



Towards a Consumer-Driven Energy System

Understanding Human Behaviour



An event organised under the auspices of the
**Experts' Group on R&D Priority Setting and Evaluation
(EGRD)**

12-13 October 2017

Hosted by the Technical University of Denmark
Main Building, Rooms S01 and S02
Lyngby, Denmark



Introduction to this workshop and the EGRD

Rob Kool

Chair IEA Experts' Group on
R&D prioritysetting



The group & previous work (1/3)

- Experts' Group on R&D Priority Setting & Evaluation
 - Part of the IEA Technology Network.
 - We organise 2 workshops/annum.
 - Our recommendations support the Committee on Energy Research and Technology (CERT), feed into IEA analysis, and enable a broad perspective of energy technology issues.
 - Work based on a 3 year program.





The group & previous work (2/3)

- The EGRD examines analytical approaches to energy technologies, policies and R&D. As such our recommendations can contribute to:
 - Theory: support of the methodology of priority setting & evaluation
 - “Test results”: discuss IEA work with the “practitioners in the field”: roadmaps (always together with IEA secretariat)
 - Cross-cutting: combine fields of expertise to speed up processes or determine blind spots.



The group & previous work (3/3)

Will a smarter grid lead to smarter end users
—
or vice versa

Smart grid applications at end-user points

IEA Experts' group on R&D Priority Setting and Evaluation
3 – 4 June, 2015
Oslo, Norway

Life in the Fast Lane:
Evolving Paradigms for
Mobility and Transportation
Systems of the Future

26-27 October 2016

IEA Experts' Group on R&D Priority Setting and Evaluation
Washington, DC

Blue Sky Research for
Energy Technology

—Workshop Summary Report—



14–15 June 2017

in the press



Some general remarks

IEA Experts' Group on R&D
Priority-Setting and Evaluation

Summary Report
**The Transition to a
Low-Carbon Economy:
Socio-Economic
Considerations**

**24-25 May 2011
Baden, Austria**



**Richard Thaler wins 2017 Nobel prize in
economics – as it happened**
Professor of behavioural sciences and economics at University of Chicago given
annual economics award
● Nobel prize in economics awarded to Richard Thaler



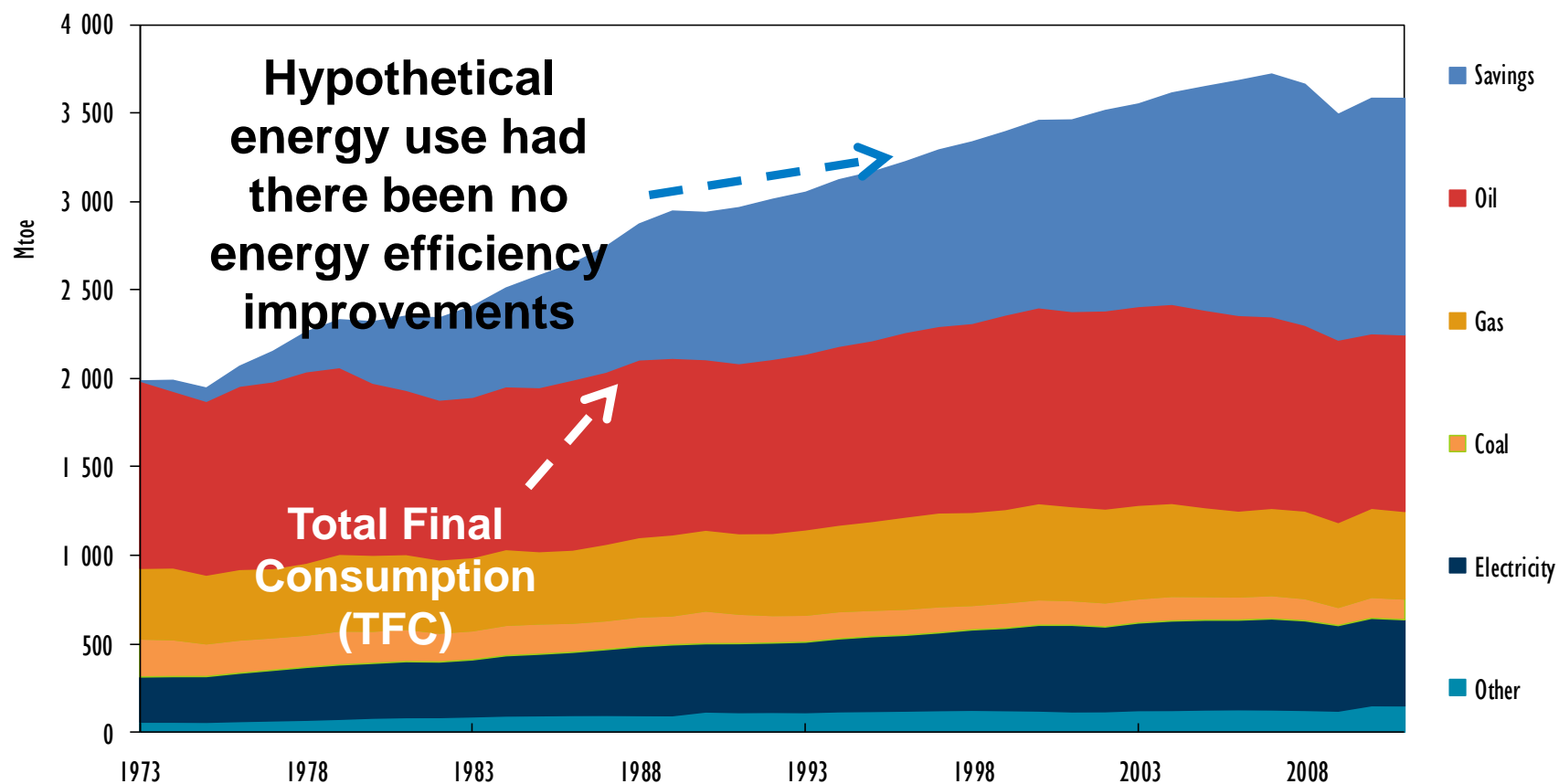
Richard Thaler Photograph: Richard Sailer for the Observer

**DEVELOPMENTS IN ENERGY
EDUCATION:
Reducing Boundaries**



Summary Report
Copenhagen 9-10 May 2012

Output - Energy efficiency: the 'first fuel' *savings larger than the contribution of any other fuel to TFC in 2012*

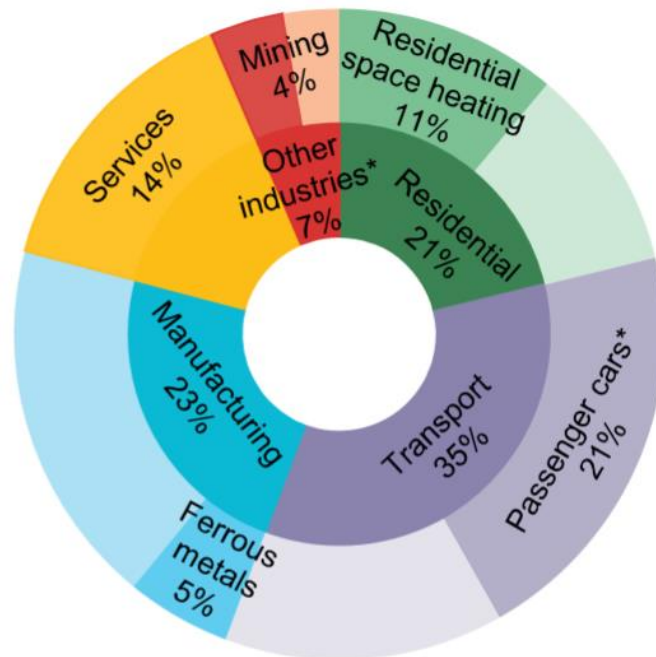




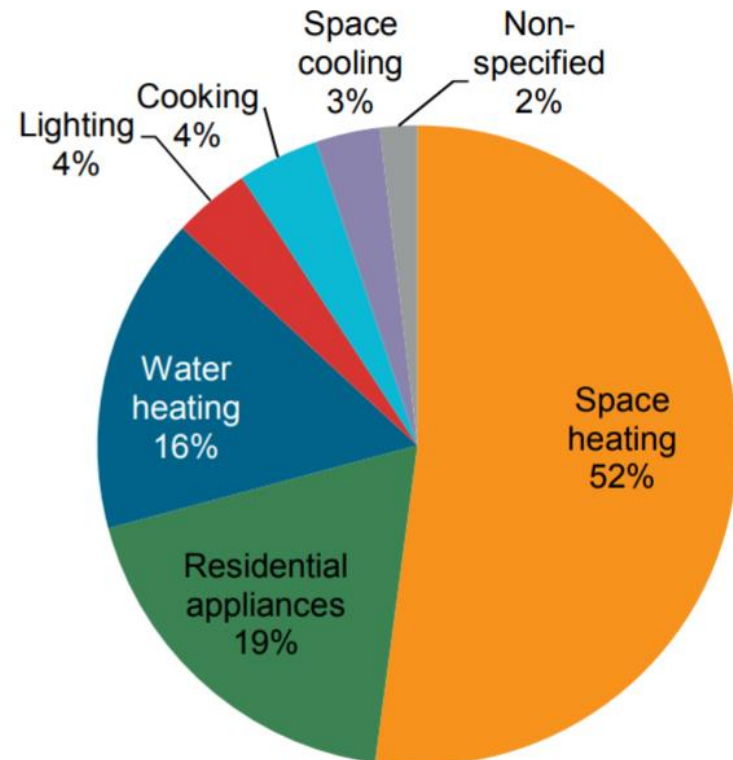
IEA ENERGY EFFICIENCY INDICATORS

Highlights (2016 edition)

Largest end-uses by sector in IEA, 2013



Shares of residential energy consumption by end-use in IEA, 2013



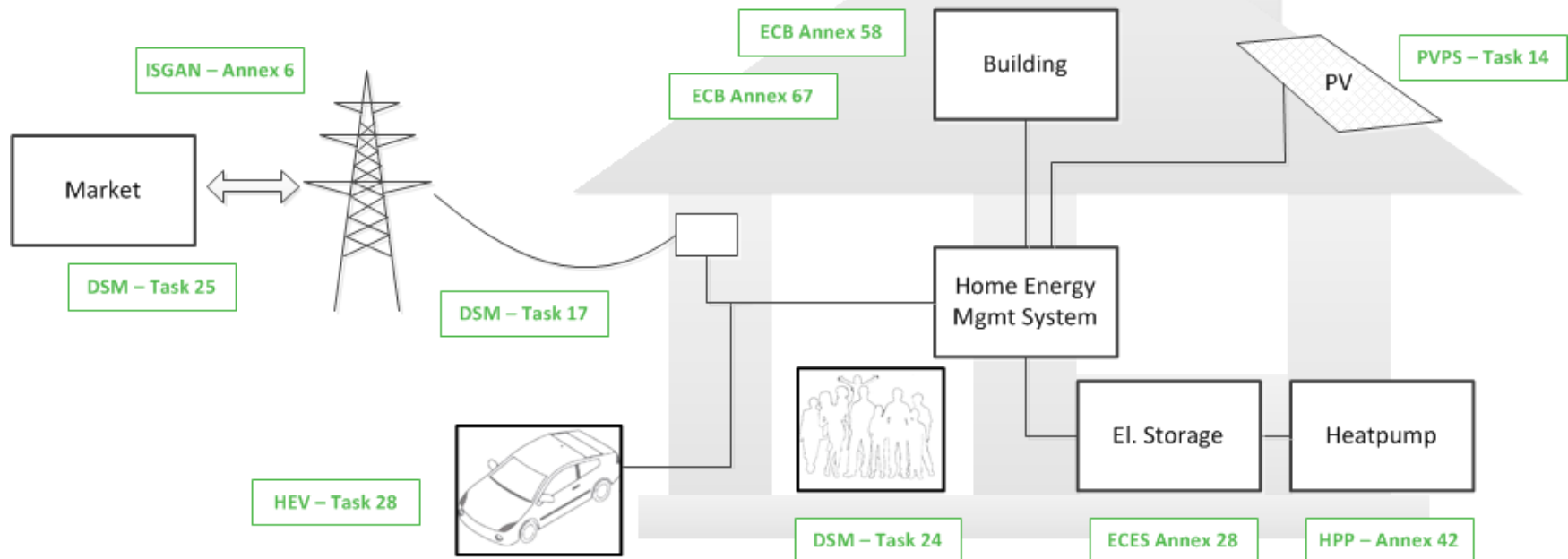
* Other industries includes agriculture, mining and construction; passenger cars includes cars, sport utility vehicles and personal trucks



Development of the role of con(pro)sumers



Demand Flexibility and RES Integration





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Questions to be addressed 1/2:

- *Which challenge-driven research methods include human-centred methods?*
- *Which examples of combining human-centred research with quantitative data collection and analysis are the most appropriate?*
- *Are there methods that are incompatible with an interdisciplinary approach?*
- *Which assumptions (risk, modernity, culture, time, materialism, cost and end-use) are most associated with specific forms of research or technologies? How can these risks be managed?*
- *How can the advantages of decentralisation be coupled with those of centralisation?*



Questions to be addressed 2/2:

- *How do consumer's past behaviour and attitudes towards energy influence their use of energy today?*
- *How can behavioural change advisories be introduced without consumers perceiving them to be controlling?*
- *How do energy service conventions evolve?*
- *Are 'open' and 'closed' styles of research mutually exclusive or are there synergies?*
- *What are the endogenous or exogenous causes of failed energy innovations?*
- *Which best practises in governance (e.g. transparency, accountability, legitimacy, participation etc.) affect R&D energy policy?*



This is how we work..

- We challenge you to answer & debate the questions in the rational during:
 - the presentations
 - the summery
- The results will be presented on the IEA website:
www.iea.org/aboutus/standinggroupsandcommittees/cert/egrp/ (just google: IEA EGRD)
 - Please sign the waver.....
 - A report later this year/early next year



Q&A



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Experts' Group on R&D Priority Setting and Evaluation (EGRD)

The EGRD examines analytical approaches to energy technologies, policies, and R&D. The results and recommendations support the Committee on Energy Research and Technology (CERT), feed into IEA analysis, and enable a broad perspective of energy technology issues.

Workshops

- Island Energy - Status and Perspectives (2015)
- Will a Smarter Grid Lead to Smarter End Users - or Vice Versa (2015)
- The Role of Storage in Energy System Flexibility (2014)
- Modelling and Analyses in R&D Priority-Setting and Innovation (2014)
- R&D Needs for Energy System Climate Resilience and Resilience (2013)

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