



# Power Efficiency Classes for Households – a comparative feedback approach for speeding up energy efficiency on a household level

Immanuel Stieß<sup>1</sup>, Michael Kunkis<sup>1</sup>, Corinna Fischer<sup>2</sup>

<sup>1</sup>ISOE – Institute for Social-Ecological Research, Frankfurt/Main

<sup>2</sup>Oeko-Institute for Applied Ecology

eceee 2015 Summer Study

Presqu' île de Giens, Hyères Toulon, 1-6. June 2015

# Project Team and Practice Partners



ISOE – Institute for Social-Ecological Research GmbH

*Immanuel Stieß, Barbara Birzle-Harder, Christian Dehmel, Konrad Götz, Michael Kunkis, Esther Schietinger*

Öko-Institut – Institute for Applied Ecology e.V.

*Corinna Fischer, Bettina Brohmann, Eva Brommer*

## Practice partners:

BSH Bosch und Siemens Hausgeräte GmbH

ENTEKA Privatkunden GmbH & Co. KG

Badenova AG & Co. KG

Consumer Association NRW e.V.

OSRAM GmbH

**Project duration:** 04/13 – 03/16 (36 Months)

B/S/H/



verbraucherzentrale

*Nordrhein-Westfalen*

# Overview



- Concept of Power Efficiency Classes
- The campaign „Klasse Strom sparen“
- Field trial
- Perception of the campaign
- Preliminary conclusions

## Concept and objective



- Developing a classification system, providing a comparative feedback on power consumption for different household types in a simple and appealing way.
- The Power Efficiency Class System includes three elements:
  - a) The power efficiency classes
  - b) The communication campaign „Klasse Strom sparen“ as a symbolic designation and awarding procedure
  - c) Energy advice and power-saving recommendations
- The classification reflects the overall power consumption of all technical equipment used in the household and the associated consumption behavior.
- The distinction of different efficiency classes provides a comparative feedback and supports own target setting towards power saving.
- Energy advice offers practical knowledge of how to do this.

# The power efficiency class system



# The leaflet „Comparing consumption - saving power“



## Providing basic information on the campaign

- Introducing the basic idea of the campaign „Klasse Strom sparen“ and its elements
- Explaining the PE class system and inviting for self-classification
- Providing information on the devices with the high electricity consumption in the household
- ...and giving energy saving recommendations



# Power saving advisory



- Standardized energy assessment
  - Analysis of the household's power consumption
  - Classification according to the power efficiency class system
  - Development of recommendations for saving power
- Individual goal setting
  - Doing (at least) one Power efficiency class better
- Provided on-site by a qualified energy consultant
  - Standardized electronic assessment tool
- Advice is free of charge for participating households

# The certificate „Klasse Strom sparen“



## Designating households participating in the campaign

Issued to participating households  
after a period of time (12 (6) months)

Providing information about

- Achieved PE class
- PE class of the previous year
- Amount of annual power consumption
- Changes in power consumption compared to the previous year





## Field test „Klasse Strom sparen“



- Exemplary implementation of the campaign with 100 households
- Recruitment of households according to specified criteria
  - Socio-demographics, level of power consumption, etc.
- Providing electricity saving advice to all households
- Implementation of the electricity-saving recommendations by the households
  - Six months term
- Self-monitoring
  - Monthly record of the electricity meter readings by the participating households (online and offline)
- Certification of the participating households

# Distribution of power efficiency classes / regions

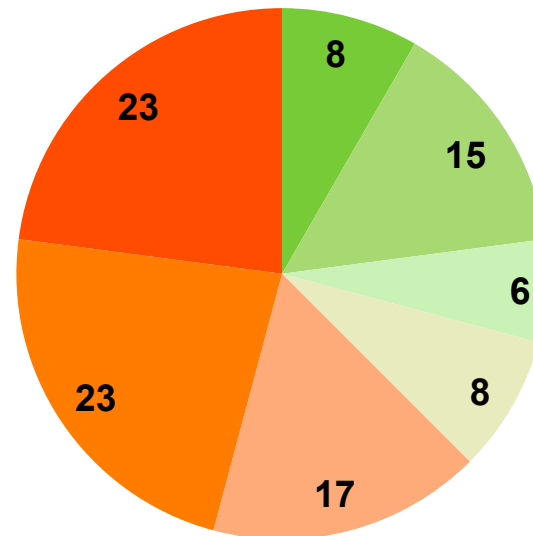


Distribution (absolute numbers)

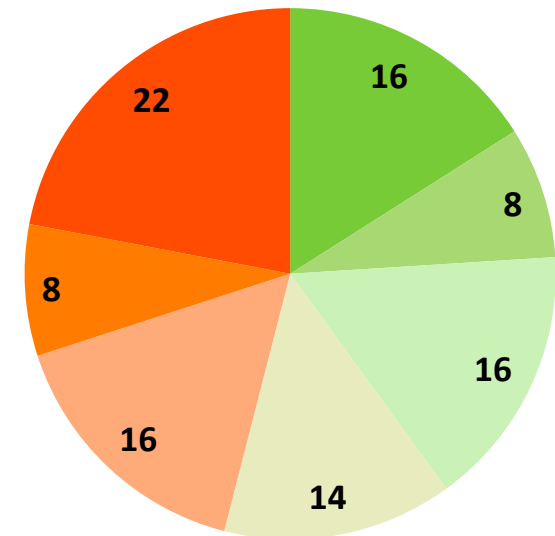
PE-Class	Darmstadt	Freiburg
1	4	8
2	7	4
3	3	8
4	4	7
5	8	8
6	11	4
7	11	11
Average	4,70	4,18

Distribution in percent

Darmstadt



Freiburg



■ 1 ■ 2 ■ 3 ■ 4 ■ 5 ■ 6 ■ 7

## Participants: household type and power consumption



	Young Adults	Average: establishment phase		Average: Consolidation phase		Old men/ women	
Age Consump- tion level	Up to 30 years, with/ without child/ren	30 to 45 Single/ DINKS	31 to 45 With child /ren	46 to 60 Single / DINKS	46 to 60 With child/ ren	Post job, 60 years and over Without child/ ren	
Low (PE class 1-2)	2	5	6	2	5	3	33
Medium (PE class 3-5)	2	4	12	6	6	7	37
High PE class 6-7)	1	3	8	5	11	9	37
Total	5	12	26	13	22	19	97

# Perception of the overall campaign



## Conducting two focus groups in Frankfurt

- 8 to 10 participants, duration: 2 hours

### Pre-defined Quota:

- Group 1: higher interest in saving electricity / low to moderate electricity consumption
- Group 2: little interest in saving electricity / medium to high electricity consumption

- Each Group:

- Responsible for the household energy use and purchasing decision of HH devices
- Women and men: one half each

### Good socio-demographic mix:

- Age: one-third under 35 / 35 to 50 / 50 to 65
- household-size: one-third 1 P / 2 P / 3 +
- Income: one-third low / medium / high

## Insight from focus groups: The campaign as a whole



- Well accepted: Interesting and motivating
  - Incentive to save power and achieve a better class
  - The campaign can succeed: raising awareness, galvanize
- Continuity as an important goal, which is understood
  - No short-term action, but feedback and impetus every 6/12 month
- Saving electricity as intrinsic motivation
  - ...and not as an public demonstration
  - Positive and pleasant: power saving without moral imperative, Climate and environment are not communicated as the primary goal
- Important: renouncing to commercial- and marketing-like communication
  - No competitions, no giveaways, no raffle, etc.: too close to commercial (and dubious) promotions

# Preliminary conclusions



- At present, only preliminary conclusions can be drawn from the focus groups and first impressions from the field trial.
  - Broader insights will be available after evaluating the field test
- Focus groups findings suggest that the comparative feedback and the overall claim of the campaign is attractive to householders.
- Provision of practical knowledge being adapted to the individual household situation is seen as a key benefit.
- Designation and awarding procedure needs to be designed carefully. People seem not to be willing to have their own energy consumption become a public topic.
- Potential for broader implementation of the power efficiency classes
  - depending on regulative framework conditions (German Energy Act etc.)



**Thank you for your attention!**

[www.stromeffizienzklassen.de](http://www.stromeffizienzklassen.de)

[www.isoe.de](http://www.isoe.de)

[stiess@isoe.de](mailto:stiess@isoe.de)