

# Discussion on « Time use models of residential electricity demand » By Maria Eugenia Sanin

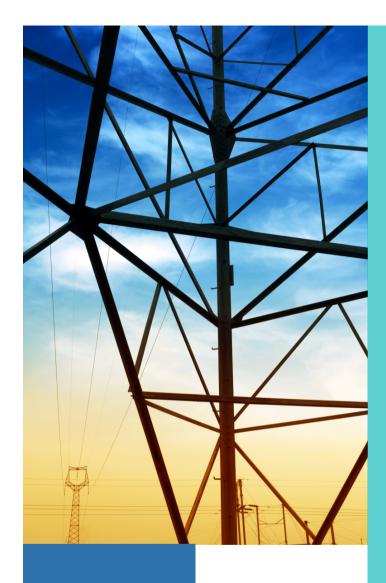
Workshop on electicity demand: New modelling perspectives

6 March 2017



Chaire European Electricity Markets (CEEM) Université Paris-Dauphine





Summary

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# Summary



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!

### 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

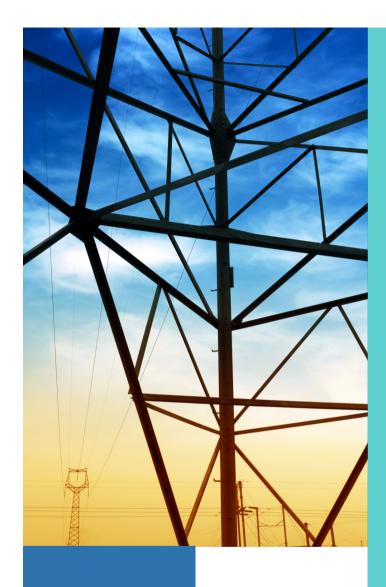
 Using measured time used (ethnographic studies, questionnaires, GPS methods, national surveys)

 Smart meters will multiply the ways we use measured data: "acid test" for future research

## Challenges to be faced



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



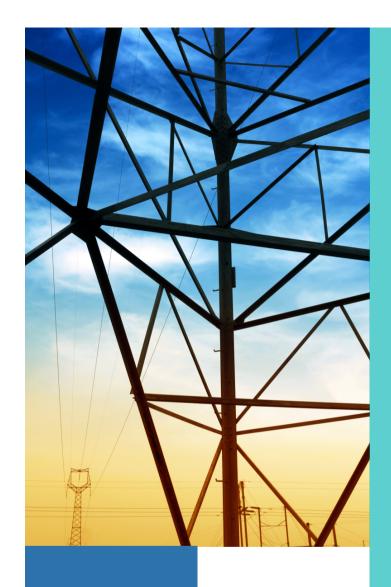
#### A few questions

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#### Thank you for your attention!

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