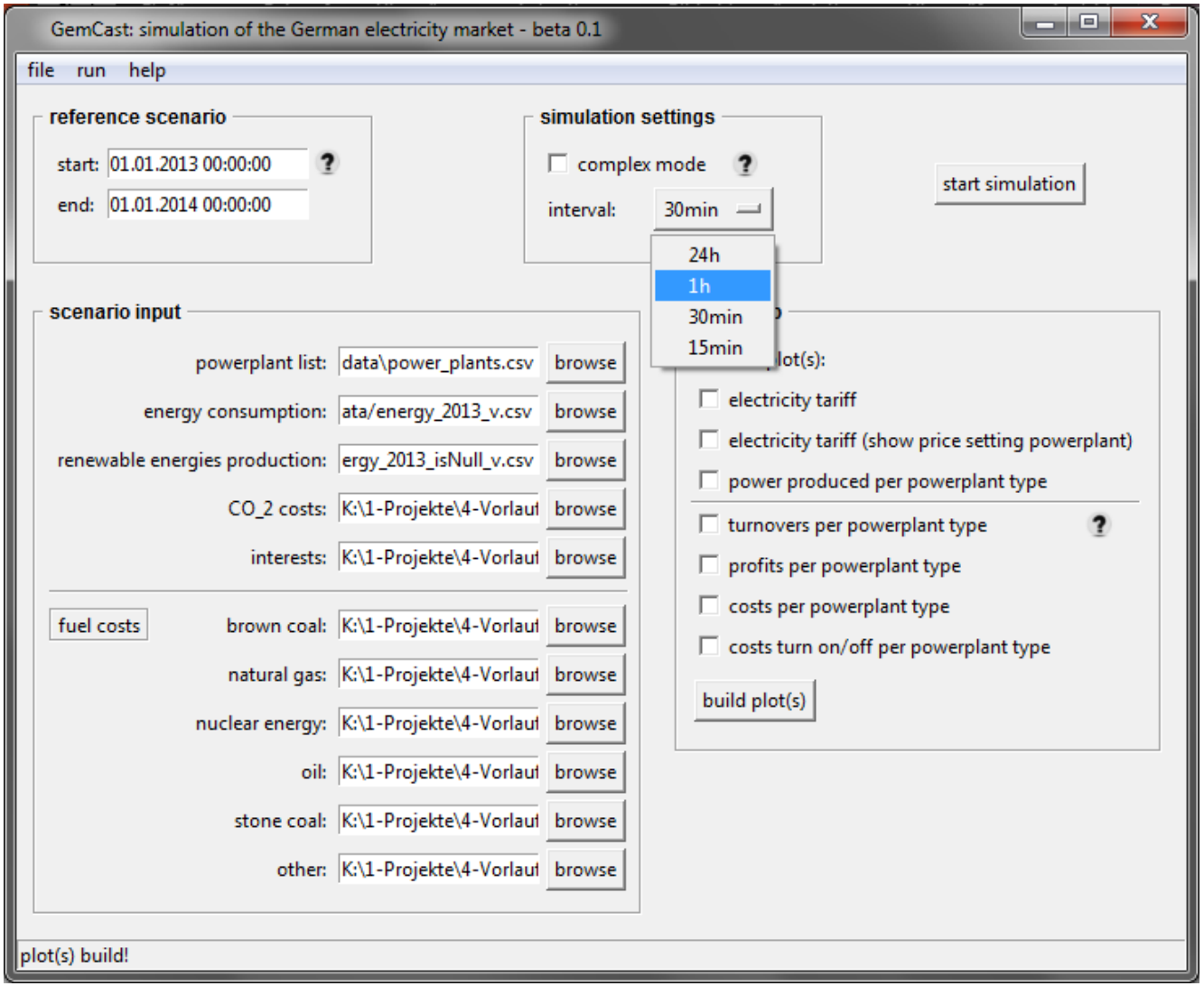
GUI



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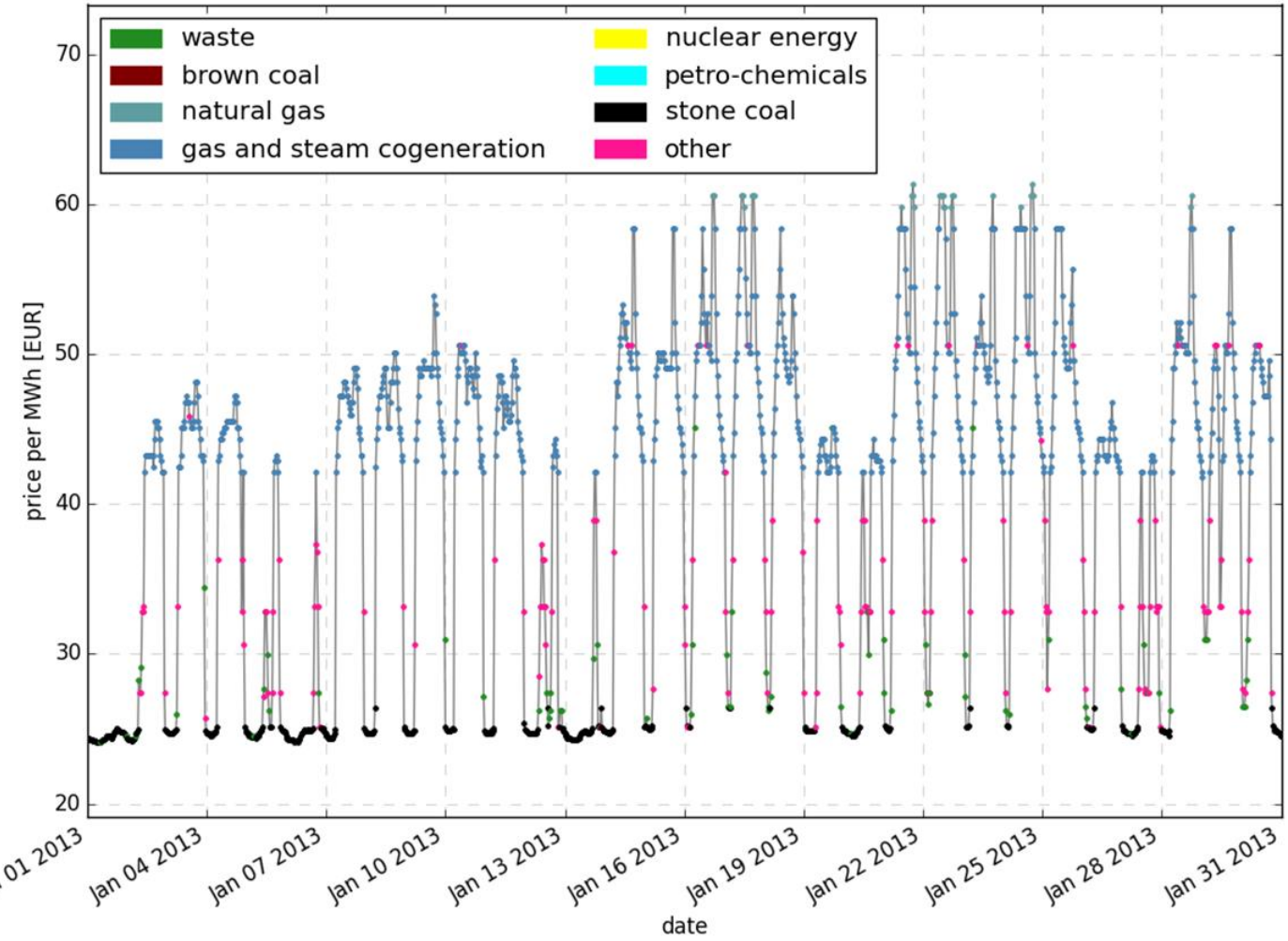
Example (1) evaluation (GUI plot)

Electricity tariff with price setting power plant



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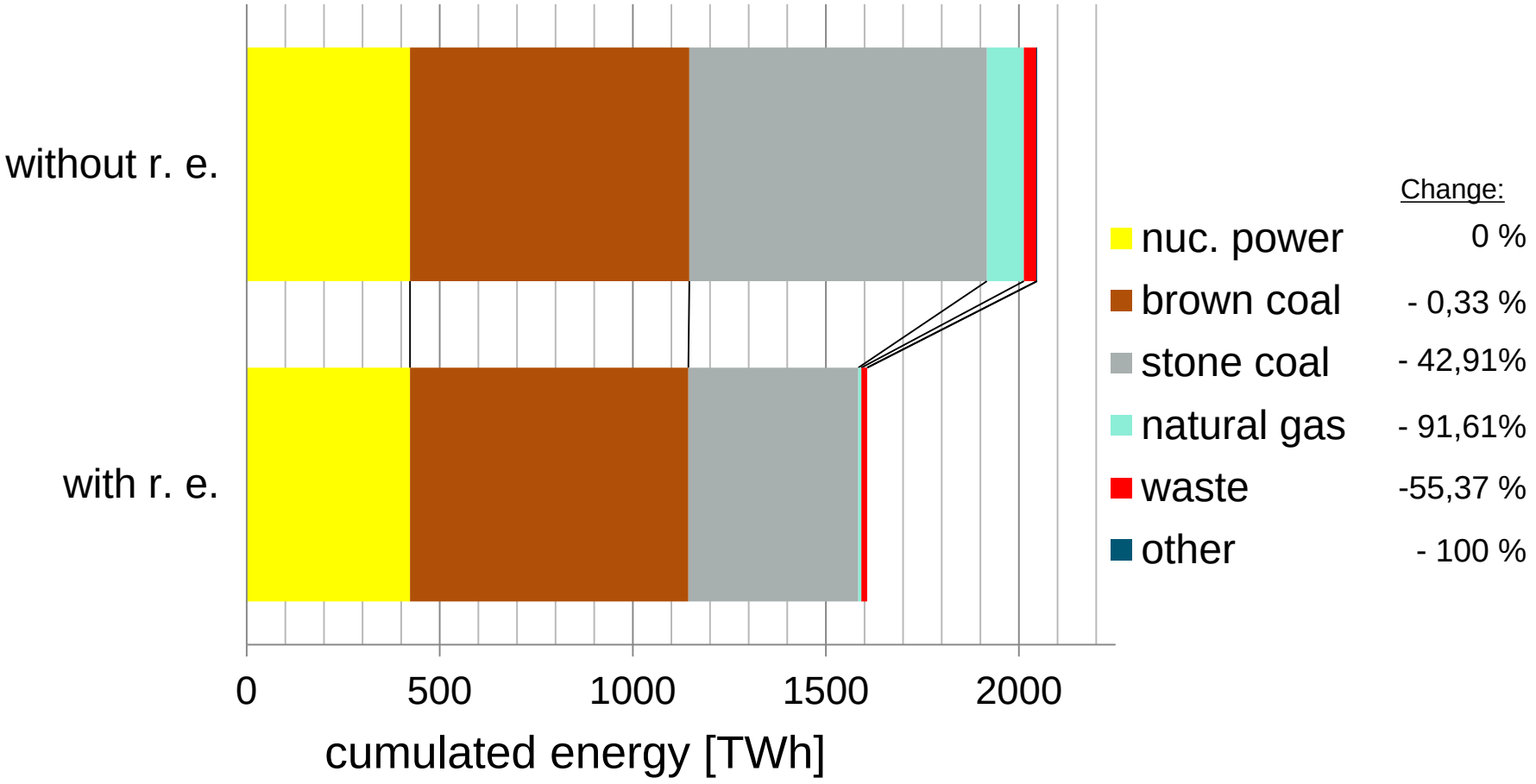
Example (2) evaluation

Comparison production amount conventional energies [TWh]



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Next steps

- Acquisition for project, planning of utilization (cooperation with university in Halle (MLU))
- Implementation import/export
- Validation
- Generating scenarios
  - Prediction for governmental plan till 2022
  - Impact of brown coal exit
  - Impact of faster or slower development of renewable energy
  - …
- Presentation of the results