

MINIMIZING THE PERFORMANCE GAP – CONSIDERING USER BEHAVIOR IN BUILDING REGULATIONS

USERTEC INTERNATIONAL CONFERENCE HORSENS 5 APRIL 2016
A NEW DIRECTION FOR REVISING NATIONAL AND EU BUILDING
REGULATIONS
KIRSTEN GRAM-HANSEN



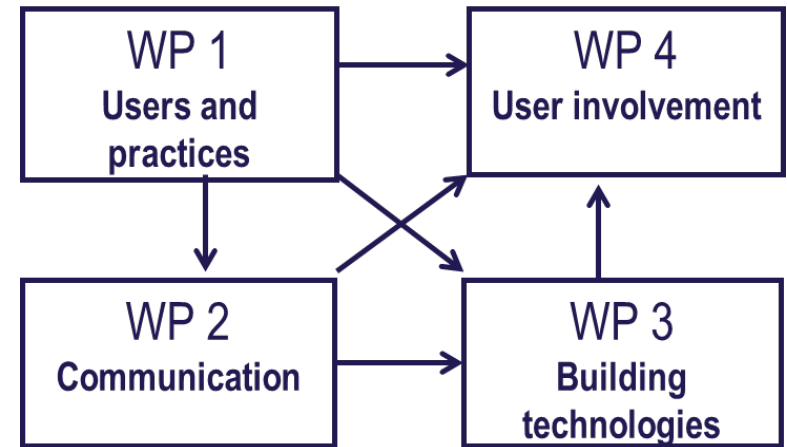
DANISH BUILDING RESEARCH INSTITUTE
AALBORG UNIVERSITY COPENHAGEN

UserTEC project – a five year strategic research project

User practices, technologies and residential energy consumption

- 6 PhD projects
- 12 business partners
- 4 international university partners

How to realise more *real* energy savings by incorporating knowledge of users in technology design and energy policy?



Supported by:



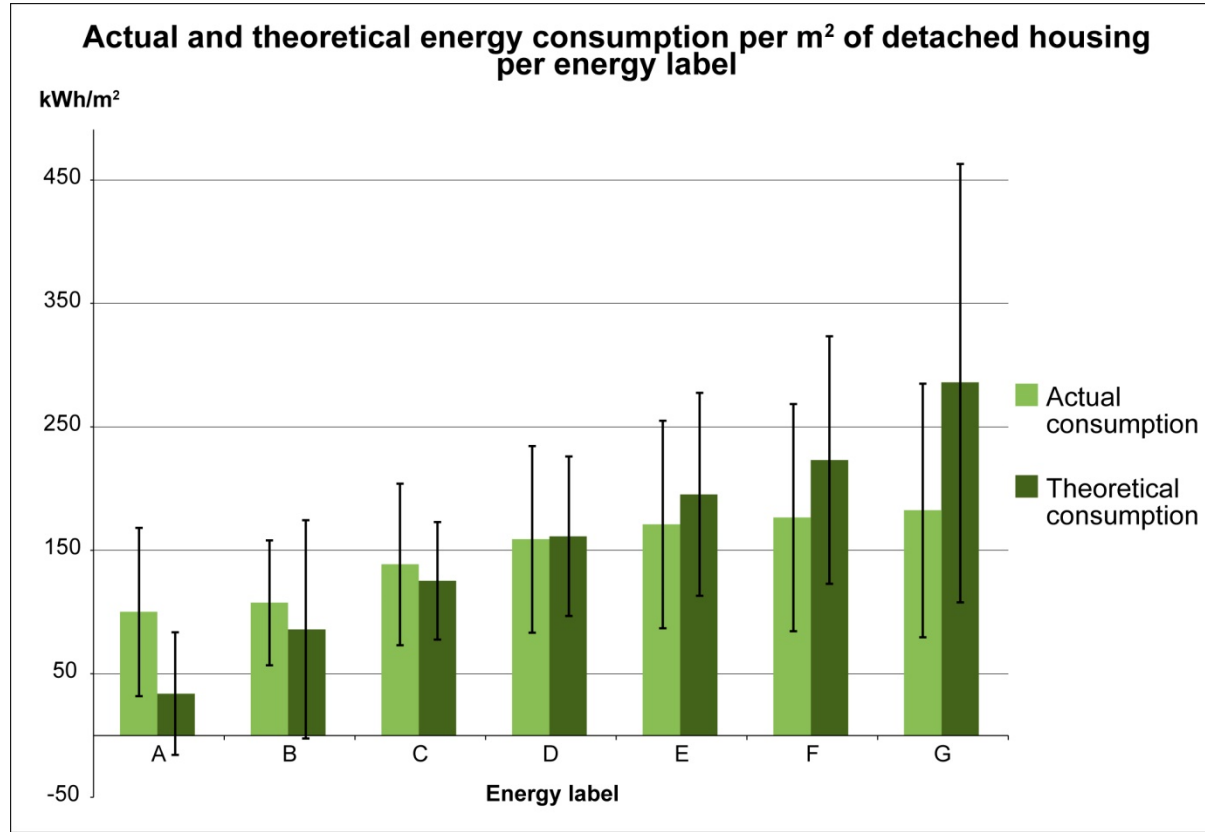
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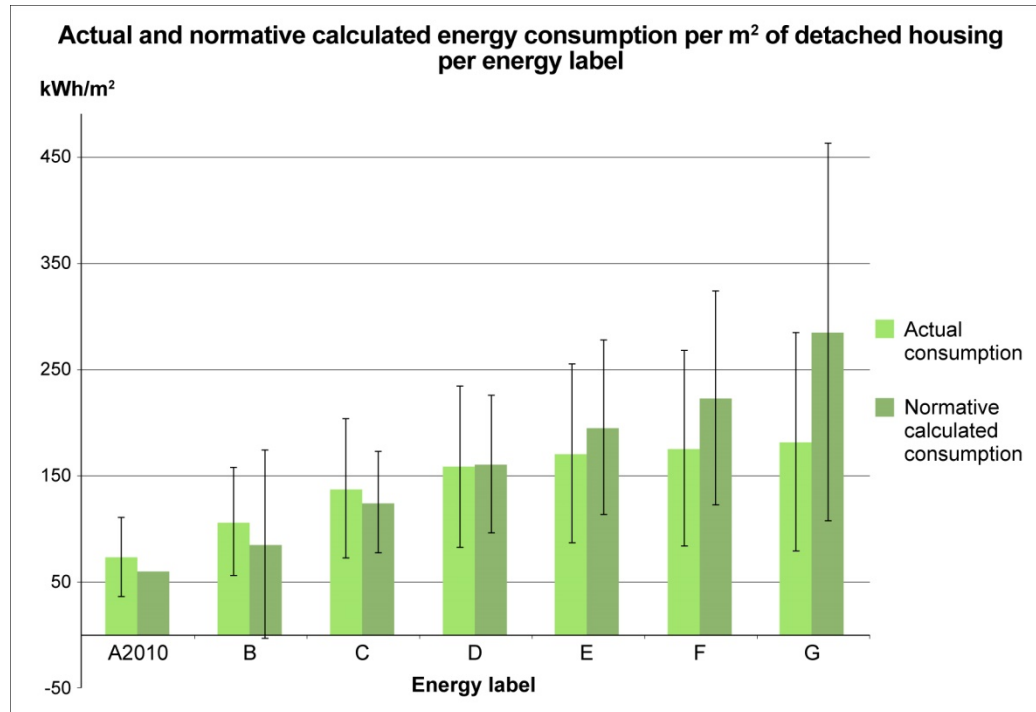
Comparing theoretical and actual energy consumption



Based on
230.233
Danish
detached
houses with an
energy label



Comparing theoretical and actual energy consumption



Based on
226.515
Danish
detached
houses with an
energy label,
Only new build
for A-labeled.



The background of the theoretical calculations

Theoretical Calculations were not intended to predict the actual consumption, but

- To document required energy efficiency of new build – and indirectly drive energy efficient innovation in the building sector
- To help consumers compare different houses independent of the actual use of the house
- To calculate profitability of energy retrofits

But debatable if this is the best way to do this!



Today's discussions -

- National and EU building regulations are to be revised soon
- How can new knowledge on users best be incorporated in these revision?
- Are there other, and better policy approaches, to incorporate knowledge on user practices?



Today's program

Before Lunch:

The perspective of the DHC sector Ingo Wagner, Euroheat & Power

Documenting rebound effect and performance gaps Ray Galvin, University of Cambridge

Policy Instruments for reducing energy Bruus Varming, DK Transport and Construction Agency

Portugal's experience with building regulations Eduardo Maldonado, University of Porto

The Danish goals for energy reductions Renato Ezban, The Danish Energy Agency

After Lunch:

Governance, building regulation and users: new challenges R. Lorch, BRI

Plugging the gap? Users and everyday life Yolande Strengers, RMIT University, Australia

Catalysing energy saving Peter Rathje, ProjectZero

Going beyond compliance Jørgen Søndermark, Realdania Byg

Panel discussion with the presenters: Moderator: Thorkild Ærø