



# → Customer Needs and Customer Behavior in the Smart Grids context

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- **Brief Introduction of the Bits to Energy Lab**
- **From information to motivation**
- **Example: Velix**



- **Joint project at ETH Zurich and the University of St. Gallen**
  - Information Management  
ETH Zürich (E. Fleisch)
  - Distributed Systems Group  
ETH Zurich (F. Mattern)
  - Institute for Customer Insight  
University of St. Gallen (A. Herrmann)
  - Operations Management  
University of St. Gallen (E. Fleisch)
- **Multi-disciplinary team**
  - Electrical engineering, computer science, marketing, and psychology





## Industry partners

- Illwerke VKW, ewz, L+G, Philips, Electrolux, SAP, Nokia Siemens Networks, Swisscom and others



## Research cooperations

- Massachusetts Institute of Technology (Exchange)
- University of Cambridge (StopCarb)
- Energy Science Center (Joint projects)





# Consumer Behavior is the starting point for sustainable development.



Bits to Energy Lab

**Our mission:** „We combine concepts from behavioral sciences and information technology to motivate customers to save energy.“



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+ Support of pilot projects (electricity, water, driving behavior), ...



- Short introduction of the Bits to Energy Lab
- **From information to motivation**
- **Example: Velix**

→ **Many customers are sceptical with regard to Smart Metering.**



- **Forsa 2010 („Erfolgsfaktoren für Smart Metering“)**
    - Focus groups and surveys with over 1000 customers
    - The majority doesn't see the benefit of Smart Metering, instead they have many concerns
    - Most people would agree on an installation of Smart Meters in their house if it was for free
    - Most people would not pay a premium
- **There is a clear need to create and communicate benefits of Smart Metering to the customers**

→ The knowledge of customer needs is fundamental.  
A rational point of view is not sufficient.



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### „Old“ Paradigm:

As soon as easy to understand consumption feedback is available, the customer will reduce their consumption.

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### „New“ Paradigm:

**If there is a will, there is a way!**  
**Campaigns have to address the motivation of the customer.**  
**Customer behavior is often not rational.**





# „Technical“ consumption feedback often doesn't achieve the intended goals...



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- Saving potential often below 3%
- Web applications with marginal user base
- Expensive equipment only used by a small consumer segment
- Hardly any psychological cues to make engagement worthwhile
- Poor motivational approaches
- ...but some players have proven that efficiency gains and user satisfaction can be achieved



Sources: google, yello, ELV, seas

→ ... but some (in marketing already established) approaches can help to bridge that gap.



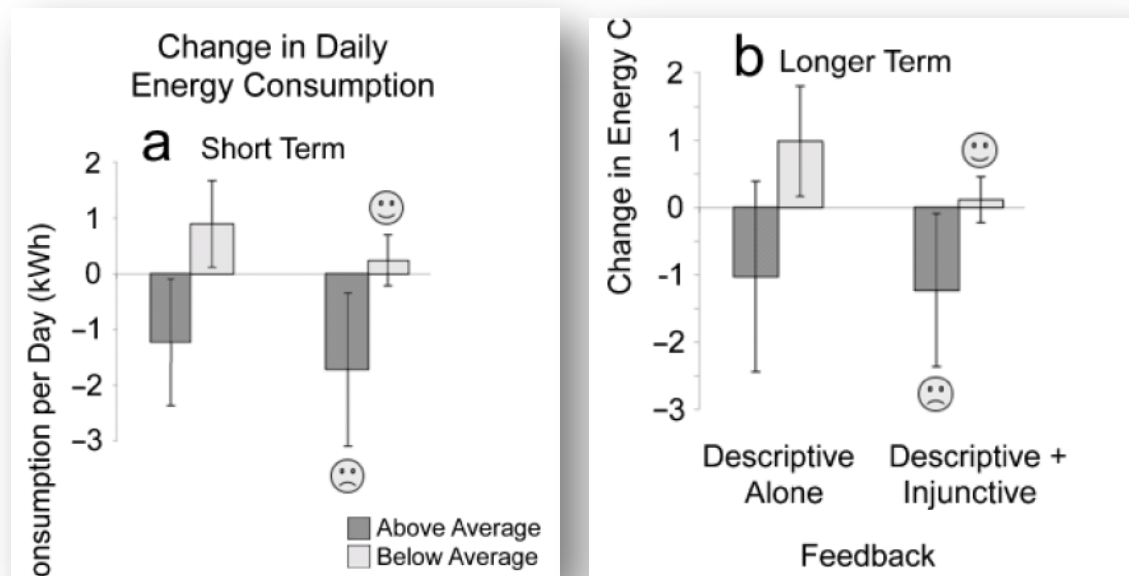
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- **Where is the additional benefit?** → **Weather, temperature, time, stock-exchange-feeds, Twitter etc.**
- **Which reference group?** → **The choice of the adequate reference group determines the amount of saved energy**
- **A day or a year?** → **Projections have a strong influence on behavior**
- **What is my goal?** → **Ambitious goals strongly motivate people**
- **Is my behavior visible to others?** → **Social recognition and social pressure play an important role when it comes to decisions**

→ Different customers behave in different manners and have different preferences.



- Study of Schultz et al. (2007) on the effectiveness of descriptive vs. injunctive normative feedback on energy consumption



→ Utility companies do not know their customers yet.





- Short introduction of the Bits to Energy Lab
- From information to motivation
- **Example: Velix**



# Velix is a different approach to energy management.



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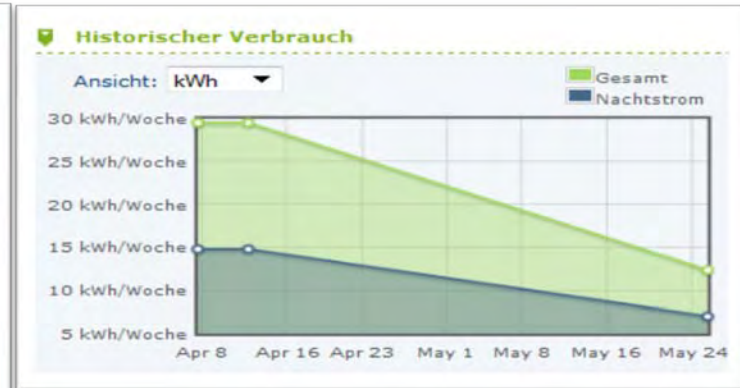
- Key data: 5.400 registrations / 50.000 readings / 3.000 completed surveys
- Business value: Customer insights, marketing performance
- Research: Descriptive & injunctive norms / norm proximity / framing / etc.
- Partner / funding: Illwerke VKW

Sources: Bits to Energy Lab & VKW

→ Velix allows for testing how feedback should be visualized.



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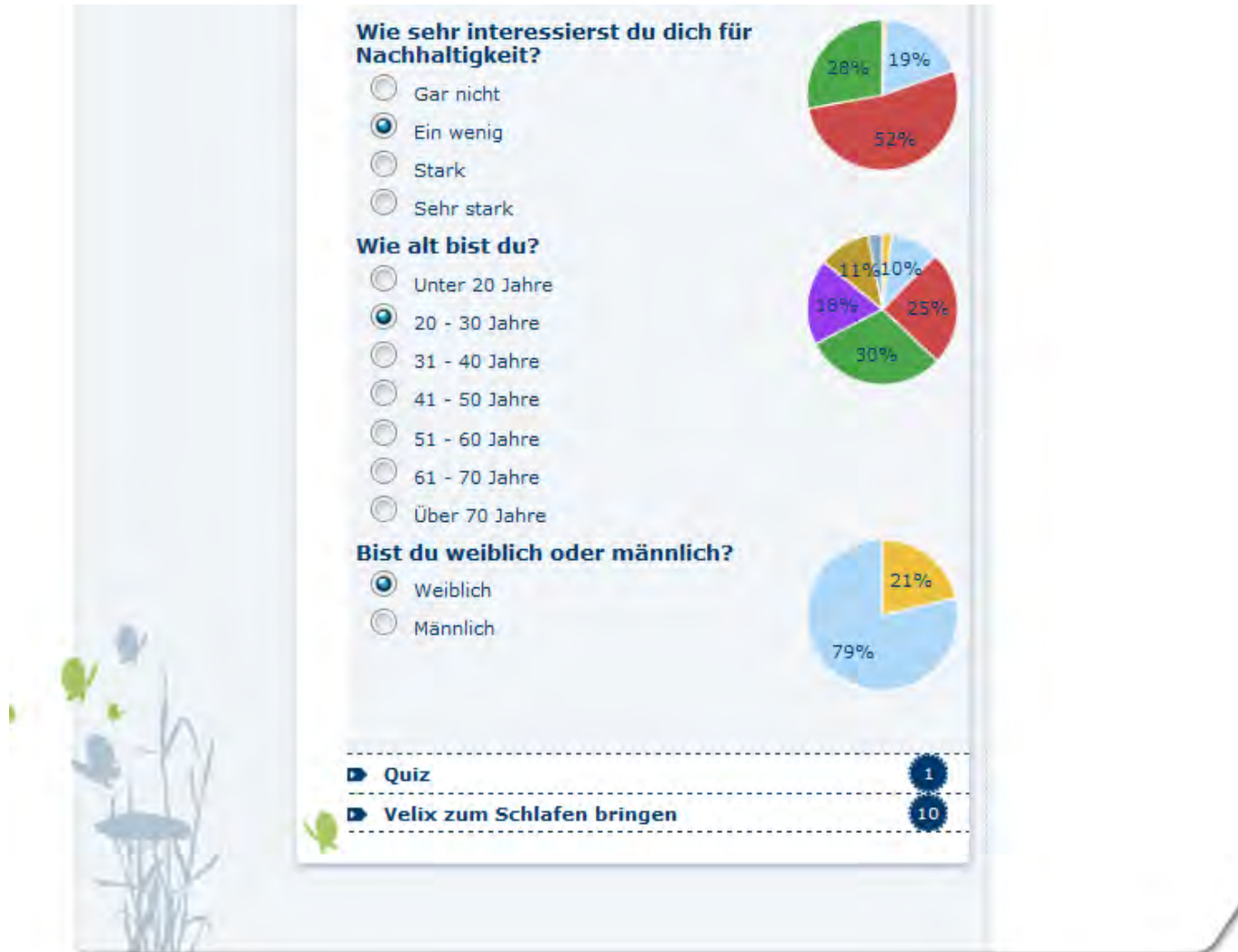
### Deine Zählerstandeingaben

Datum	Zeit	Stand HT	Stand NT	Gesamt	Woche Ø	Level	Löschen
25.05.'10	11:46	5800	1890	76	12.3 kWh	A	x
12.04.'10	09:15	5767	1847	20	29.5 kWh	B	x
07.04.'10	15:30	5757	1837	-	- kWh	-	x

### Wusstest du, dass...

1 von 3

All sources: www.vkw.at/velix







- **Understand motivation**
- **Understand customer behavior**
- **Get to know customers**
- **Conduct customer segmentation**
- **Improve energy saving platforms**
- **Increase engagement**
- **Intensify contact to customer**
- **Save energy**
- **Gain customers**
- **Avoid abatement costs (saving money by giving away gifts!)**
- **Prepare for Smart Metering (both customers and company)**
- **...**



Thank you very much.



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