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MODEST: Microgrid Optimization with District Energy Systems Tool

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MODEST Toolset

Optimal MG planning

- Generator selection and capacity sizing
- Satisfy load demands
- Optimize investment and energy efficiency

Optimal MG operation

- Day-ahead dispatch plan for thermal and electricity generators
- Demand response (DR) capability



Optimal retail pricing

Day-ahead retail price signals for electricity and thermal energy

 Improve DR and retailer profits







Jin et al., "MOD-DR: Microgrid optimal dispatch with demand response", Applied Energy, 187, 758 - 776 (2017) Jin et al., "Microgrid to enable optimal distributed energy retail and end-user demand response", Applied Energy (2017)



Equivalent annual cost





