www.teddinet.org

The TEDDINET programme;

Synthesis in progress

Dan van der Horst, University of Edinburgh

IEA Demand Side Management TCP Conference, BEIS, 1 October 2018.

EPSRC Engineering and Physical Sciences Research Council

Loughborough University

Energy For a Low Carbon Future

RESEARCH COUNCILS UK

THE UNIVERSITY OF EDINBURGH

About TEDDINET

- Big programme, many separate projects, 1 network.
- Interdisciplinary; engineering + informatics + social science (+ many non academic partners)
- “Smart metering ++”: Experimentation with more sensors, more data, more feedback.
- Co-produced, with volunteers in their own homes.
- Analytics (main types):
  - Metering <-> discrete social activities (kit & maths)
  - Data feedback (visualisation, benchmarking) <-> energy literacy (knowledge, value, action)
  - Monitoring of changes in energy use <-> changes in perceptions.

Publications organised through TEDDINET:

- Special issue in TASM 2014 (smart meters & society)
- Special issue in BRI 2018 (Energy Feedback)
- Collaborative papers (esp. in Energy Research & Social Science)
- Commissioned reports (some published e.g. Local Environment)

Lead Authors

Types of papers

Research subjects:

- Policy makers
- Designers
- Intermediaries & technicians
- Publics (domestic, non-domestic)

Engagement tools & methods:

- Overall IHD design
- Provision of benchmarks
- Provision of other info (sensors in the home)
- Visualisation; more Accessibility/engagement?
- Gaming; more engagement/ literacy?

Cross cutting themes

1. “Non-rational” consumers
2. Control
3. Data delivery
4. Not ‘one size fits all’ (OSFA)
5. Negotiation (cross cutting)

Contextual Rationalities

- One individual juggling with multiple values, priorities, habits. Often multiple individuals per household.
- TEDDINET research focused largely on daily life. £ doesn't drive (daily) social practices.
- However; more reflection in big non-daily financial decisions: purchase of expensive energy consuming items, changes in housing.
- Need to ensure that energy costs are routinely included IN the overall cost considerations (big decisions with a financial bottom-line). *Innovative products/services?*

Control

- ‘Familiarity bias’; (potentially beneficial) novelty raises concerns, (not so good) Business As Usual is tolerated
- Self-control & expertise (for a very small group of people) versus trust in A.N. Other (for the rest of us).
- Genuine self control is often a (powerful) myth; but many do want an ‘escape’ button (precaution; reversible)
- Lots of legal small print (click ‘accept’) versus big simple media headlines.
- ‘building’ trusted 3rd parties? High demand for advice, significant (conditional!) willingness to share data & control.

Data delivery, but not ‘OSFA’

- Ongoing research but scope for a lot more.
- Relatively applied research / near market

But also:

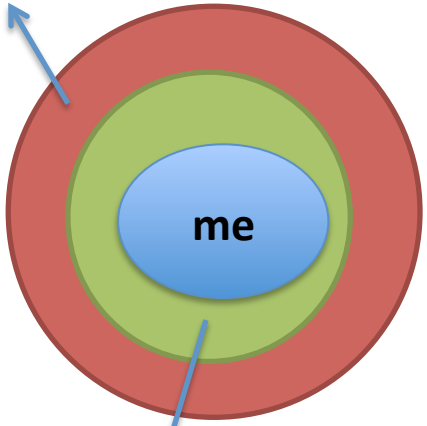
- Recognising limitations of the TEDDINET projects; designing one dashboard or game, rather than testing the existing ones (with known variables).
- Recognising that this is not a fit & forget model (like your gas boiler installation) but rather a model of ‘customize + check ups.’

How to escape the ‘practice trap’?

- Engage with people @ life phase changes
- Internalising energy costs in existing financial services
- ‘beyond ownership’ models of resource provision
- Longer term effects of access to your own energy use data
- Different service packages:
  - For Resource manager, self smart metering, in (regular) control.
  - With meters smart, consumer dumb but pliable, energy provider benign (or nanny state with regulatory teeth).
  - To maximise the social value of data: trusted third parties (local/ national, coops/non-profit), providing energy advice + data governance.

Being a Domestic Consumer is complicated

Building / housing related professions



Family / flat mates

New appliances

New designs

New purposes

My home (typically off-the-shelf Design + ex-post customisation)

Other dimensions that matter;

- Aging & lifecycle,
- Place & geography
- Exogenous factors