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Solar energy storage policy design

Overview

What is a shared energy storage control policy?

For this, we design a structured shared energy storage control policy that comprises time-varying minimum charging requirements and maximum discharging allowances defined for each residential consumer.

How is shared energy storage determined?

For the shared energy storage parameter setting, the total capacity is determined based on the average hourly electricity demand load of each residential consumer. For both data sets, we consider three energy storage units such that each unit has the same energy storage capacity.

What is shared energy control policy based on static assignment and dynamic capacity sharing?

For the shared energy control policy based on the static assignment and dynamic capacity sharing, we design a structured control policy that is uniquely designed to specify (i) minimum charging requirement and (ii) maximum discharging allowance for each individual consumer in each discrete time period.

How does shared energy storage work?

The solar power generation, electricity demand load, and time-varying price are organized for each day and discretized into 96 15-min intervals. For the shared energy storage parameter setting, the total capacity is determined based on the average hourly electricity demand load of each residential consumer.

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