



University of St.Gallen



Sustainable Consumption and Behaviour Change

Session 9: Greenwashing at product level & market research for sustainability

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*“From insight
to impact”* 



Content of today's session



Continuation of group work



Outlook for exam



Greenwashing & the behaviour-intention gap



Sins of greenwashing at product level



Market research for sustainability



Group work (4 people)

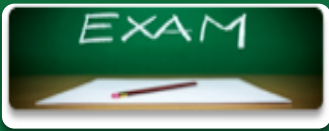
- Imagine that you start working in the Human Resource Department of a company. Your task is to develop a company-internal behavior change campaign with the aim to increase the number of your employees that regularly commute by public transportation or bike to work (instead of using their own car).
- Identify **4-6 measures** that can be directly introduced by the employer and discuss whether you think they will be effective or ineffective (explain why) or whether they are associated with any possible risks.
- Keep in mind that your budget available is very small!
- **Try to use as many insights from psychology and behavioral economics as discussed in class as possible!**



Content of today's session



Continuation of group work



Outlook for exam



Greenwashing & the behaviour-intention gap



Sins of greenwashing at product level

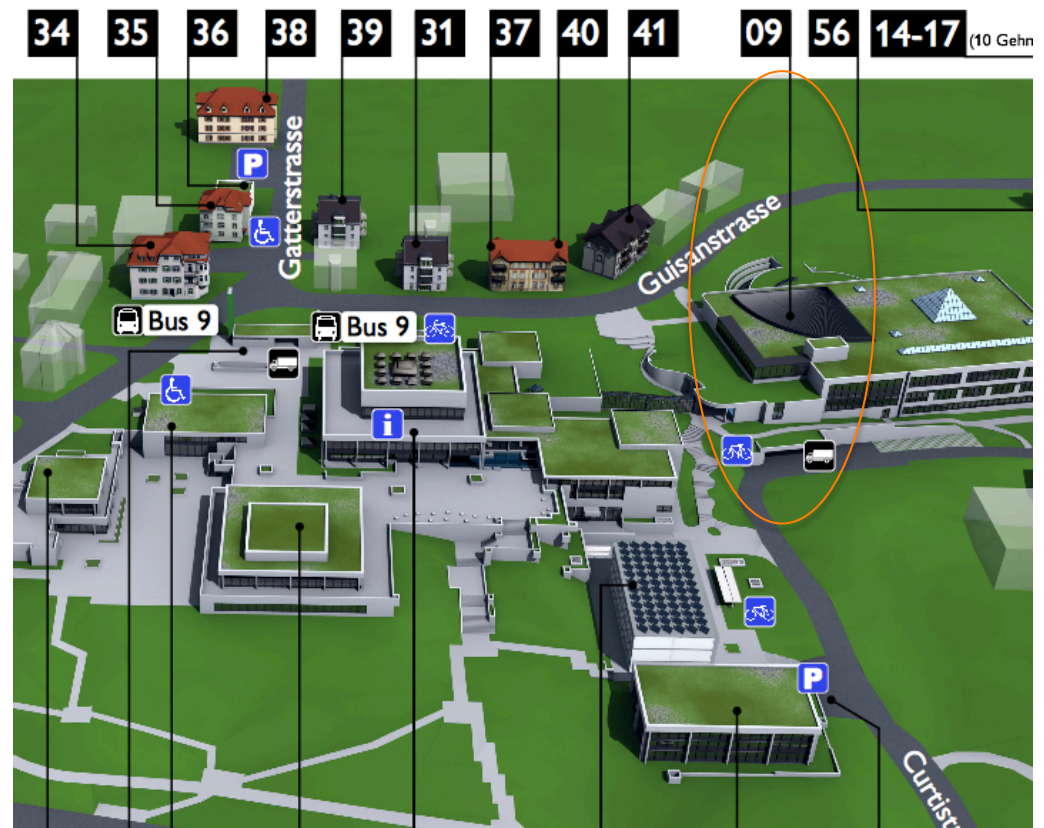


Market research for sustainability



Outlook: Exam on November 18, 2015

- **Written exam** (60 minutes)
- **Date:** November 18, 2015 (4.20–5.20 pm)
- **Room:** 09-011
(instead of 23-203)
- Afterwards:
Feedback Session





Outlook: Exam on November 18, 2015

The exam **will include different types of questions:**

- **Short answer questions** (e.g. “Briefly describe the time-saving treadmill”)
- **Multiple choice questions** (e.g. “Which sin is this product claim NOT committing?”)
- **Case questions** (test as a way for students to show that you can understand and integrate key concepts of the course)





Content of today's session



Continuation of group work



Outlook for exam



Greenwashing & the behaviour-intention gap



Sins of greenwashing at product level

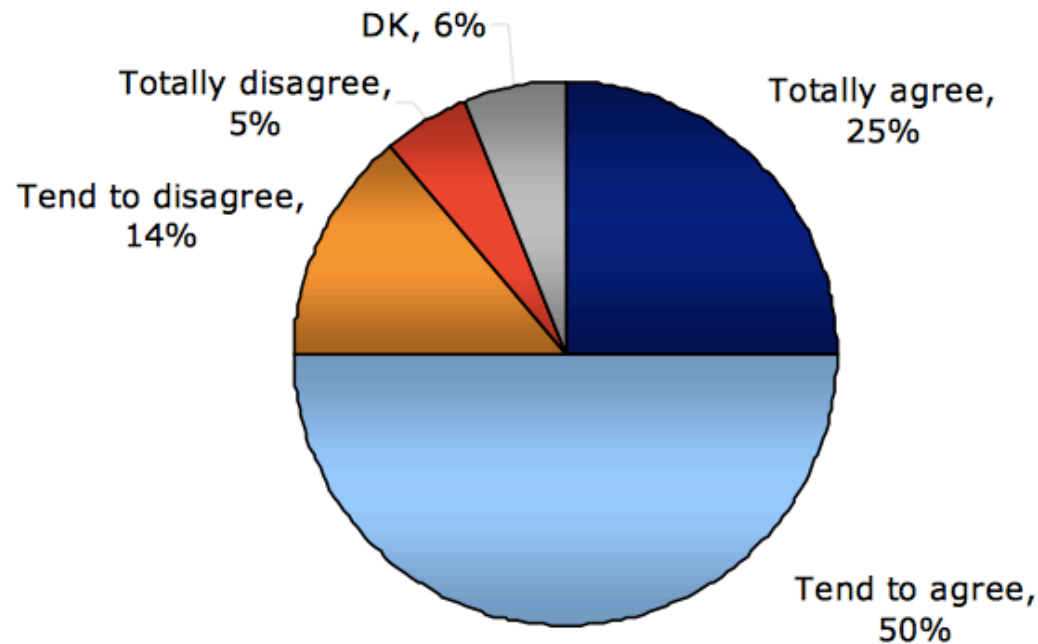


Market research for sustainability



High stated willingness to pay for environmentally friendly products

**QF12 Please tell me whether you totally agree, tend to agree, tend to disagree or totally disagree with the following statement:
You are ready to buy environmentally friendly products even if they cost a little bit more - % EU27**





Companies' interest in incorporating sustainability in their business model

6: What factors have led to changes in your business model? (Please choose all that apply.) (Only those who answered "Yes" on Question 4 are considered)



Source: MIT Sloan Management Review in collaboration with BCG (2013): Findings from the 2012 Sustainability & Innovation Global Executive study and research report: <http://csbf.org.nz/wp-content/uploads/the-innovation-bottom-line.pdf>



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Significant increase in number of green claims & greenwashing

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SAVING & SPENDING

Greenwashing: Nearly All Products' Eco-Friendly Claims Are Bogus or Misleading

By Brad Tuttle @bradruttile | May 23, 2011 | 1 Comment

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More and more “green” products are entering the marketplace. And more and more, the labels claiming that a product is green, eco-friendly, or otherwise good for the environment are fairly meaningless.

The [LA Times](#) is the latest publication to explore the unfortunate, all-too-common modern scenario in which a consumer wants to do good by the environment, but is unsure which—if any—of the many “green” products on store shelves actually live up to their eco-friendly billing.

In a [TerraChoice study from last fall](#), there was a 73% increase in the number of items sold by retailers that claim green status. Overall, researchers found, 95% of these products committed at least one “greenwashing” sin—meaning marketers and manufacturers were overstating or misleading consumers as to how truly environmentally friendly the product or service is.

Buying a truly green product, then, is not nearly as simple as finding one that says it's a green product. Confusing things further is the presence of certain badges (one has a green leaf) that advertisers use in commercials—but which are bestowed on products simply if they pay a fee, with no requirements whatsoever that the product is actually good for the environment. One expert quoted by the LA Times chimed in with thoughts on such practices:

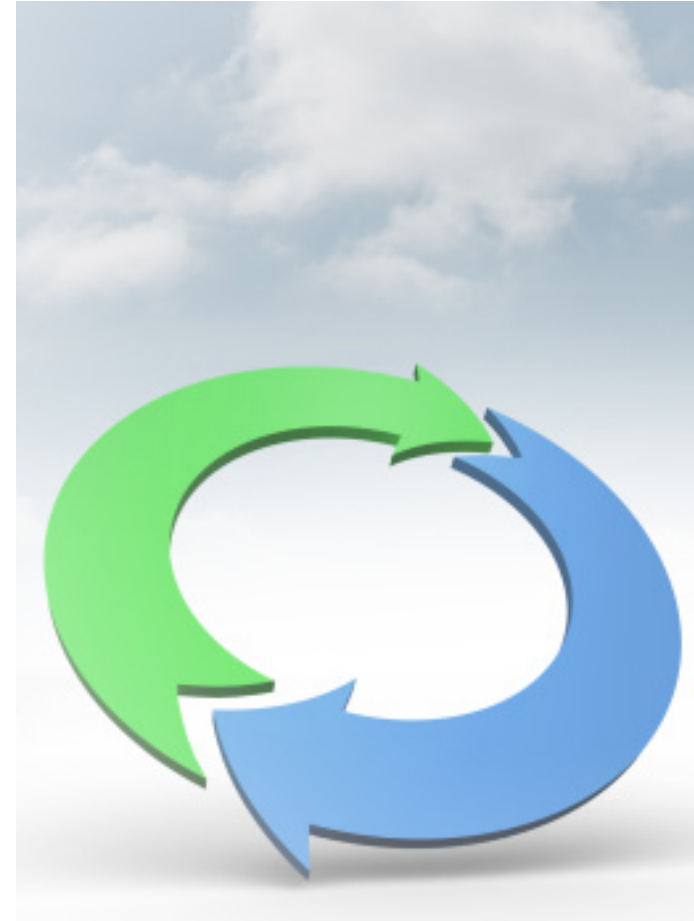
[Email](#) [Print](#)
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Source: <http://business.time.com/2011/05/23/greenwashing-nearly-all-products-eco-friendly-claims-are-bogus-or-misleading/>; <http://www.oecd.org/sti/consumer/48127506.pdf>



Role of green claims

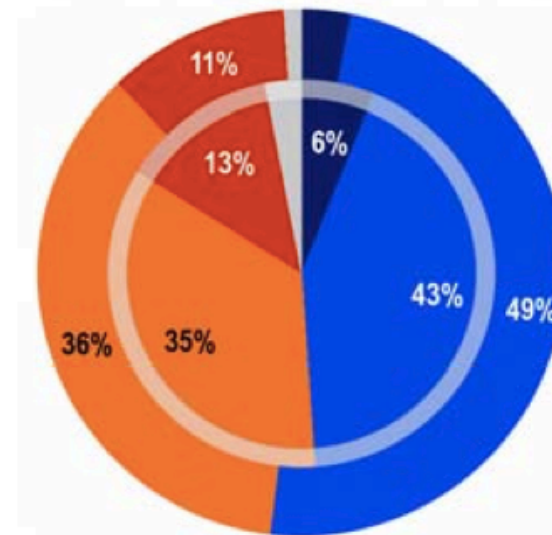
- Green claims in advertising have the potential to play a part in:
 - Encouraging consumers to make sustainable consumption choices
 - Rewarding progressive companies for their efforts, which in turn, encourages business to make further environmental innovations
- Green claims have also the possibility to mislead consumers and erode trust





Only just over half
of EU citizens
generally trust
producers' claims
about
environmental
information

Q13. In general, how much do you trust producers' claims about the environmental performance of their own products?



Trust completely Tend to trust Tend not to trust Do not trust at all Don't know

Inner pie : FL256 April 2009

Outer pie : FL367 Dec. 2012

EU27

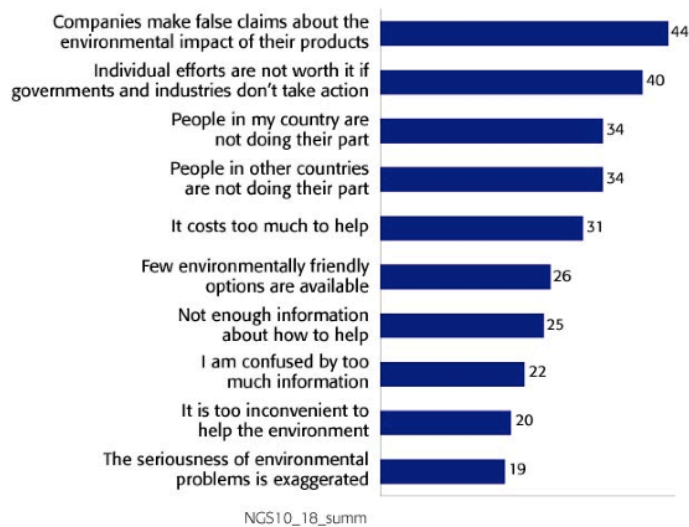
Base: All respondents = 25568



One of the many reasons for the ‘attitude – behaviour’ gap: lack of consumers’ trust in environmental information

What Discourages More Environmentally Friendly Consumer Behavior?

"Discourage," * Percentage of Consumers in Each Country, 2010



*"Discourage" represents 4+5 (on a scale of 1 to 5 where 1 means "Does not discourage you at all" and 5 means "Discourages you a great deal").

- Without confidence in the truth of advertising, consumers could become reluctant to exercise their green purchasing power
- Any charge of ‘greenwashing’, whether intentional or unintentional, can be potentially damaging to a company’s credentials and consumer confidence



Content of today's session



Continuation of group work



Outlook for exam



Greenwashing & the behaviour-intention gap



Sins of greenwashing at product level



Market research for sustainability



Seven sins of greenwashing

1) Sin of the hidden trade-off



2) Sin of no proof



3) Sin of vagueness



4) Sin of worshipping false labels



5) Sin of irrelevance



6) Sin of lesser of two evils



7) Sin of fibbing



Source: TerraChoice (2010): <http://sinsofgreenwashing.org/findings/the-seven-sins/index.html>



1) Sin of the hidden trade-off



- A claim suggesting that a product is 'green' **based on a narrow set of attributes** without attention to other important environmental issues



- Energy-efficient products are **not necessarily environmentally-friendly** just because they consume low amounts of energy/water, etc. (e.g. water-saving washing machine that uses a lot of energy, etc.)



2) Sin of no proof



- An environmental claim that **cannot be substantiated** by easily accessible supporting information or by a reliable third-party certification



- Common examples are facial tissues or toilet tissue products that claim various percentages of recycled content without providing evidence



3) Sin of vagueness



Recycled
Content

“All natural”

- A claim that is so poorly defined or broad that its real meaning is likely to be misunderstood by the consumer

- ‘This product contains recycled content’
- This claim misses to specify how much recycled content the product contains (100%, 50% or only 0.001%?)

- All natural does not necessarily mean that the product is green
- Mercury, arsenic, uranium, etc. are all naturally occurring, but poisonous



4) Sin of worshipping false labels



- A product that, through either words or images, gives the impression of third-party endorsement where no such endorsement exists



- Manufacturers who add their own label to a product with images and statements such as, 'this product fights global warming'



5) Sin of irrelevance



- An environmental claim that may be truthful but is unimportant or unhelpful for consumers seeking environmentally preferable products



- 'CFC-free' (chlorofluorocarbon-free) is a common example, since it is a frequent claim despite the fact that CFCs are banned by law (contributed to ozone depletion and was banned by the Montreal Protocol)



6) Sin of lesser of two evils



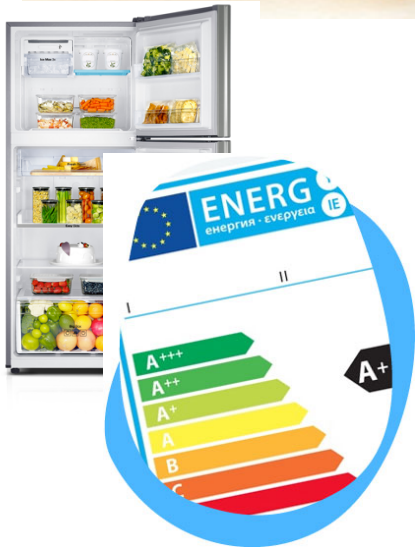
- A claim that may be true within the product category, but that risks distracting the consumer from the greater environmental impacts of the category as a whole



- Example: fuel-efficient sport-utility vehicle (SUV)



7) Sin of fibbing



- Environmental claims that are simply false (e.g. marketing a product or service as green if it is not)

- German retailer used in 2010 in an advertisement the slogan “**very energy saving**” for a refrigerator/freezer which was of energy efficiency class “A”
- 57% of appliance belonged already to class A +, 17% belonged to class A++



Additional sin: suggestive pictures

- Use of images that imply a baseless green impact



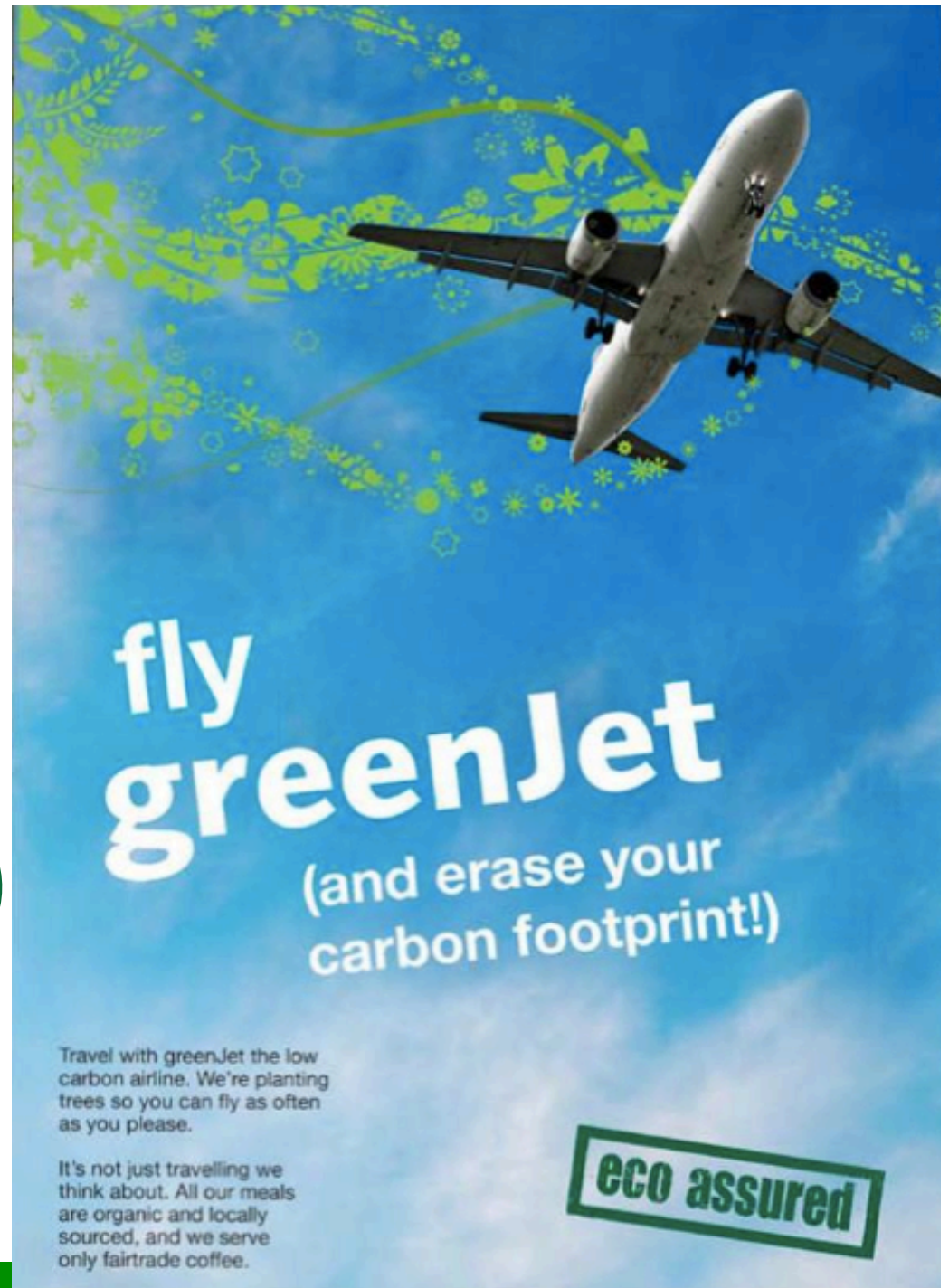


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**Mock-up example: Fly
GreenJet is guilty of
the several sins:**

What
greenwashing
sins can you spot
here?

Source: Futerra Sustainability Communication





What can be done about greenwashing

- **Development of guides** for businesses to explain how their marketing laws and standards apply to environmental claims
- **Better enforcement** when false claims are used (e.g. strict penalties for false claims)
- **Introduction of legislation** regarding the use of terminology





Term organic (bio) is protected for food

- The **terms 'organic', 'bio' and 'eco'** are legally protected under the EU Organic Regulation/ Swiss Ordinance on Organic framing
- Anyone wishing to market products as organic (or use derivative or **diminutive terms such as bio or eco**) must adhere to strict production standards and submit to annual inspections
- Operators that are not being inspected must not market their products as organic products
- Since 2010, pre-packaged food produced in the EU that claim to be organic must carry the EU organic logo





What can be done about greenwashing

- **Meaningful certification** to fight vagueness (and greenwashing in general)
- **Proper consumer education** on and awareness of the meaning and proper interpretation of claims and labels





Example of well-designed advertisement



Gives you an 'honest' feeling

Claims that are 'product relevant'

Lots of specific details

A recognised third-party label

Significant and major green commitments



Group work on greenwashing

- Work with a partner and analyze the following products or advertisements
- Determine whether you can find one of the eight sins of greenwashing discussed in the course (and if yes – which one?)!
- Shortly substantiate your conclusions!





Content of today's session



Continuation of group work



Outlook for exam



Greenwashing & the behaviour-intention gap



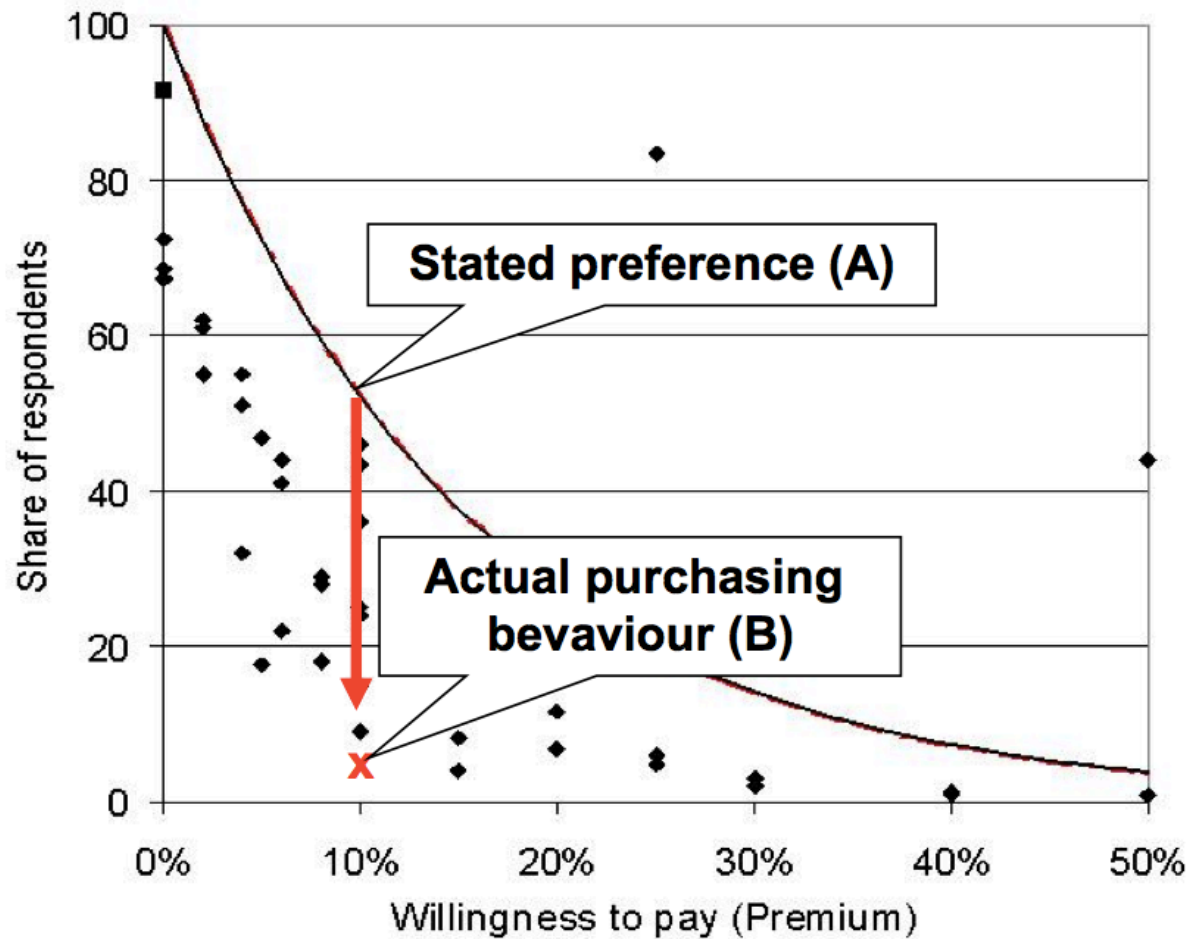
Sins of greenwashing at product level



Market research for sustainability

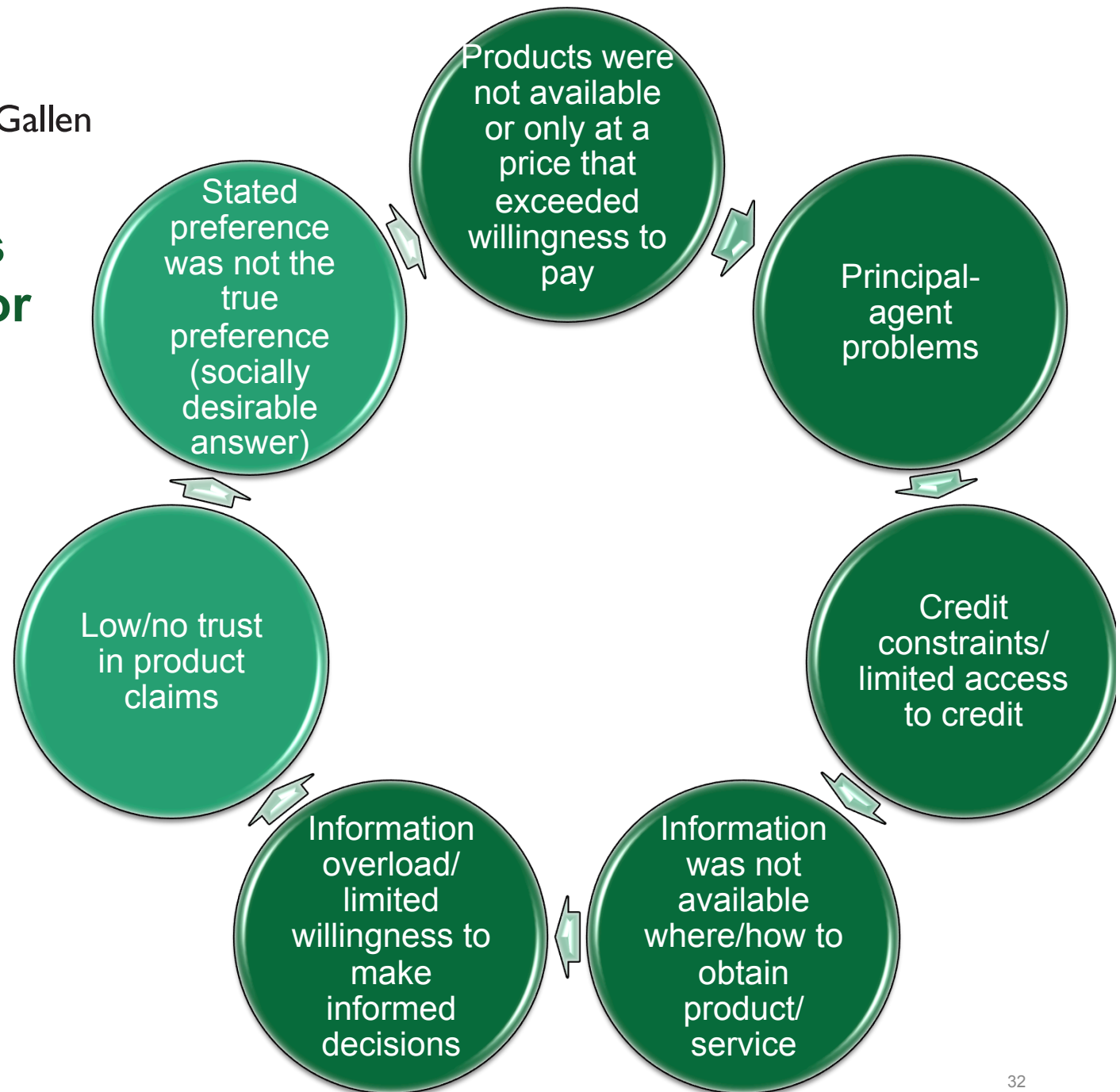


Willingness to pay for sustainable products





Numerous reasons for attitude-behaviour gap





Market research for sustainability

- When it comes to social or environmental issues, people often have a tendency to provide **socially desirable answers**
- The **more direct** they are asked, the more biased they will answer
- This may lead to an **overestimation of people's willingness** to buy sustainable products or to behave in a more sustainable way





What can be done to reduce social desirability bias

- **Use of qualitative methods** to gain a deeper understanding of underlying needs and preferences (e.g. in-depth interviews, focus groups combined with writing exercise, etc.)
- More sophisticated **quantitative methods** that **indirectly elicit respondents' preferences** and that avoid socially desirable answers (e.g. conjoint analysis)
- Shift from ex-ante market research to test markets (revealed preferences)





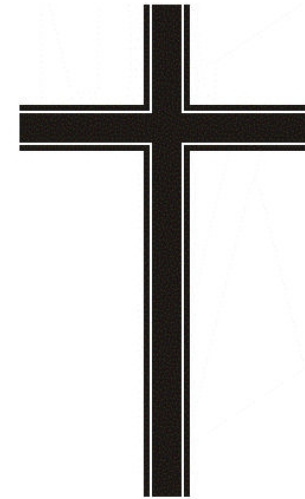
Example for qualitative method: Writing exercise as part of focus groups

- Smart Power (non-profit organization dedicated to promoting clean energy and energy efficiency) is regularly conducting consumer research to create marketing campaigns and messages
 - Used extensive polling and **focus groups (moderated group discussions around a given topic)** to better understand why American consumers say they will purchase clean energy – when in reality they don't
 - Focus group discussion preceded by **writing exercise** and **painting pictures** to capture unconscious influences



Obituary exercise

- SmartPower has been using the approach of **obituary exercise** (**notice of the death of a person**) for many years to test attitudes about clean energy
- Best way to tell how someone really feels about something is to take it away (**loss aversion**)
- Hence, SmartPower asked respondents to write *“The Obituary: Fossil Fuels died today”*





Fossil fuel a necessary evil? Renewable energies not there yet to provide a safe alternative?

It is with great sadness and regret that we announce the demise of fossil fuel. After hundreds of years of supplying the population of earth, the resource had been depleted. It will be remembered for the warmth, comfort and pleasure it provided to living things. There will be a great void that needs to be filled perhaps through wind and solar power. It will be sorely missed by all beings that depended on it to warm them, supply their transportation, power their equipment and support all the resources necessary for a safe and comfortable life. (Emphasis added.)

Fossil Fuel died after a long, slow illness called greed. Fossil has left the family of the Middle Eastern nations and former President George W. Bush and his cabinet members. Currently, the world is adjusting from heating by oil and illuminating by electricity to solar and wind mill sources. There are several kinks to be worked out and roadblocks to conquer. Will we ever be warm again? Miss you fossil fuel.



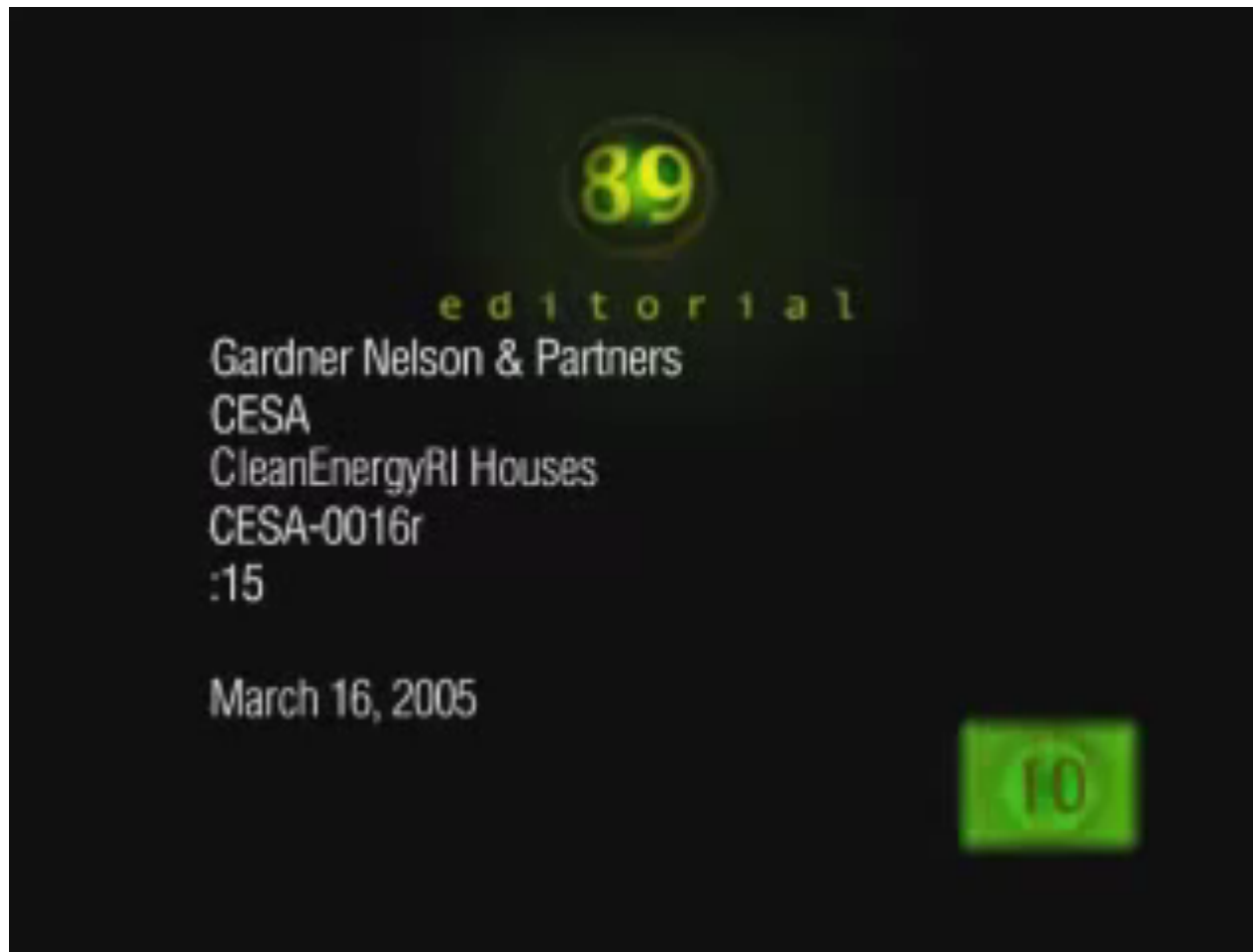
Insights from Smart Power focus groups

- People were far less critical of fossil fuels than expected
 - ‘it keeps them warm’
 - ‘it keeps the lights on’
- While people recognized the problems of pollution and climate change, they saw fossil fuels as a ‘necessary evil’ – unlike clean energy, fossil fuels **can be relied on to power our world**





Application of insights to develop marketing tools





Application of insights to develop marketing tools





Application of insights to develop marketing tools that capture unconscious attitudes

“America already produces enough clean energy to supply all of Chicago’s power requirements. Not to mention New York, L.A., Boston, Philadelphia, Phoenix, San Diego, Dallas, and San Antonio, too. Let’s make more.”

**“It’ s Real. It’ s Here.
It’ s Working!”**



Methodological approach: Limitations of direct rating



How important is
the picture quality?

Very important

How important is the
price?

Very important

How important is the
min. size?

How important is it the energy
efficiency?

Very important

- Direct rating method: no trade-off between attributes necessary
- Although marketplace usually requires trade-offs, consumers typically avoid the evaluation of conflicting attributes during market research



Indirect surveying technique: Choice-based conjoint analysis (CBC)

If you were in the market to buy a new TV today and these were your only options which would you choose?

Panasonic 40" CHF 1499 ☐	Sony 50" CHF 1999 ☒	Philips 60" CHF 1199 ☐	None: I wouldn't choose any of these ☒
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- Each product described in terms of a **number of attributes**
- Respondents are shown a set of products created from a **combination of levels** from these attributes
- Respondents evaluate **realistic product profiles** (described by multiple features) and to choose which they would buy



Typical questions that can be answered with a choice-based conjoint analysis

How are various characteristics of a product influencing buyers' choices?

What product should I offer to maximize interest in the offering?

What portfolio of products can I offer to appeal to different market segments and maximize overall share?

How much are people willing to pay for an upgrade in one feature?



Example: Choice-based conjoint experiment for green electricity

- First step: Definition of attributes (7) and attribute levels (4 per attribute)

Table 1

Choice experiment design: attributes and levels (cf. Kaenzig et al., 2013).

Attribute		Attribute levels
Electricity mix	Mix 1 (‘brown power’)	60% coal, 25% nuclear, 15% origin unknown
	Mix 2 (‘default’)	60% coal, 25% nuclear, 5% water, 5% wind, 5% biomass
	Mix 3 (‘no nuclear’)	60% coal, 25% gas, 5% water, 5% wind, 5% biomass
	Mix 4 (‘green power mix’)	50% wind, 30% water, 15% biomass, 5% solar
	Mix 5 (‘pure wind’)	100% wind
Power provider		Major national provider Medium-sized regional provider Municipal utility Independent power marketer
Location of electricity generation		Local region In Germany In Switzerland In Eastern Europe
Monthly electricity cost		50 Euros 55 Euros 60 Euros 65 Euros 70 Euros
Certification (eco-label)		Ok power TÜV Grüner Strom Label No certification
Price guarantee		None 6 months 12 months 24 months
Cancellation period		Monthly Quarterly Bi-annually Yearly

Source: Kaenzig, J., Heinzle, S. L., & Wüstenhagen, R. (2013). Whatever the customer wants, the customer gets? Exploring the gap between consumer preferences and default electricity products in Germany. *Energy Policy*, 53, 311-322.



Example: Choice-based conjoint experiment for green electricity

If you had to choose between the following electricity products, which one would you most likely choose? (Please click on the preferred product).

Electricity mix	60% coal, 25% nuclear, 5% water, 5% wind, 5% biomass	60% coal, 25% gas, 5% water, 5% wind, 5% biomass	100% wind
Power provider	Municipal utility	Medium sized, regional power provider	Major, national provider
Location of the electricity generation	In the region	In Germany	In Eastern Europe
Monthly electricity costs	€50	€60	€70
Certification	-	TÜV	ok power
Price guarantee	None	6 months	12 months
Cancellation period	Monthly	Semi-yearly	Yearly
	☐	☐	☐

Fig. 1. Sample choice task (translated from German).

Source: Kaenzig, J., Heinzle, S. L., & Wüstenhagen, R. (2013). Whatever the customer wants, the customer gets? Exploring the gap between consumer preferences and default electricity products in Germany. *Energy Policy*, 53, 311-322.



Calculation of mean part-worth utilities and willingness to pay

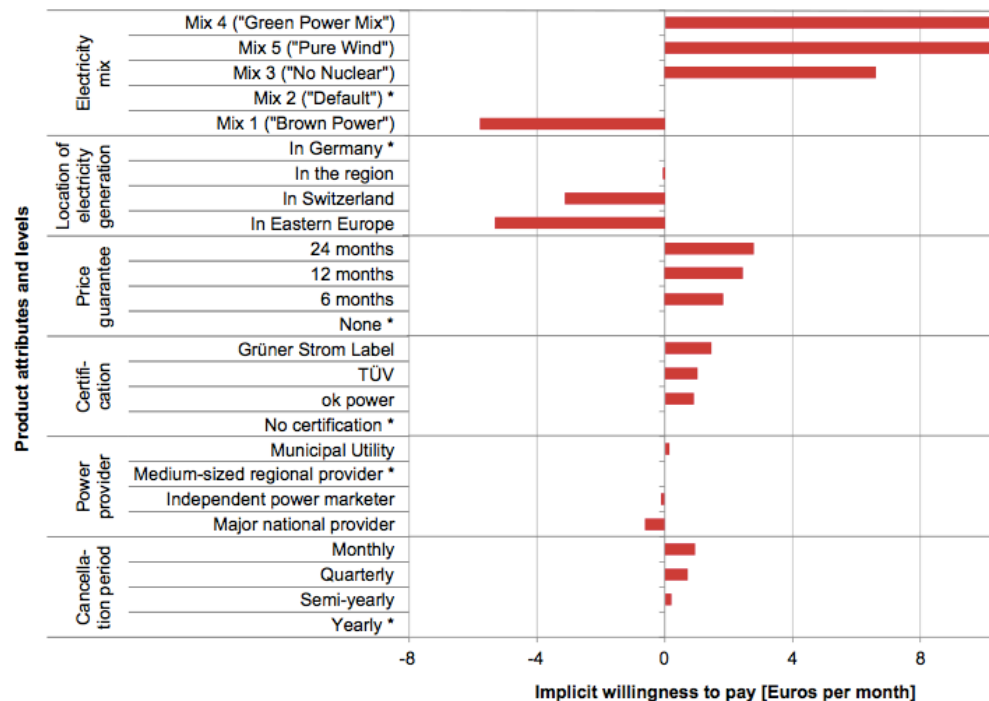


Table 2

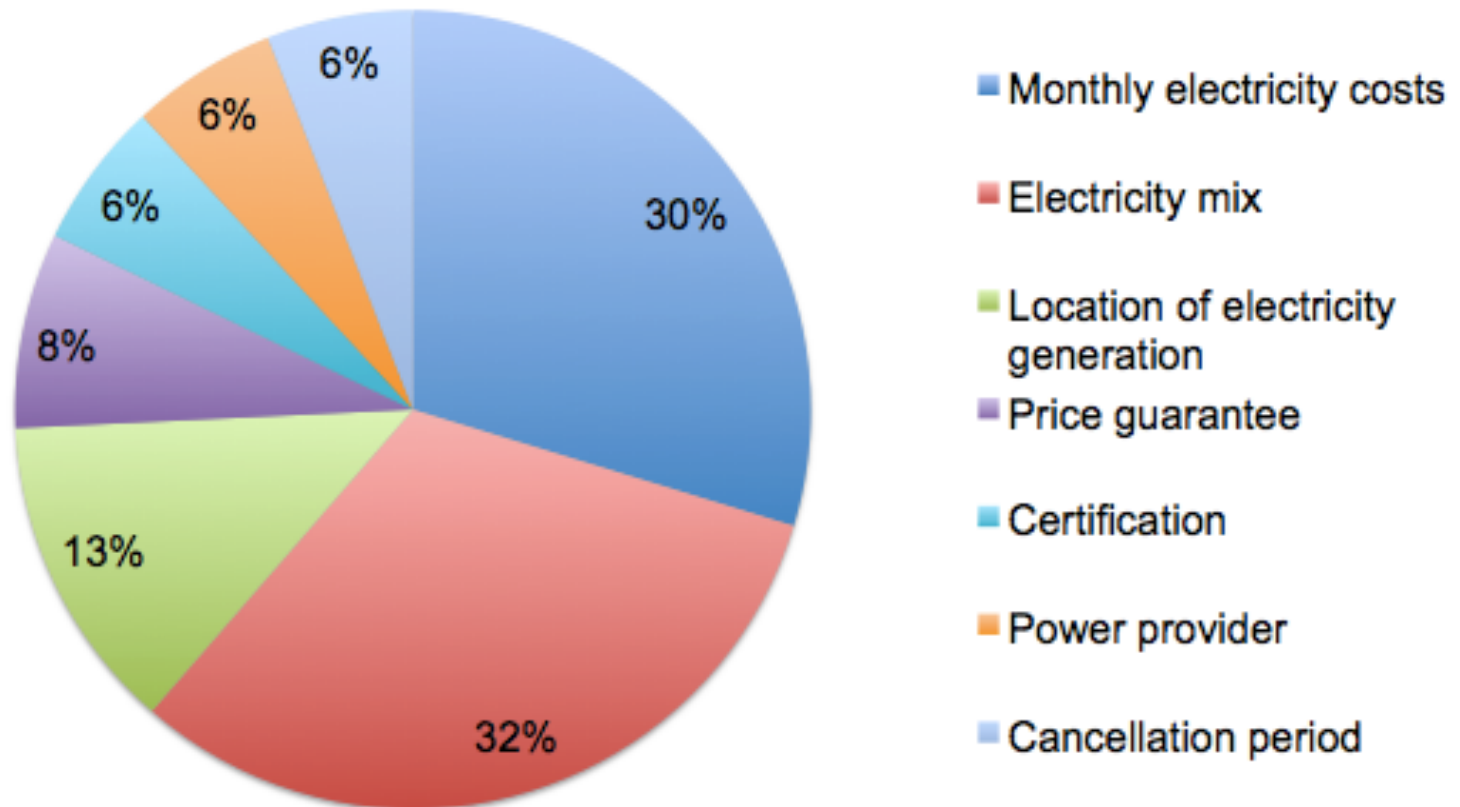
Hierarchical Bayes^a model estimation of mean utility values^b (N=4968 choices made by 414 survey participants).

Hierarchical Bayes model	Mean	Standard deviation
Electricity mix^c		
Mix 1 (60%C, 25%N, 15%?)	-3.98	(3.52)
Mix 2 (60%C, 25%N, 5%H, 5%W, 5%B)	-2.20	(2.40)
Mix 3 (60%C, 25%G, 5%H, 5%W, 5%B)	0.30	(1.36)
Mix 4 (50%W, 30%H, 15%B, 5%S)	2.85	(2.99)
Mix 5 (100%W)	3.03	(3.40)
Max. difference in part-worth2 (max.-min.)	7.01	
Power provider		
Big, national provider	-0.18	(0.47)
Specialized provider	-0.04	(0.59)
Middle-sized, regional provider	0.06	(0.59)
Municipal	0.16	(0.65)
Max. difference in part-worth2 (max.-min.)	0.34	
Location of electricity generation		
In Eastern Europe	-1.38	(1.19)
In Switzerland	-0.50	(0.97)
In Germany	0.93	(0.95)
In the region	0.95	(0.95)
Max. difference in part-worth2 (max.-min.)	2.33	
Certification		
No certification	-0.39	(0.67)
ok power	0.03	(0.51)
TÜV	0.12	(0.53)
Grüner Strom Label	0.24	(0.50)
Max. difference in part-worth2 (max.-min.)	0.62	
Price guarantee		
None	-0.74	(0.71)
6 months	0.01	(0.57)
12 months	0.28	(0.61)
24 months	0.45	(0.70)
Max. difference in part-worth2 (max.-min.)	1.19	
Cancellation period		
Yearly	-0.16	(0.60)
Semi-yearly	-0.05	(0.58)
Quarterly	0.02	(0.55)
Monthly	0.19	(0.63)
Max. difference in part-worth2 (max.-min.)	0.35	
Monthly electricity costs^d		
	-0.38	(0.21)

Fig. 2. Implicit willingness to pay for attribute levels of electricity products (relative to default). Note: Attribute levels of default product (Mix 2, made in Germany, regional provider, no price guarantee, no certification, yearly cancellation period) are marked with an asterisk.



Calculation of importance scores of different product characteristics





Post-hoc market segmentation based on preferences

- Post-hoc market segmentation based on preferences revealed three groups of potential green electricity adopters with varying degrees of preference for renewable energy

Table 5
Attribute importance scores.

Model	Adopters	Potential Adopters			Likely Non-Adopters
		Truly Greens	Price Sensitive Greens	Local Patriots	
Segment size	n = 29	n = 117	n = 78	n = 108	n = 82
Electricity mix	48.6%	50.8%	34.2%	20.9%	14.9%
Power provider	4.8%	4.9%	5.3%	7.8%	5.1%
Location of electricity generation	9.0%	10.0%	10.5%	21.1%	8.4%
Monthly electricity costs	23.2%	19.4%	31.8%	22.8%	53.8%
Certification	4.6%	4.6%	5.5%	8.0%	5.5%
Price guarantee	5.4%	5.6%	7.0%	11.2%	7.4%
Cancellation period	4.4%	4.8%	5.5%	8.1%	4.9%
Total	100%	100%	100%	100%	100%

Source: Tabi, A., Hille, S. L., & Wüstenhagen, R. (2014). What makes people seal the green power deal?—Customer segmentation based on choice experiment in Germany. *Ecological Economics*, 107, 206-215.



Post-hoc market segmentation based on preferences

- Findings indicate that **socio-demographic factors** play a marginal role in explaining the differences between green electricity subscribers and potential adopters (actual adopters tend to be better educated)
- Actual subscribers tend to
 - Perceive **consumer effectiveness** to be higher
 - Estimate **lower prices for green electricity tariffs**
 - Are more likely to **have recently their home** than non-adopters



Group work: Develop CBC for green product/service

- Develop a **CBC** for any green product or service that you can think of (think of an **interesting research question!**)
- Any product or service can be modeled as an entity with a set of attributes (CBC allows max. 8 attributes)
 - Example: Airline ticket (Price, Airline, Stops, etc.)
- Each of the attributes may have two or more levels
 - Example: Stops (none, 1, 2, etc.)
- Attributes and levels should be **independent** and **not correlating &** should have **concrete** and **unambiguous** meanings (e.g. very expensive would be ambiguous)



Group work: Definition of attributes and levels

- What is your research question that you would like to answer with this CBC?
- How does the design of your CBC look like?

Attributes (approx. 4-8)	Attribute levels			
Attribute A	A – Level 1	A – Level 2	A – Level 3	A – Level 4
Attribute B	A – Level 1	A – Level 2	A – Level 3	A – Level 4
Attribute C	A – Level 1	A – Level 2	A – Level 3	A – Level 4
Attribute D	A – Level 1	A – Level 2	A – Level 3	A – Level 4
Attribute E	A – Level 1	A – Level 2	A – Level 3	A – Level 4
Attribute F	A – Level 1	A – Level 2	A – Level 3	A – Level 4
....				

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