Discussion on « Time use models of residential electricity demand »
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Workshop on electricity demand: New modelling perspectives

Chaire European Electricity Markets (CEEM)
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Summary

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• A very instructive review of data and methods used as well as the challenges to be faced

Today’s presentation already moves forward into the challenges ahead!
Data

- Macroeconomic data (e.g. GDP, national energy prices, average income levels)
- Price data (e.g. influence of flat tariffs, mostly elasticities)
- End-use data, actual or simulated, to construct consumption profiles (e.g. average energy efficiency, average appliance power ratings)
- Physical non end-use data (mostly based on external temperature data or daylight data)
Methods

• Markov chain: determines likelihood of household’s demand at $t$ corresponds to a certain load generating consumption profiles

• Using measured time used (ethnographic studies, questionnaires, GPS methods, national surveys)

• Smart meters will multiply the ways we use measured data: “acid test” for future research
Challenges to be faced

1. Most sizeable peak events take place on non-average days (events, weather)

2. Statistical significance of time use data: increases with higher numbers of aggregate users like in national surveys (not frequently conducted + evolution of use of electronic devices)

3. Similarities in profiles across countries: rigidity against time and price

4. Occupancy difficult to forecast in multiple-person households.
A few questions

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Thank you for your attention!

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