

Webinar – British Institute of Energy Economics (BIEE)

Behavioural economics, energy and climate policy: Lessons from the last three decades

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Outline

- I. Behavioural economics
- II. Main types of interventions and lessons learnt
- III. Overall policy considerations
- IV. Concluding remarks

Aims

Realism

Accuracy



Foci



Main behavioural 'deviations'

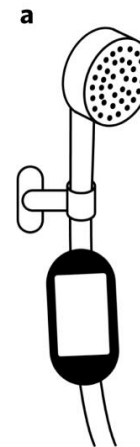
- Heuristics
- Choice overload
- Limited attention
- Loss aversion
- Status quo bias
- Procrastination



Behavioural interventions & evaluation

- Taxonomy of choice (Münscher et al., 2016):
 - **Decision information**, e.g. feedback, social comparisons
 - **Decision assistance**, e.g. goal settings, commitment
 - **Decision structure**, e.g. choice defaults, framing
- Assessment criteria:
 - Effectiveness (short-term)
 - Persistence (long-term)

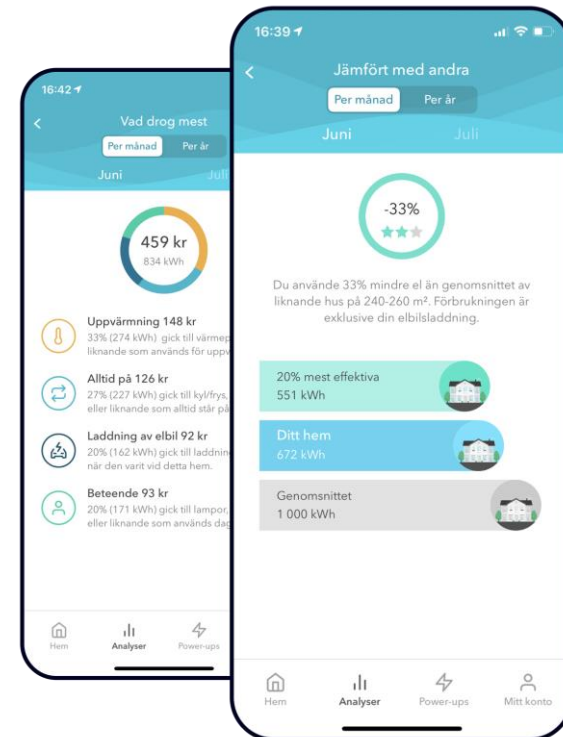
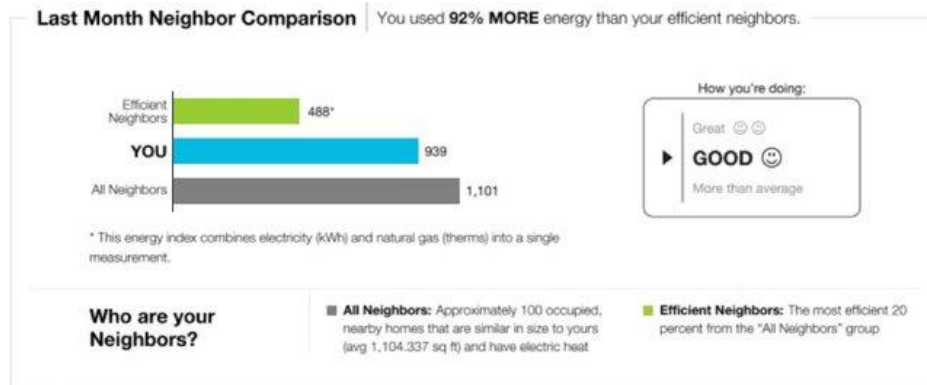
Decision information: Simplified feedback



Decision information: Simplified feedback

- Effectiveness, e.g.:
 - 4-5% (Hutton et al., 1986 [US/CAN]; Schleich et al., 2013 [AT])
 - 3-6% (Faruqui and Sergici, 2010 [US, FR, AUS])
 - 7-11% (Bager & Mundaca, 2017 [DK])
 - 10.5% (Seligman & Darley, 1977 [US])
 - 15% (Ivanov et al., 2013 [US])
 - 5-15% (Darby, 2006 [US, UK, CAN, NL, Nordics])
 - 0% (Sexton et al., 1987 [US])
- Persistence? Often unknown; and energy use can also increase, e.g. +11.3% (Hayes & Cones, 1981 [US])
- Policy lessons: Potential! But....

Decision information: Social comparison



Decision information: Social comparison

- Effectiveness, e.g.:
 - 1.2-30% (Andor et al. 2018) (meta-analysis, 24 studies)
 - "Consistent small effects" (Nisa et al., 2019) (meta-analysis, 22 studies)
 - 1.4-3.3% (Allcott, 2011 [US, Opower])
 - IHDs treatments more effective than letters
- Persistence: Positive indications (Opower)
- Policy lessons: Cost-effective potential! But...

Decision assistance: Commitment & goal settings

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Your neighbor efficiency rank



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Don't let your savings slip away—continue saving energy this month to keep your rank.

How you rank among neighbors (1st is most efficient)

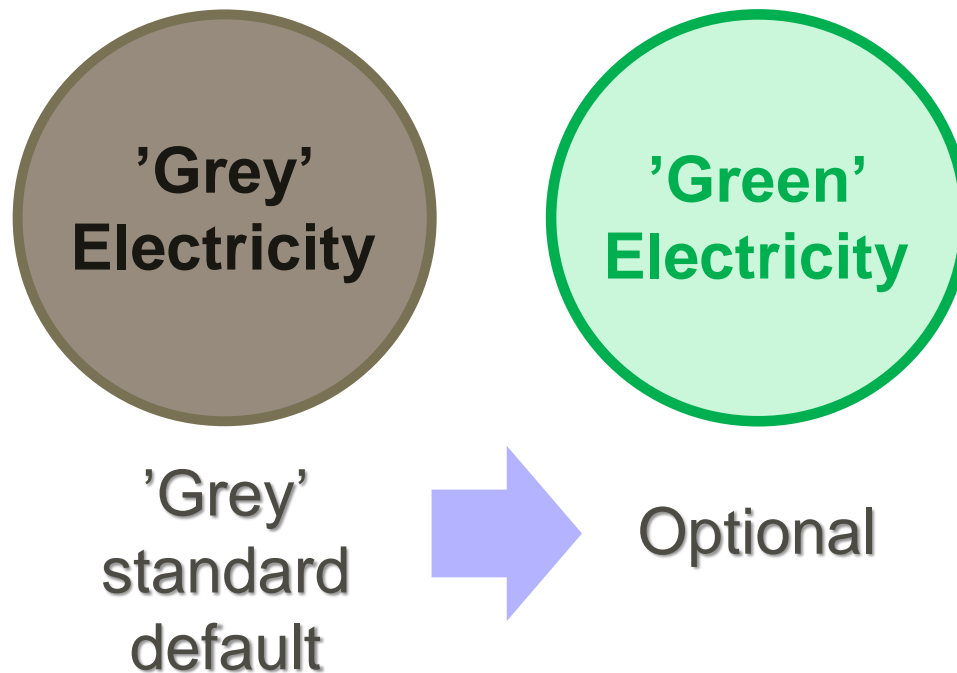
Feb 19, 2017 - Mar 18, 2017



Decision assistance: Commitment & goal settings

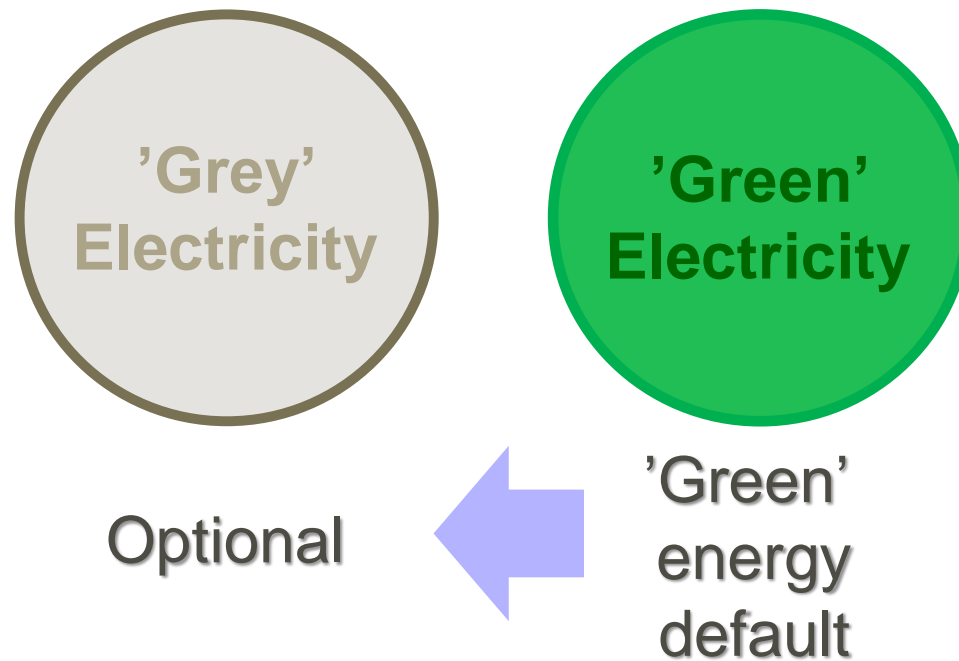
- Effectiveness, e.g.:
 - When goal is 10% → 12.3% savings (von Houwelingen & Raaj, 1989 [NL])
 - When goal is 15% → 11-22% savings (Winett et al., 1982 [US])
 - When goal is 0-15% → 11% savings (Hardin & Hsiaw, 2014 [US])
 - But lack of effectiveness also identified (Becker, 1978 [US])
- Persistence: It can show up in the long-term (Katzev & Johnson, 1983 [US]).
- Policy lessons: Potential! But.....

Decision structure: Green energy defaults



'Opt-in' decision framework

Decision structure: Green energy defaults



'Opt-out' decision framework

Decision structure: Green energy defaults

- Effectiveness, e.g.:
 - Lab experiments: 68% (vs. 41%) (Pichert and Katsikopoulos, 2008 [GER]); 69% (vs. 48%) (Momsen and Stoerk, 2014 [GER]); 69% (vs. 7%) (Ebeling and Lotz, 2015 [GER]); 76% (vs. 69%) (Hedlin & Sunstein, 2016 [USA]); 20%—83% (vs. 65%), (Ghesla, 2017 [CH]); 42% (vs. 48%) (Mundaca & Moncreiff, 2021 [UK]).
 - Natural experiments: 99% (Pichert and Katsikopoulos, 2008 [GER]), 80% (Lieve et al., 2021 [CH]).
- Persistence: Yes, after 4 years (Ghesla et al., 2020 [CH]) and 6 years (Lieve et al, 2021 [CH])
- Policy lessons: High potential! But....

'Direct' policy considerations

- Behaviour and decision processes are driven by individual, social and structural variables
- Important between-study differences → heterogeneity
- Effective, but cost-effective and economically efficient?
- Improvements & synergies with 'traditional' policy instruments
- Ethical issues

'Indirect' policy considerations

- Still unknown how behavioural insights are incorporated into policy design/implementation
- Role of evidence-based evaluation
- Contribution and discussion beyond 'nudges'
- Role of policy makers → Governance of BE for policy making

Final remarks

- ✓ Growing policy attention and applications, but results very context-dependent
- ✓ Long-term interventions and more studies needed (beyond USA & EU)
- ✓ Interventions offer potential, but not the panacea; price mechanisms are important
- ✓ More attention to side-effects, (subjective) well-being and organisations
- ✓ Evaluation is key for upscaling and bringing policy makers and scientists together