



Discussion on « Time use models of residential electricity demand »

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Workshop on electricity demand: New modelling perspectives

6 March 2017

Chaire European Electricity Markets (CEEM)
Université Paris-Dauphine



Summary

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Survey: “*A review of time use models of residential demand*”, Renewable & Sustainable En. Rev.

- 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!

- 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)

- 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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