

SMARTER: Realizing the Smart grid: Aligning consumer behaviour with Technological opportunities

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Overview

- What do we already know?
- Ideas for our project
- Questions and suggestions

Transition to SES

- Reliable scenario's for consumer adoption **and** use of SES
- Adoption \neq (proper) use
- Key figure: environmental self-identity

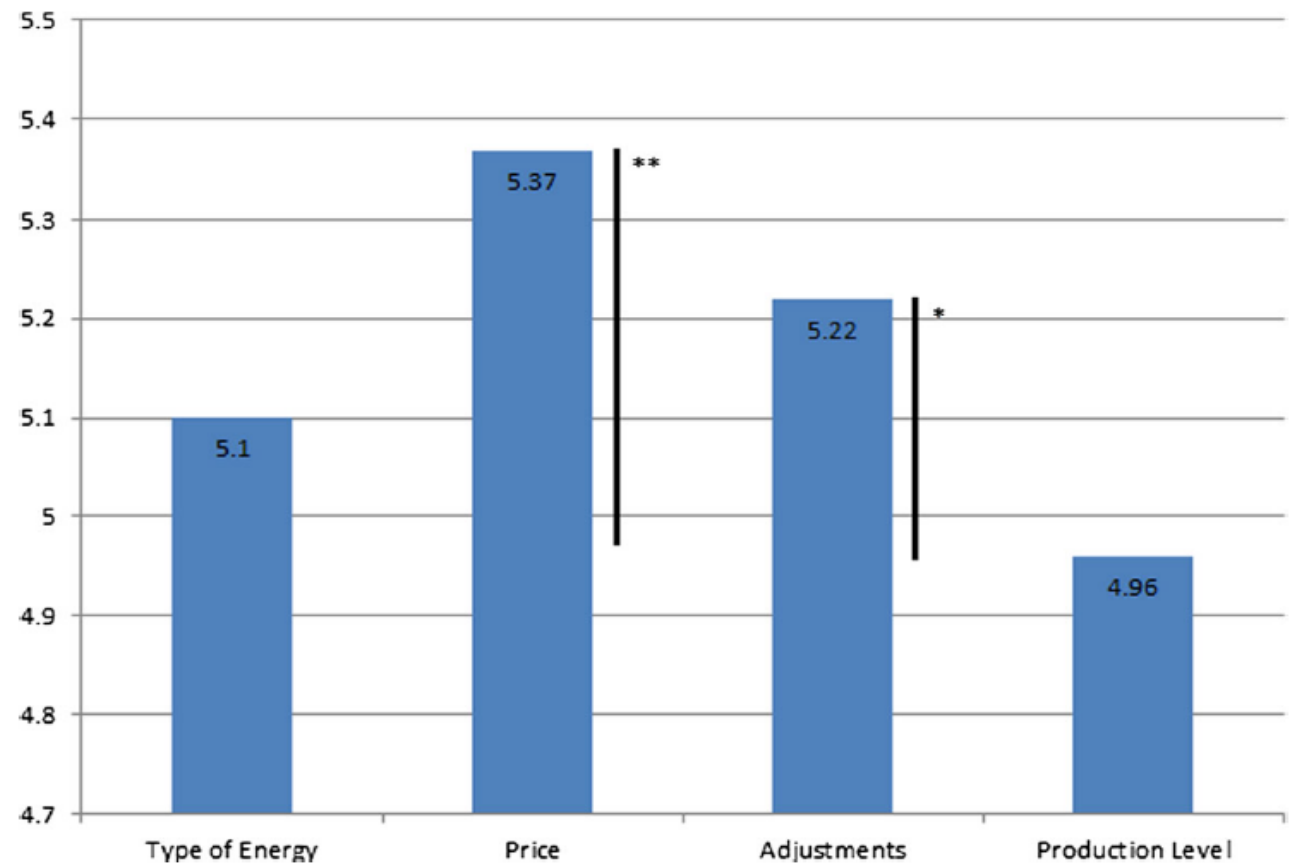


Leijten, Bolderdijk, Keizer, Gorsira, Van der Werff & Steg (2014)

- $N = 139$, age $M = 55.5$, $SD = 14.47$
- How should future energy systems in the Netherlands look like?
- 4 attributes:
 - Price: stable / 25% increase
 - Type of energy: fossil fuel / green energy
 - Adjustment: autonomous / technology
 - Production level: central/ local / household

Leijten et al. (2014)

Direct measurement: What is most important (1-7)?





Leijten et al. (2014)

Table 2 Energy systems ordered based on their average acceptability ratings

System acceptability rank	Mean acceptability	Energy system attribute		
		Price	Adjustment	Production level
1	5.50	=	A	O
2	5.35	=	A	*
3	5.07	=	A	X
4	4.36	=	C	O
5	4.28	=	C	X
6	4.20	=	C	*
7	4.00	^	A	O
8	3.70	^	A	X
9	3.69	^	A	*
10	3.17	^	C	O
11	2.95	^	C	X
12	2.94	^	C	*

= Stable, ^ 25 % Increase, *A* Autonomous, *C* Convenience Technology, * Household, *X* Community, *O* Central

Leijten et al. (2014)

Table 3 Results of the conjoint analysis of energy system acceptability

Attribute	Average importance value	Level	Utility estimate
Price	53.06	Equal	0.70
		Increase by 25 %	−0.70
Adjustment	35.27	Autonomous	0.47
		Convenience technology	−0.47
Production Level	11.67	Central	0.17
		Community	−0.14
		Household	−0.03
Constant			4.03



Leijten et al. (2014)

- Status quo bias?

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Toft, Schuitema & Thøgersen (2014)

- Study 1: online questionnaire

Checkbox format questions for accepting the installation of a smart meter with remote control installed in the home.

Opt-in:

Imagine that your electricity company asks for permission to install a smart meter with remote control in your house/apartment (without any expenses for you). Please check the box below if you would accept to have it installed. If you would not accept to have it installed you just continue to the next question.

☐ YES, I would like to have a smart meter with remote control installed in my home

Opt-out:

Imagine that your electricity company asks for permission to install a smart meter with remote control in your house/apartment (without any expenses for you). Please check the box below if you would not accept to have it installed. If you would accept to have it installed you just continue to the next question.

☐ NO, I would not like to have a smart meter with remote control installed in my home

Neutral:

Imagine that your electricity company asks for permission to install a smart meter with remote control in your house/apartment (without any expenses for you). Please check one of the boxes below if you would or would not accept to have it installed.

☐ YES, I would like to have a smart meter with remote control installed in my home

☐ NO, I would not like to have a smart meter with remote control installed in my home

Toft et al. (2014)

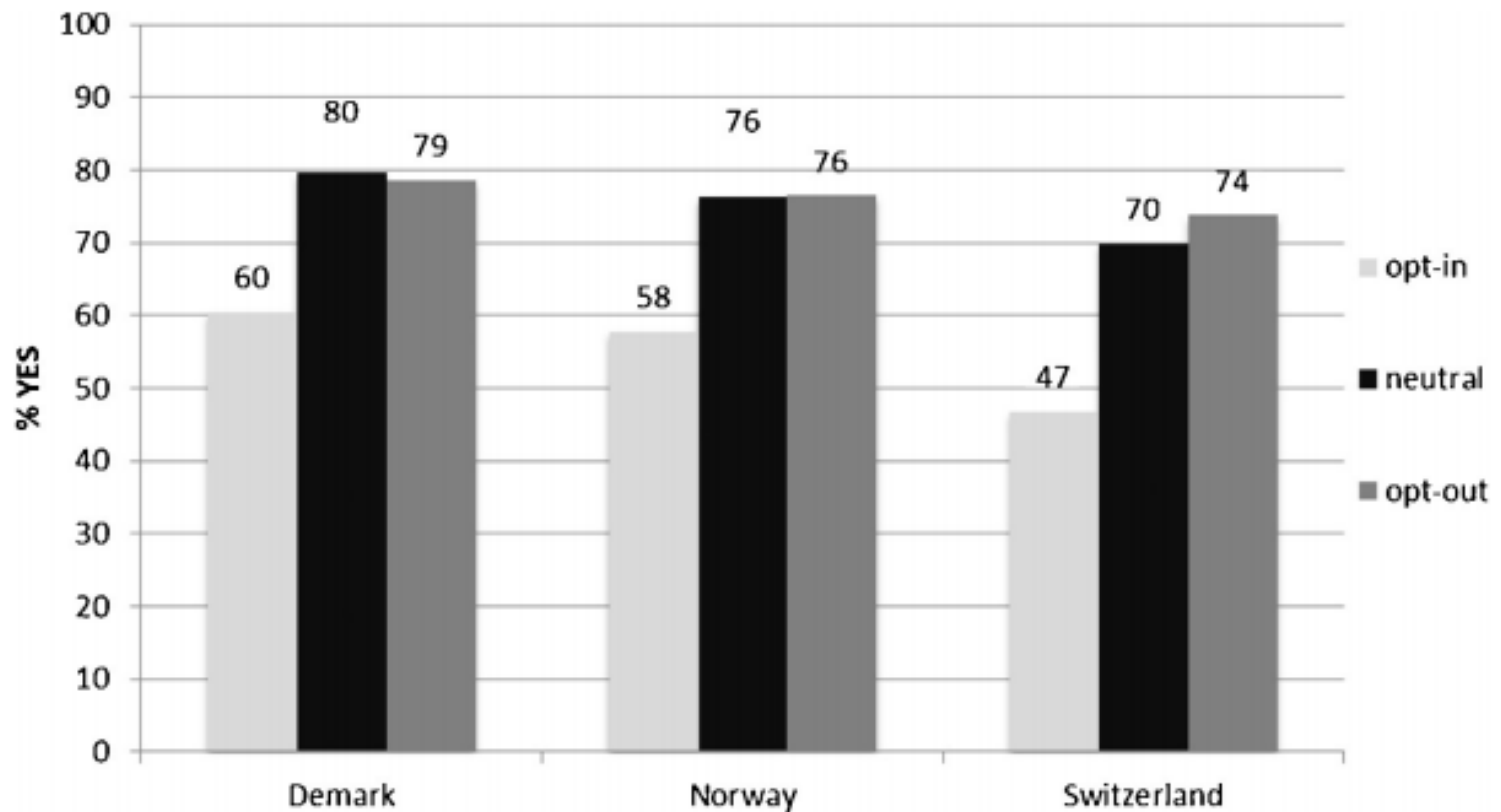


Fig. 1. Acceptance rates in three countries in the opt-in, opt-out and neutral frames.

Toft et al. (2014)

- Study 2: real life

Answering patterns in 3 conditions.

	Opt-in	Opt-out	Neutral	Total
Reply				
Yes	17	-	25	42
No	-	7	11	18
No reply	27	41	12	80
Total	44	48	48	140

- Acceptability opt-out (41) is higher than opt-in (17) ($\chi^2(1) = 21.65$, $p < .001$)

Is it all about the money?

- Effects of small incentives are not permanent *
- Green rather than greedy **

Do You Care About the Environment?

Take a coupon for a FREE professional tire check!



- Like balloons, your tires lose pressure over time.
- Improper tire pressure increases fuel consumption which *harms* our environment.
- Properly inflating tires cuts back vehicle emissions.

Source: www.fueleconomy.gov

Participating stations:

Snappy Lube 

Snappy Lube #23
1402 N. Main Street
Blacksburg, VA 24060

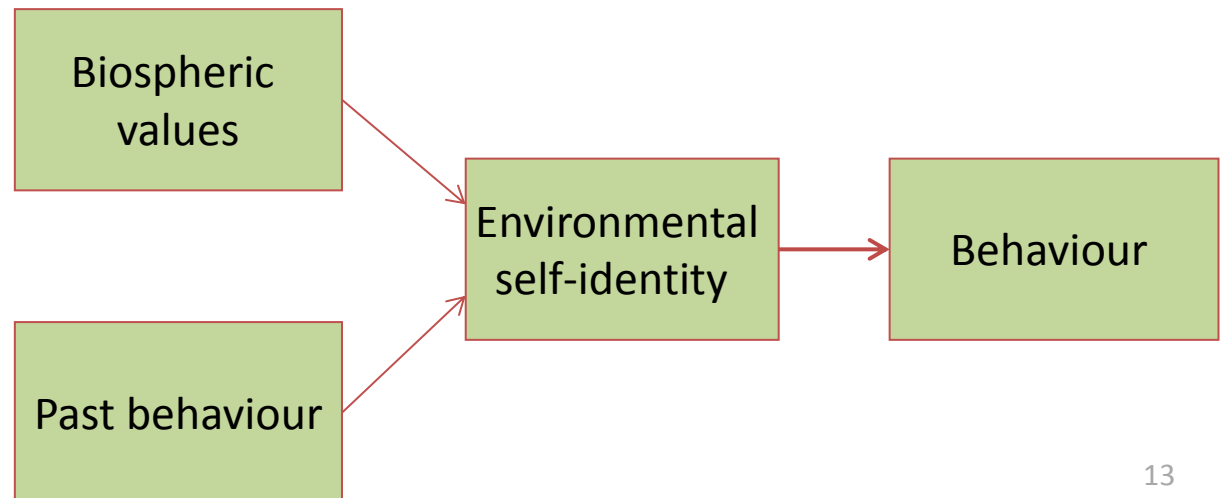
Snappy Lube #24
2405 Market Street
Christiansburg, VA 24073

*(Bolderdijk, Knockaert, Steg & Verhoef, 2011)

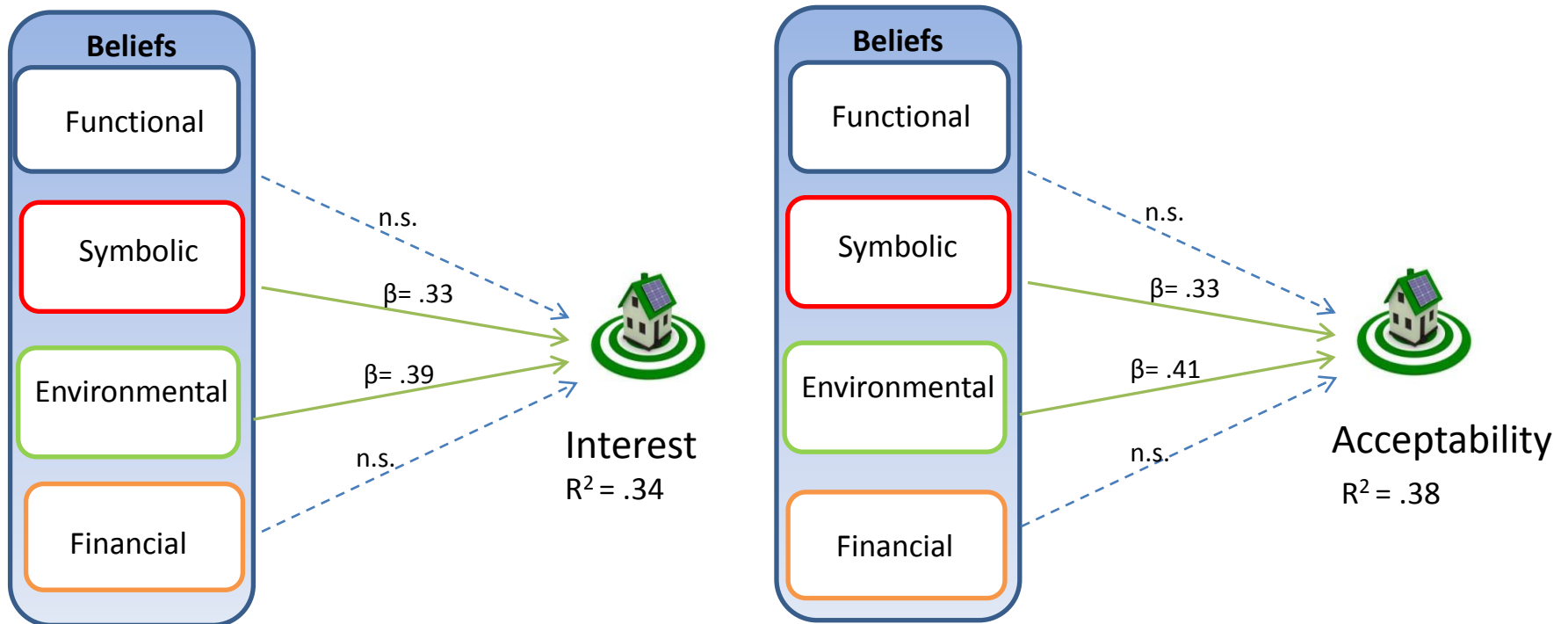
** (Bolderdijk, Steg, Geller, Lehman & Postmes, 2014)

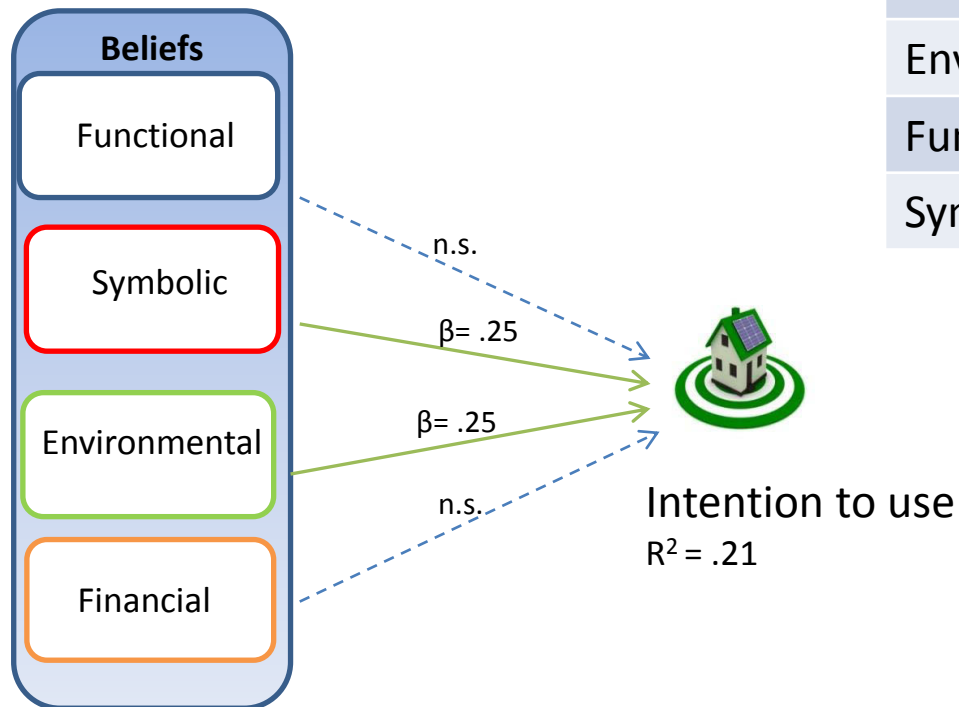
Van der Werff dissertation (2013)

- Environmental self-identity: the extent to which you see yourself as a type of person who acts environmentally friendly
- Related to a wide range of pro-environmental behaviours
- Stable & modifiable



Noppers, Keizer, Bolderdijk & Steg (2014) data:





	Importance (1-7)
Financial	$M = 5.01, SD = 1.19$
Environmental	$M = 4.84, SD = 1.20$
Functional	$M = 4.77, SD = 1.09$
Symbolic	$M = 3.09, SD = 1.40$

Summary

- People overrate the importance of control & price
- Status quo bias influences results
- Symbolic attributes are important
 - Value seems to consist of both environmental and technological aspects
- Identity seems to play a key role;
 - Environmental self-identity
 - Also technological?



Thank you for your attention!



**11th Biennial Conference
On Environmental
Psychology**

SAVE THE DATE

**24th - 26th of August
2015**

<http://bcep2015.nl/>