

Evaluation of the Cariteam-Energiesparservice in Frankfurt am Main (May 2009)

on behalf of the German Federal Ministry for the Environment, Nature
Conservation and Nuclear Safety (BMU)

Elke Dünnhoff

ifeu - Institut für Energie- und
Umweltforschung Heidelberg



Dr. Immanuel Stieß

ISOE - Institut für Sozial-ökologische Forschung
Frankfurt a. M.



Evaluation of the Cariteam-Energiesparservice

Objectives

- Acceptance of and contentment with advice that is offered
- Financial and economic effects through savings

Design of the evaluation

- Analysing group: 400 households who have used the Energiesparservice in 2007/2008
- Evaluation of consumption-related data and number of installed saving devices (n=287)
- Pre-phase: 5 qualitative interviews
- Standardised interviews (face-to-face) in households Febr./March 2009 (n=118),
 - satisfaction, acceptance, etc.
 - use of installed products and behaviour changes
 - socio-demographie

Calculation of total savings

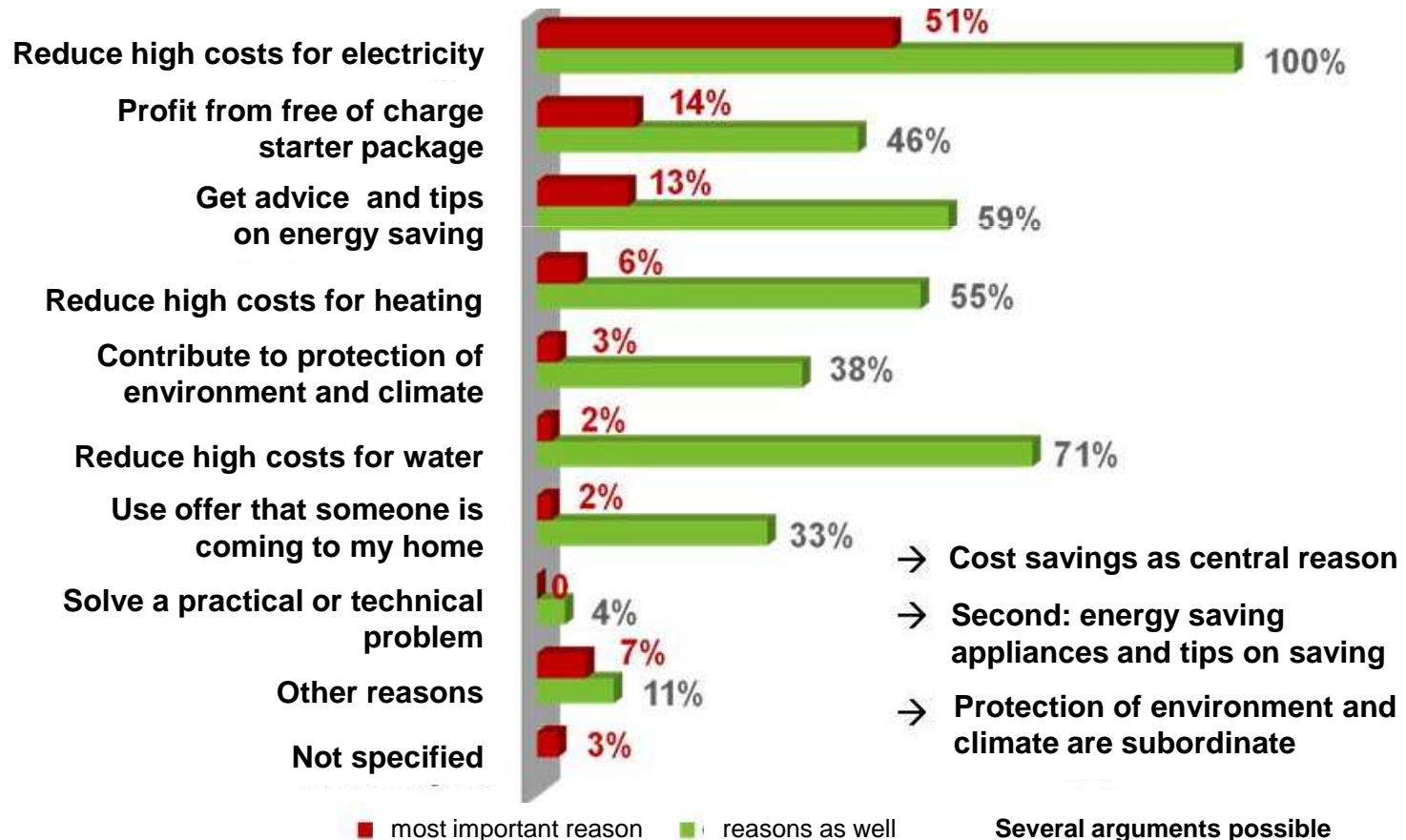
- Saving potential on basis of the installed equipment
- Correction factor...
 - because devices were uninstalled or broken
 - because of less amount of using of the devices (e.g. switch out power strips)
- Added savings based on behaviour changes (implementation of tips)

Evaluation of the Cariteam-Energiesparservice

Reasons for contacting the Cariteam-Energiesparservice

Basis: 118

What were your reasons for contacting the *Cariteam-Energiesparservice*?
 What did you expect to get?
 (aided question)



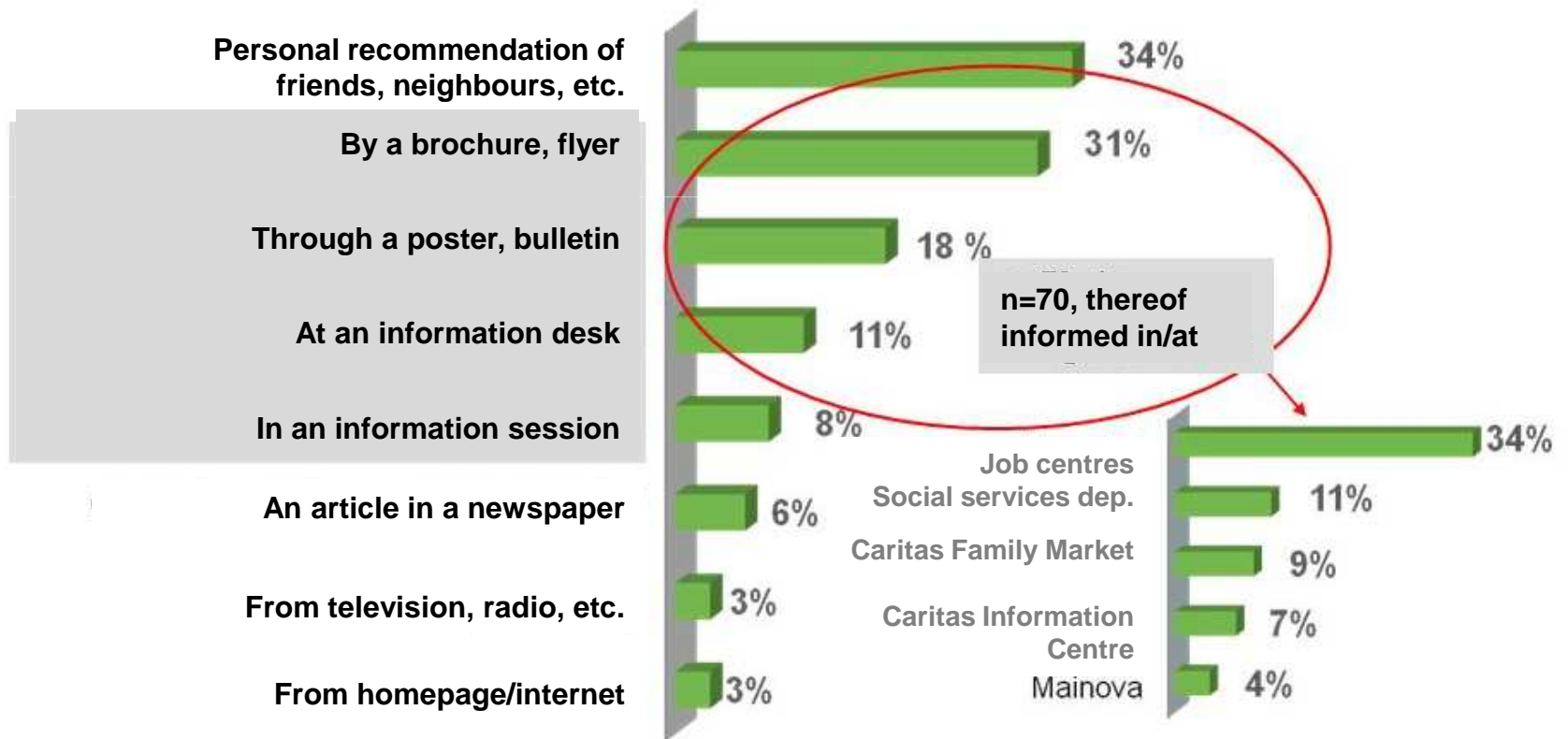
Evaluation of the Cariteam-Energiesparservice

Promotion of the Cariteam-Energiesparservice

Basis: 118

Multiple answers possible

How and where did you get to know the Cariteam-Energiesparservice?

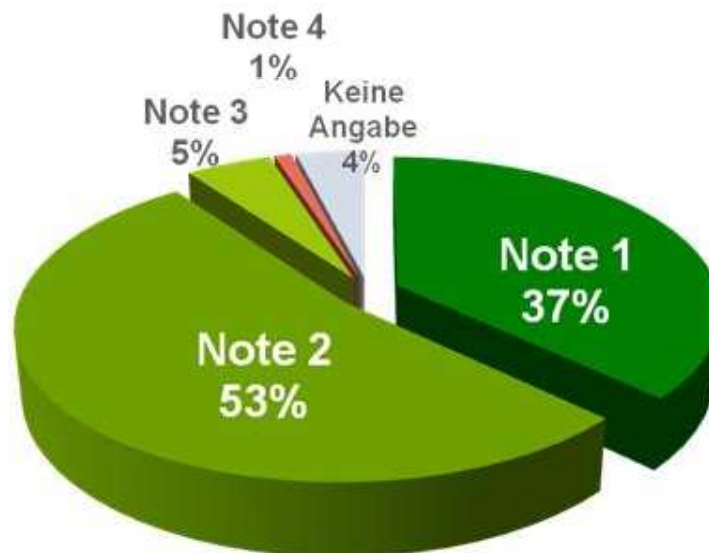


Evaluation of the Cariteam-Energiesparservice

Assessment of the Cariteam-Energiesparservice (grades)

Basis: 118

How satisfied are you with the Cariteam-Energiesparservice altogether? Please use school grades from 1 to 6.



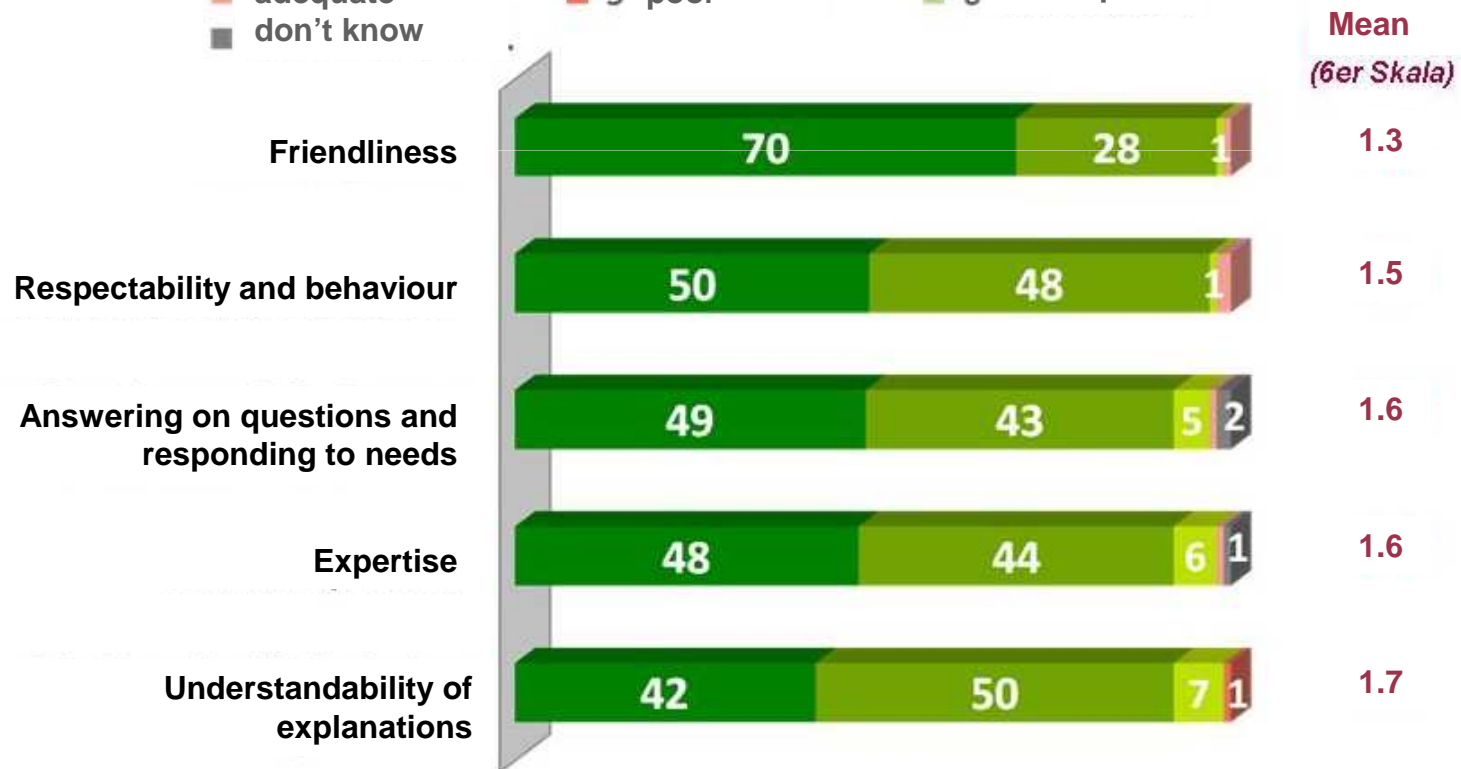
Evaluation of the Cariteam-Energiesparservice

Perception and assessment of advisers

Basis: 118
Data in percent

Please tell us about the consultants who came to you.
How did you perceive and assess them?

- very good
- adequate
- don't know
- 2 | good
- 5 | poor
- 3 | satisfactory
- 6 | inadequate



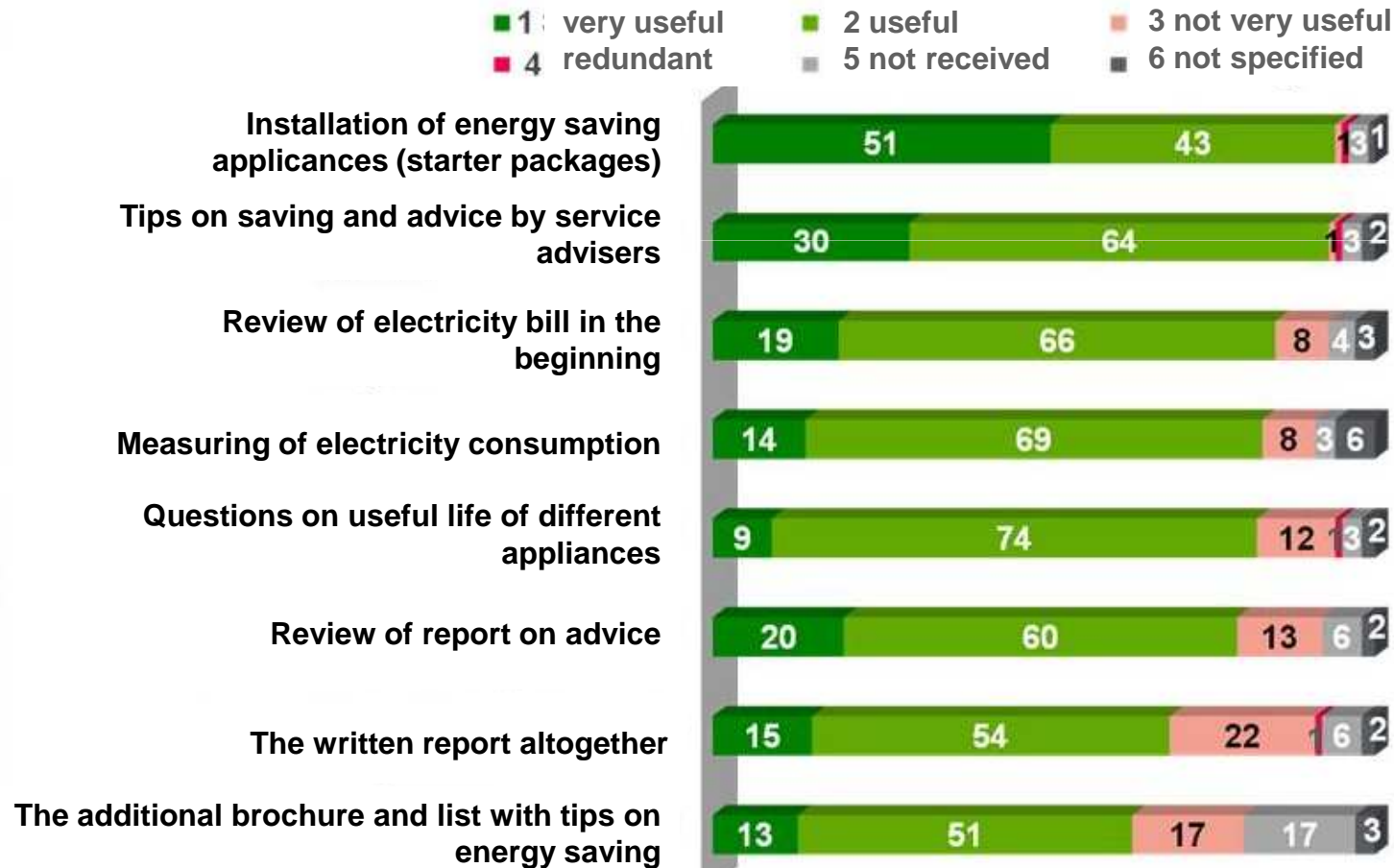
Evaluation of the Cariteam-Energiesparservice

Usefulness of components of the Cariteam-Energiesparservice

Basis: 118

Data in percent

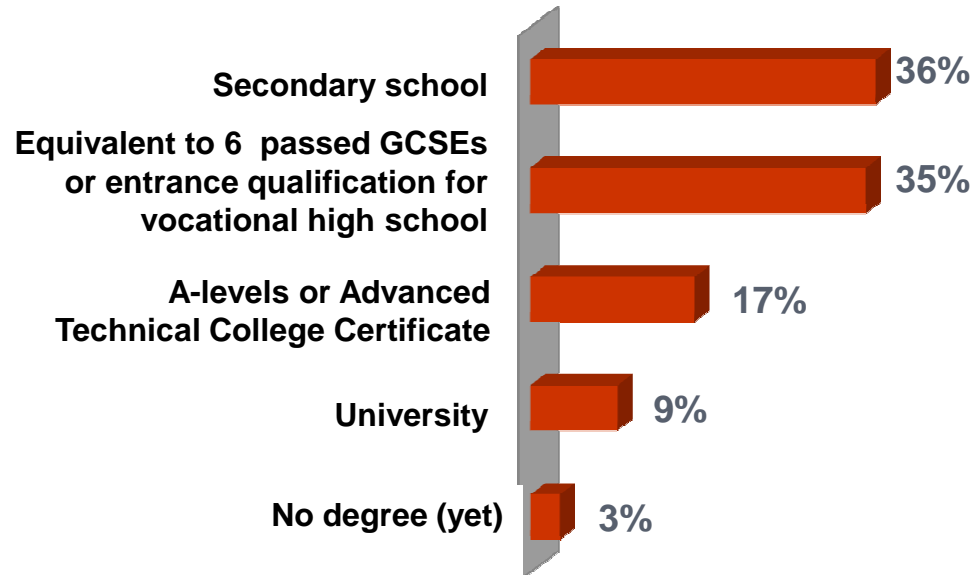
Please tell us about the different components of the Cariteam-Energiesparservice, how helpful and useful would you rate them?



Evaluation of the Cariteam-Energiesparservice

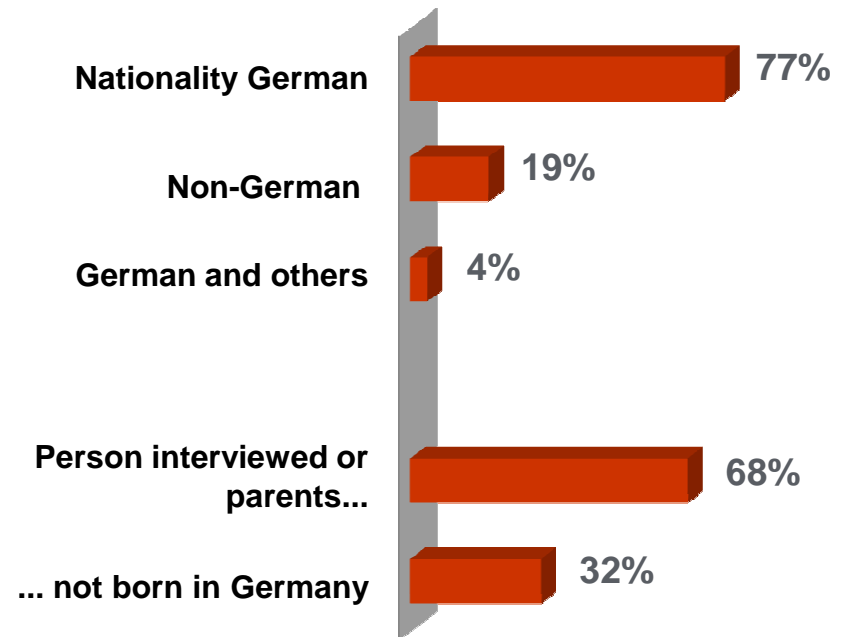
Basis: 118

School leaving certificate



→ the average educational is higher than the average education in the city of Frankfurt

Migration background

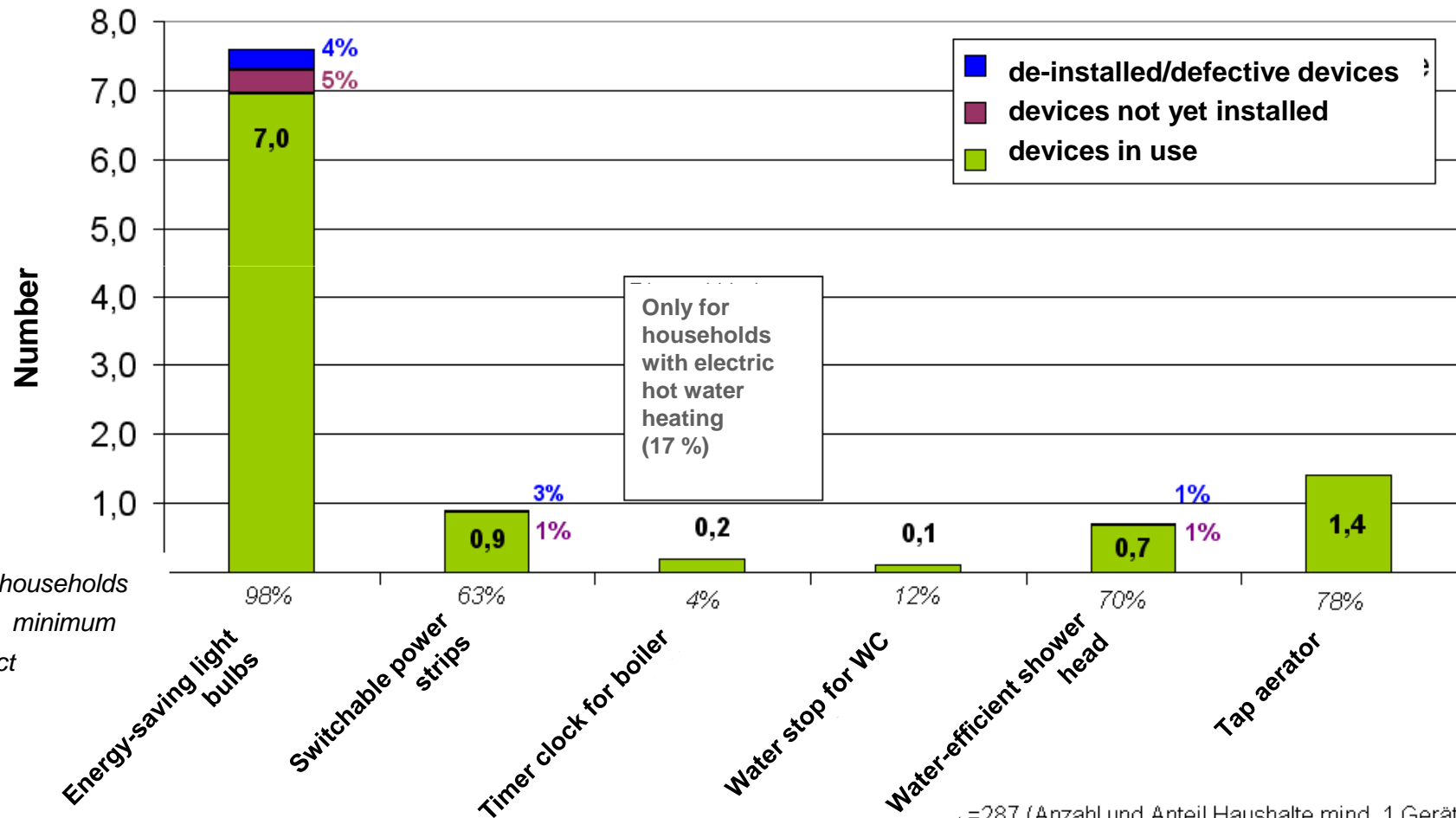


→ about one third of the interviewed people have a migration background

→ wide variety in nationalities

Evaluation of the Cariteam-Energiesparservice

Average number of saving devices installed per household per check



Rate of households who got minimum 1 product

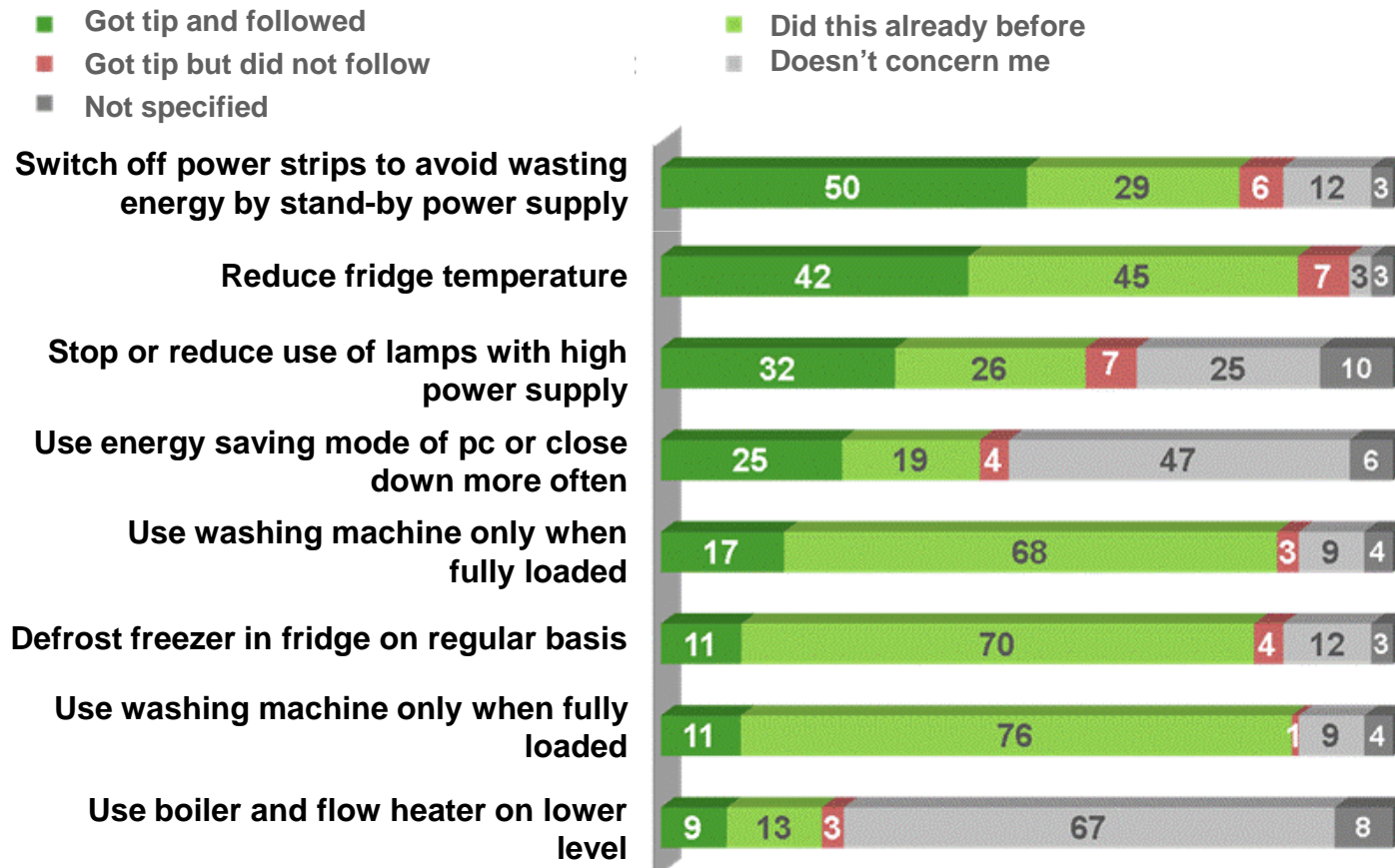
Evaluation of the Cariteam-Energiesparservice

Implementation of tips on saving electricity

Basis: 118

Data in percent

Please tell me which of those you got, which of them you followed or had been following before.



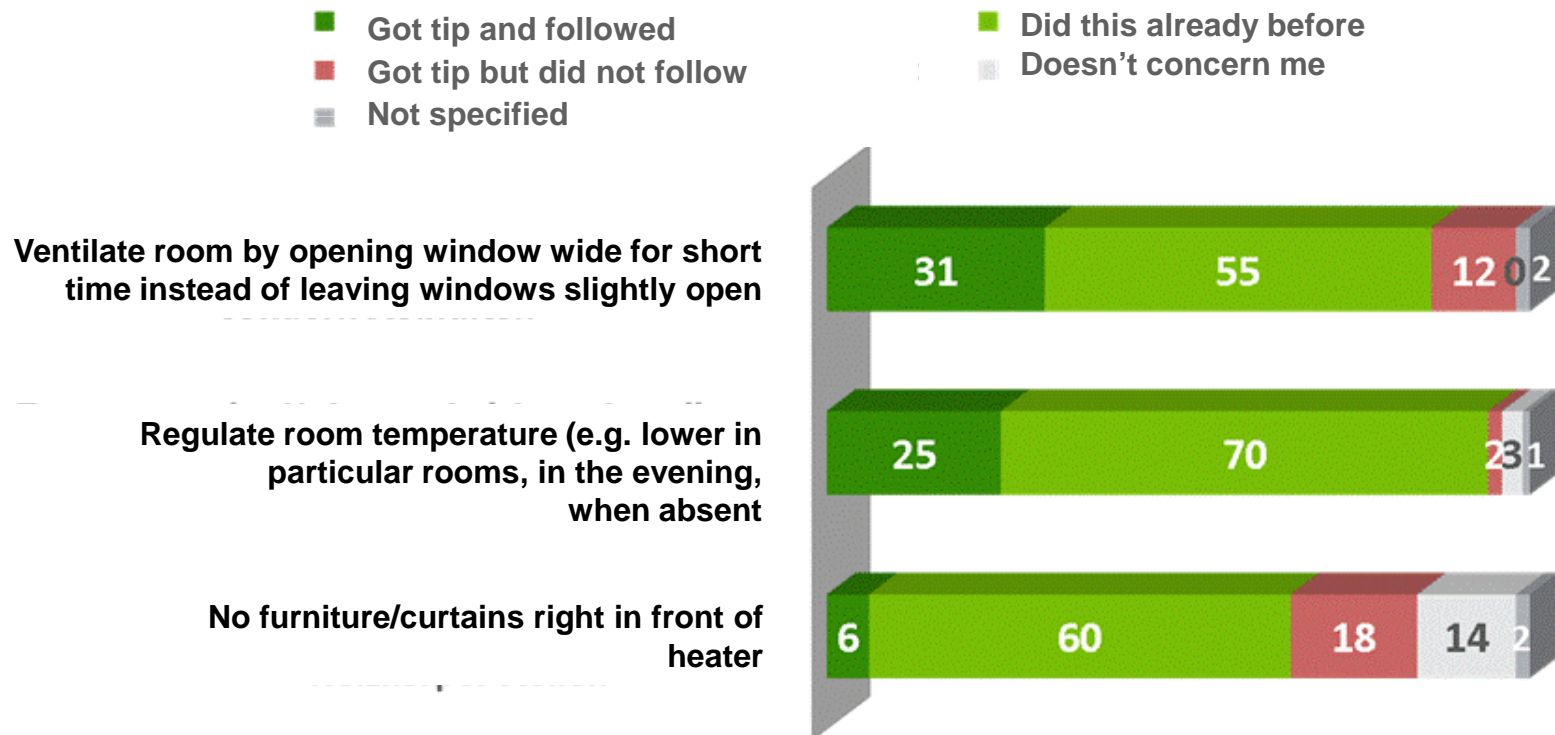
Evaluation of the Cariteam-Energiesparservice

Implementation of advices on saving heat energy

Basis: 118

Data in percent

Please tell me which of those tips did you get, which of them did you follow or had been following before.



Evaluation of the Cariteam-Energiesparservice

		ermittelte Einspareffekte (Durchschnitt)		
		kWh / m³	Euro	CO ₂ (kg)
Einsparungen aufgrund installierter Geräte /Jahr				
durchschn. Stromeinsparung (kWh)		361		
durchschnittl. Wassereinsparung (m³)		17,8		
durchschnittl. Heizenergieeinsparung (kWh)		195		
zusätzliche Einsparung durch Nutzerverhalten /Jahr				
Strom (kWh)		62		
Wasser (m³)				
Heizenergie (kWh)		150		
Summe durchschn. Einsparung pro Haushalt / Jahr				
durchschn. Stromeinsparung (kWh)		422	90 €	259
durchschnittl. Wassereinsparung (m³)		17,8	67 €	
durchschnittl. Heizenergieeinsparung (kWh)		345	17 €	71
			174 €	330
Einsparung über (Lebens)dauer Maßnahme pro Haushalt				
durchschn. Stromeinsparung (kWh)		2.517	536 €	1.543
durchschnittl. Wassereinsparung (m³)		178	669 €	0
durchschnittl. Heizenergieeinsparung (kWh)		2.246	111 €	465
			1.316 €	2.008
Hochrechnung auf 400 Haushalte				
durchschn. Stromeinsparung (kWh)		1.006.752	214.438 €	617.139
durchschnittl. Wassereinsparung (m³)		71.026	267.769 €	
durchschnittl. Heizenergieeinsparung (kWh)		898.536	44.267 €	185.955
			526.474 €	803.094

Average savings per household p.a.

Average savings in total per check

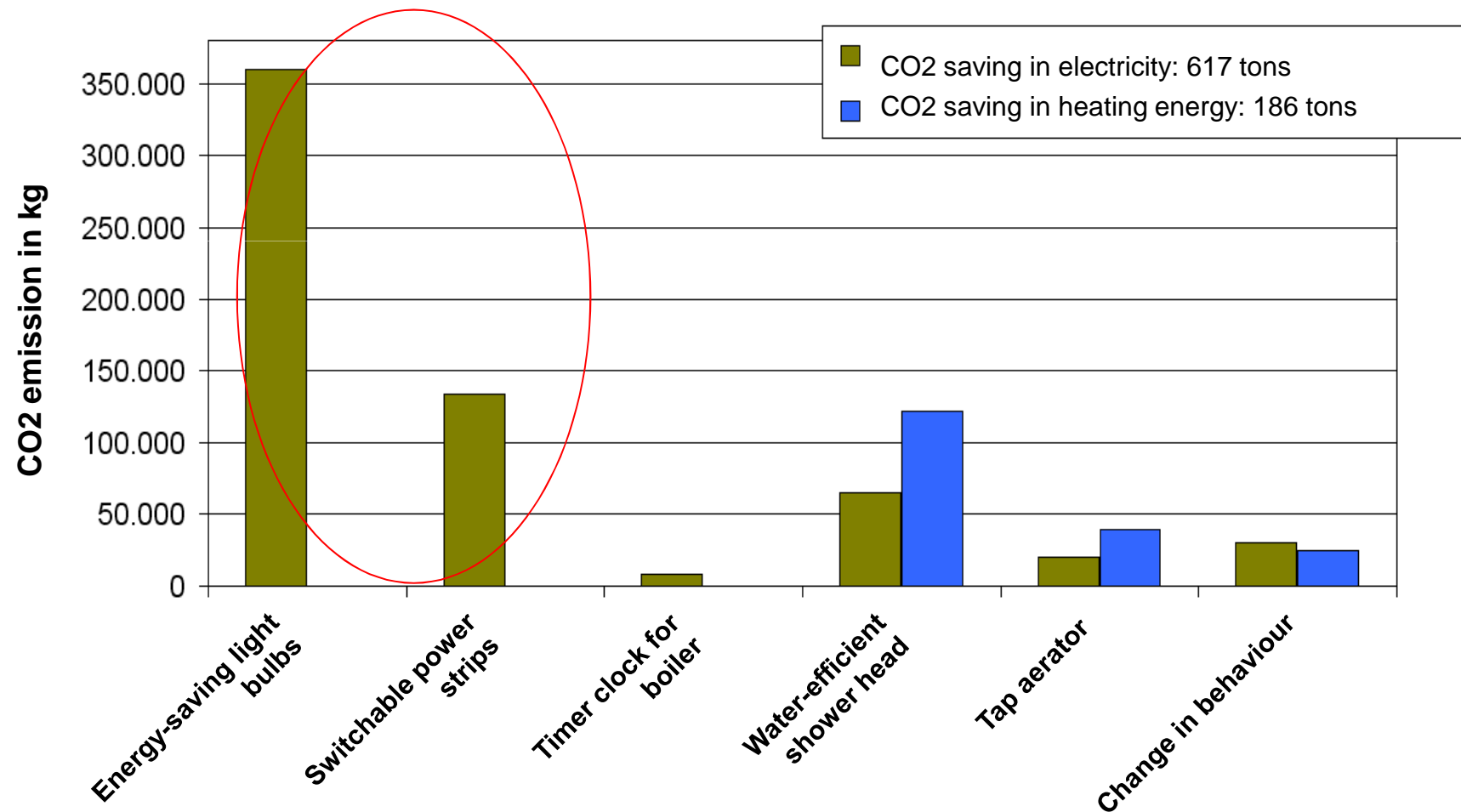
Average savings in CO₂ per check

Total savings for 400 checks

Evaluation of the Cariteam-Energiesparservice

Savings in CO₂ due to saving measures

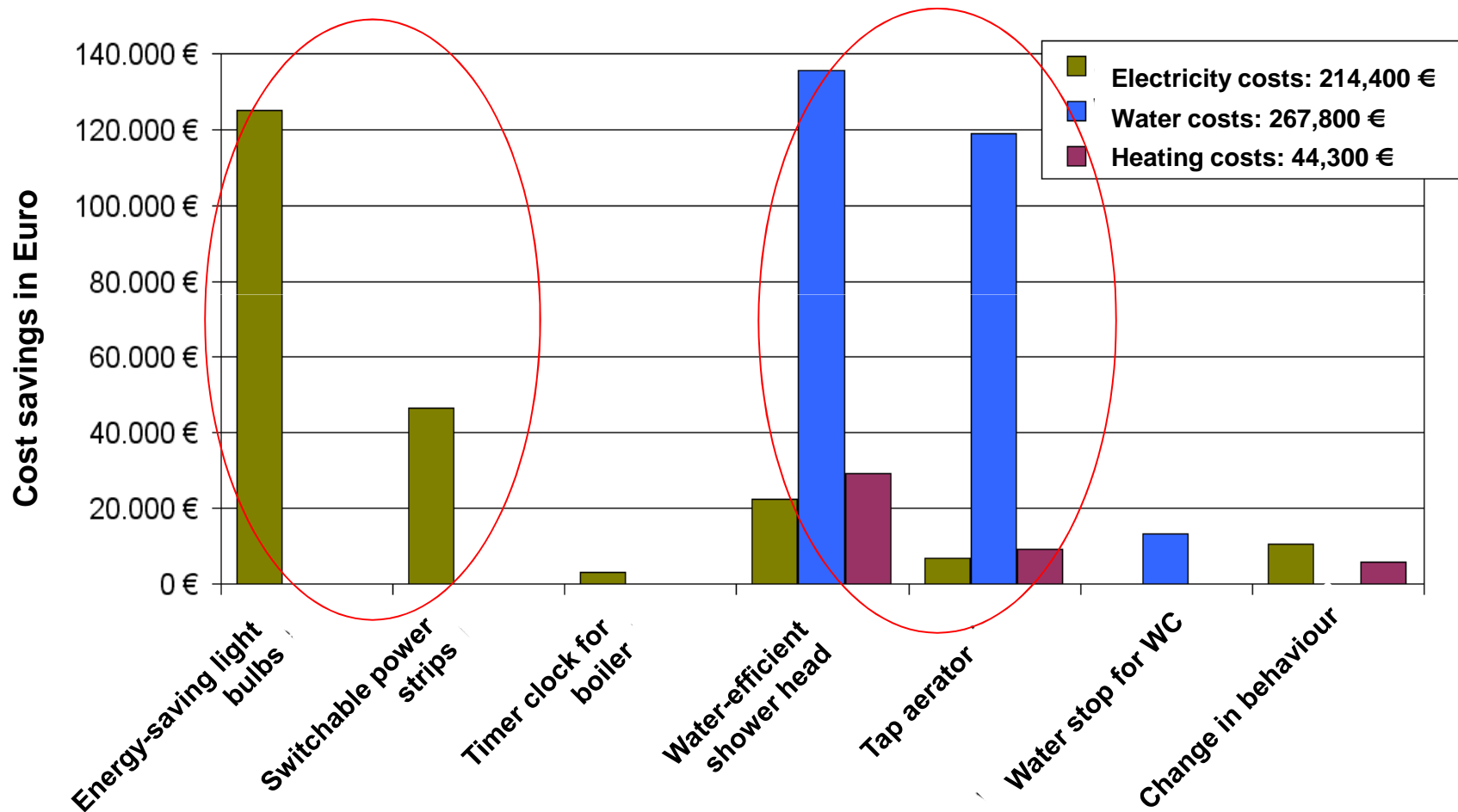
Long-term due to 400 checks by the *Cariteam-Energiesparservice*



Evaluation of the Cariteam-Energiesparservice

Cost savings due to energy and water saving measures

Long-term due to 400 checks by the *Cariteam-Energiesparservice*



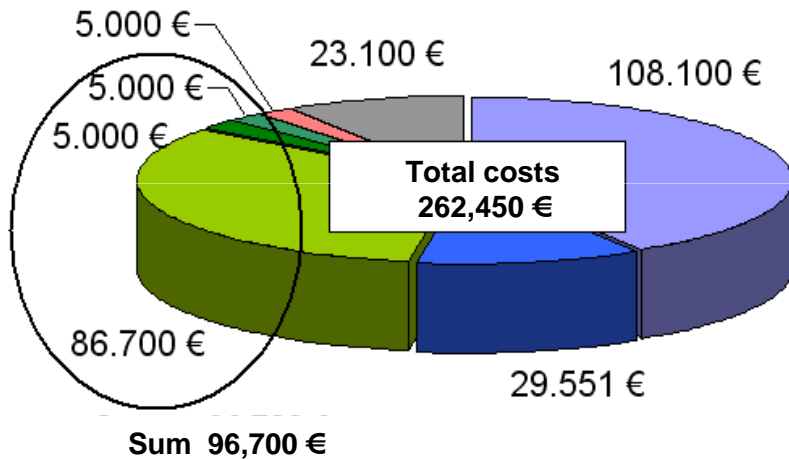
Without consiceration of future increase in prices for energy and water

Evaluation of the Cariteam-Energiesparservice

Costs of the project and savings (cost-benefit-ratio)

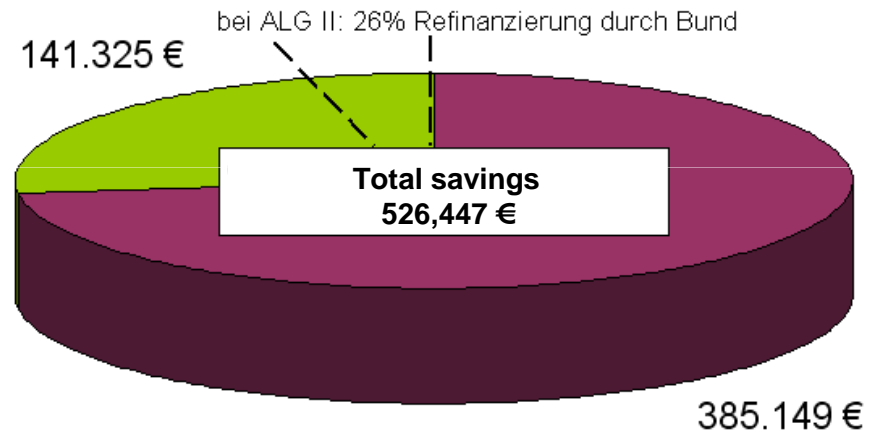
Due to 400 checks in the two years 2007 and 2008

Project costs and funding



- Job centre standard amount for participants
- Job centre MAE (compensation) for participants
- Subsidy Social Services Dept.
- Subsidy Social Welfare Office (saving devices)
- Subsidy Energy Dept. (saving devices)
- Subsidy Mainova (saving devices)
- Other subsidies

Savings in households after check and for the City of Frankfurt (long-term)




- Total savings households
- Total savings municipality

- Co-funding by municipality: 96,700 €
- Savings for municipality: at least 113,00 €

Factors for Success

- **New Cooperation** of actors from different backgrounds:
 - social services (job centres, social departments, welfare organisations, etc.),
 - actors from environmental area and energy suppliers (energy departments and agencies, energy supply companies)
- The Energiesparservice is **regarded as a social offer** rather than an ecological offer, the **priority is on saving money**
- Installation of high-value water and energy saving devices **for free** and advice on how to save energy at one's own home
- Caritas as a well-known welfare organisation is independent and trustable
- Approach via familiar ways of communication (information e.g. in job centres, housing offices)
- Service consultants share the experiences of the target group (advice on "eye level")
- Integration of water saving measures leads to savings for municipalities

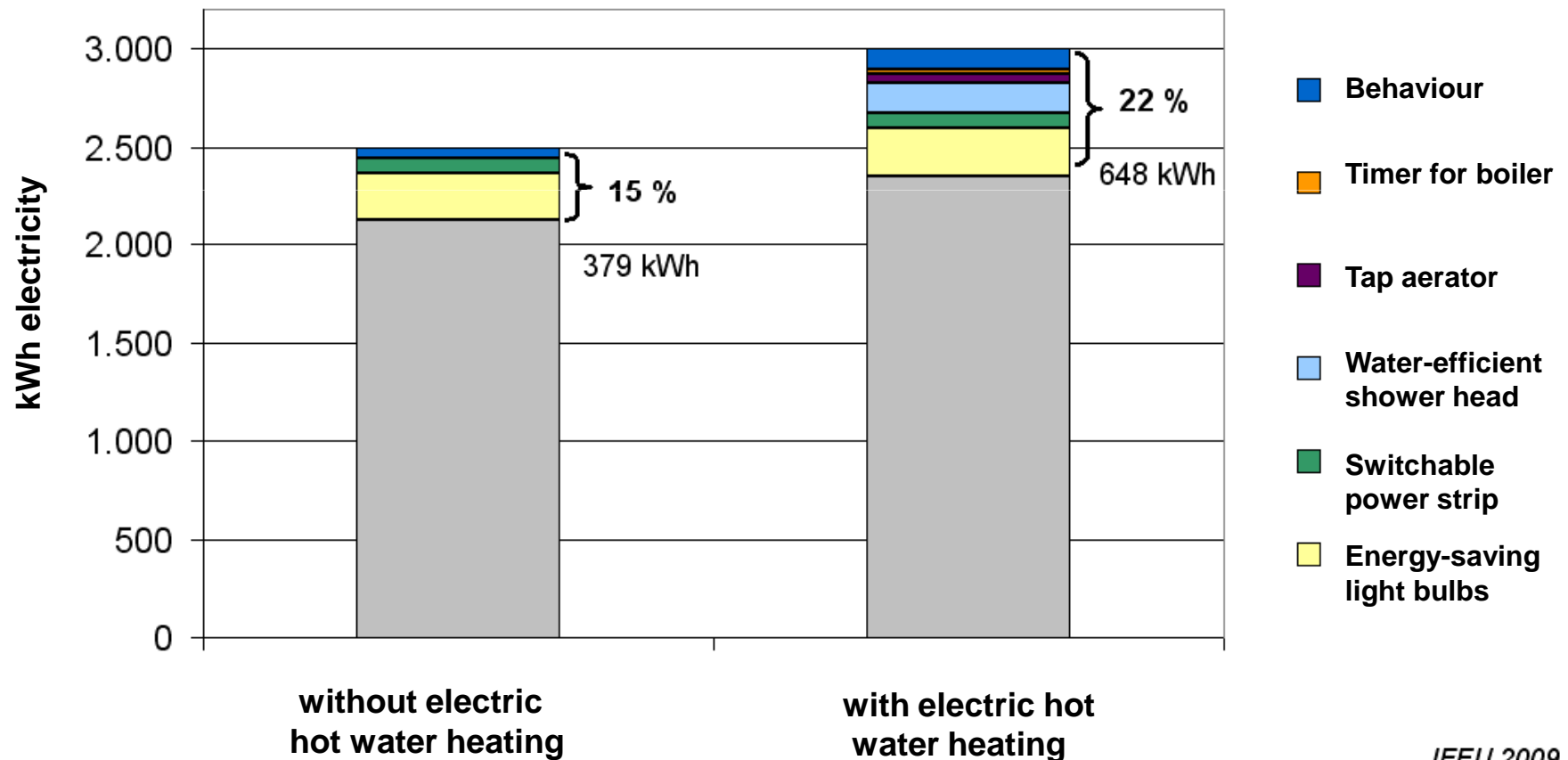


**Thank you very much
for your attention**

marlene.potthoff@caritas-frankfurt.de
elke.duennhoff@caritas-frankfurt.de

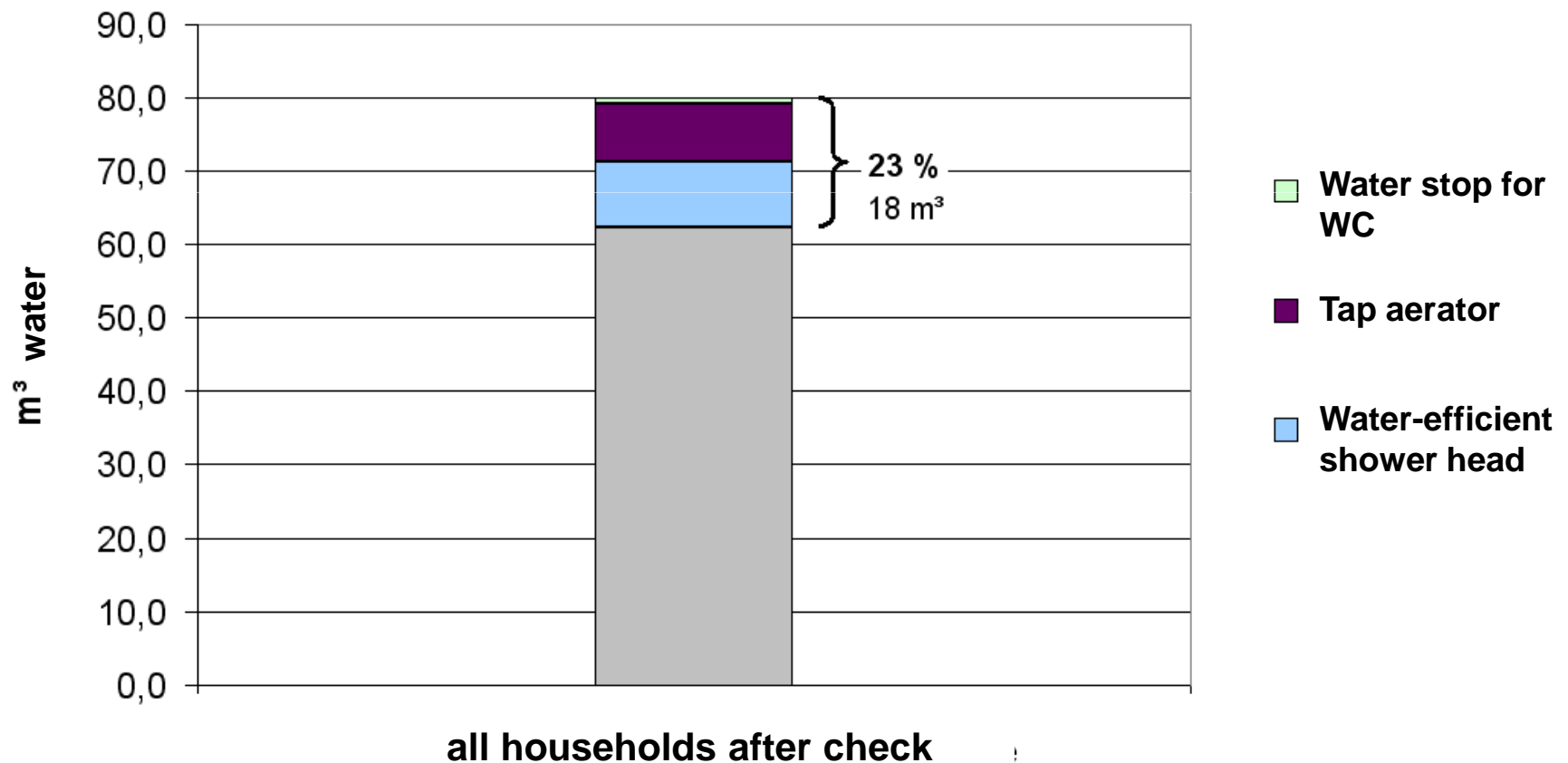
Evaluation of the Cariteam-Energiesparservice

Average yearly savings in electricity per household Due to installing saving devices and behaviour changes



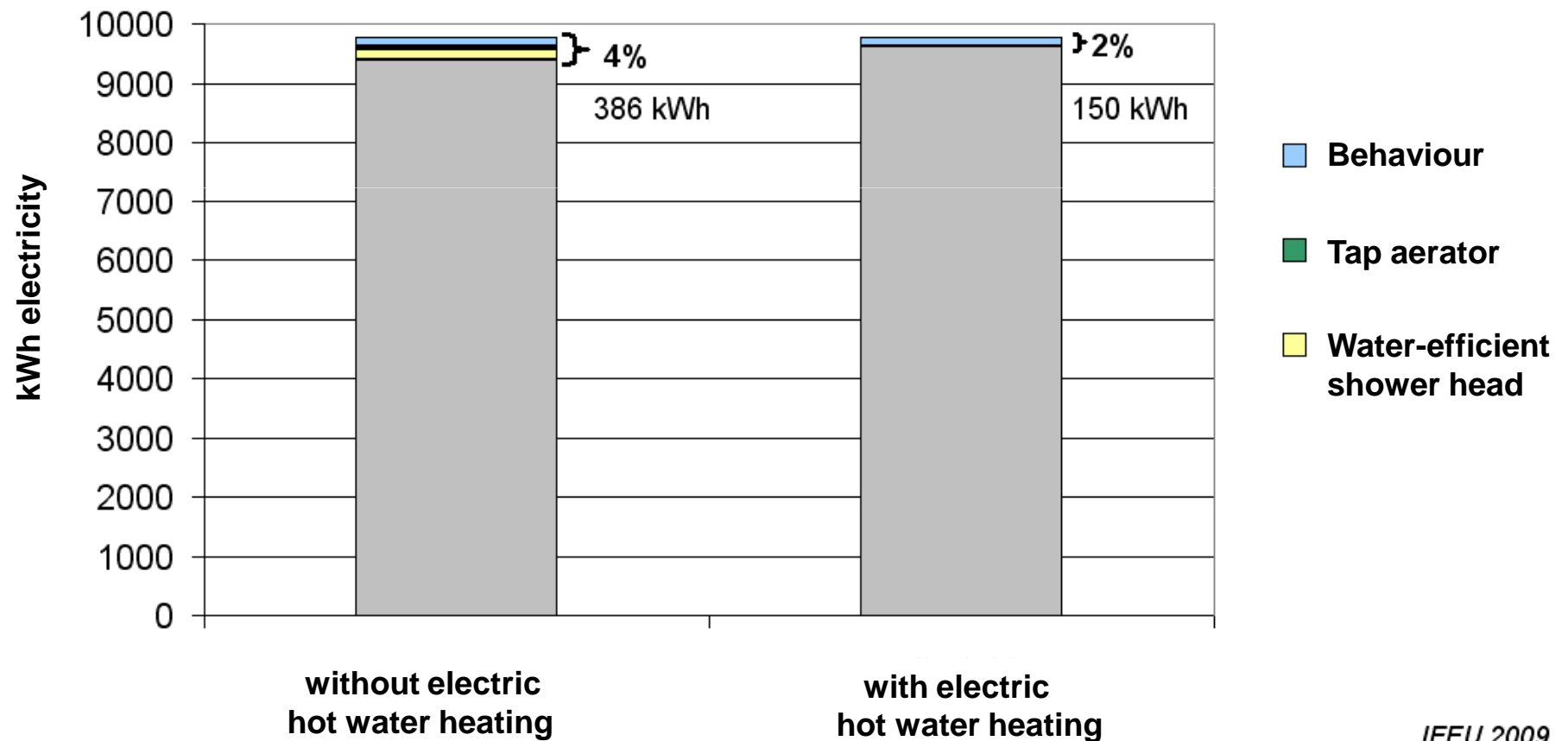
Evaluation of the Cariteam-Energiesparservice

Average yearly savings in water per household Due to Installing saving devices



Evaluation of the Cariteam-Energiesparservice

Average yearly savings in heating per household Due to installing saving devices and behaviour changes



Evaluation of the Cariteam-Energiesparservice

Summary of Results

- Target group of low-income households is reached, approx. 30 % have immigration background
- Every check results in savings on average of **174 €** per year; people receiving *ALG II-/Sozialhilfe* save proportionately **90 €** in electricity
- In the long term, over useful life of devices, there will be savings of more than **1,300 €** (incl. approx. **540 € on electricity**) per check and **2 tons of CO₂**
- Learning and multiplier effects will be gained
- Total of savings is about twice as high as costs of the project
- Co-funding by the City of Frankfurt will be cost-effective in the long term due to the savings in water and heating
- Climate protection is an additional positive side effect

Evaluation of the Cariteam-Energiesparservice

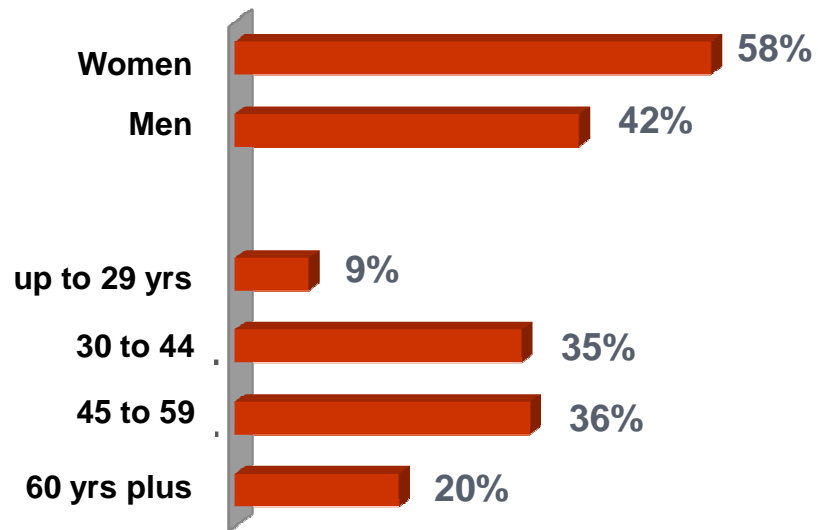
Comments on the report:

- Many households thought the report included too many details and was not easy to understand. Above all, they criticised length and presentation of results:
 - „Too much information, not easy to understand, shorter would be better“
 - „Too many numbers, difficult to understand“
- Information should be kept short and simple, results should be presented more clearly.
- In general, households preferred oral explanation to written report:
 - „Less paper, a personal conversation is nicer.“

Socio demographics of households

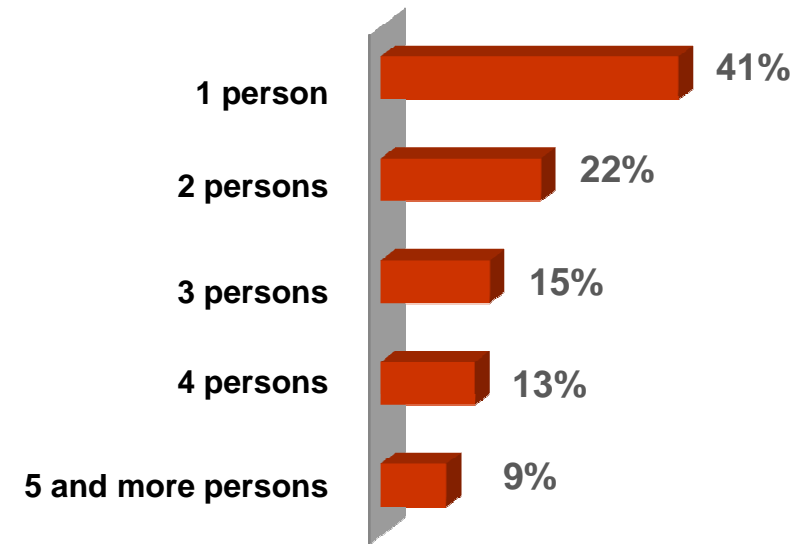
Basis: 118

Sex and age



→ women are more interested in getting advice and feel more responsible for energy saving

Size of household



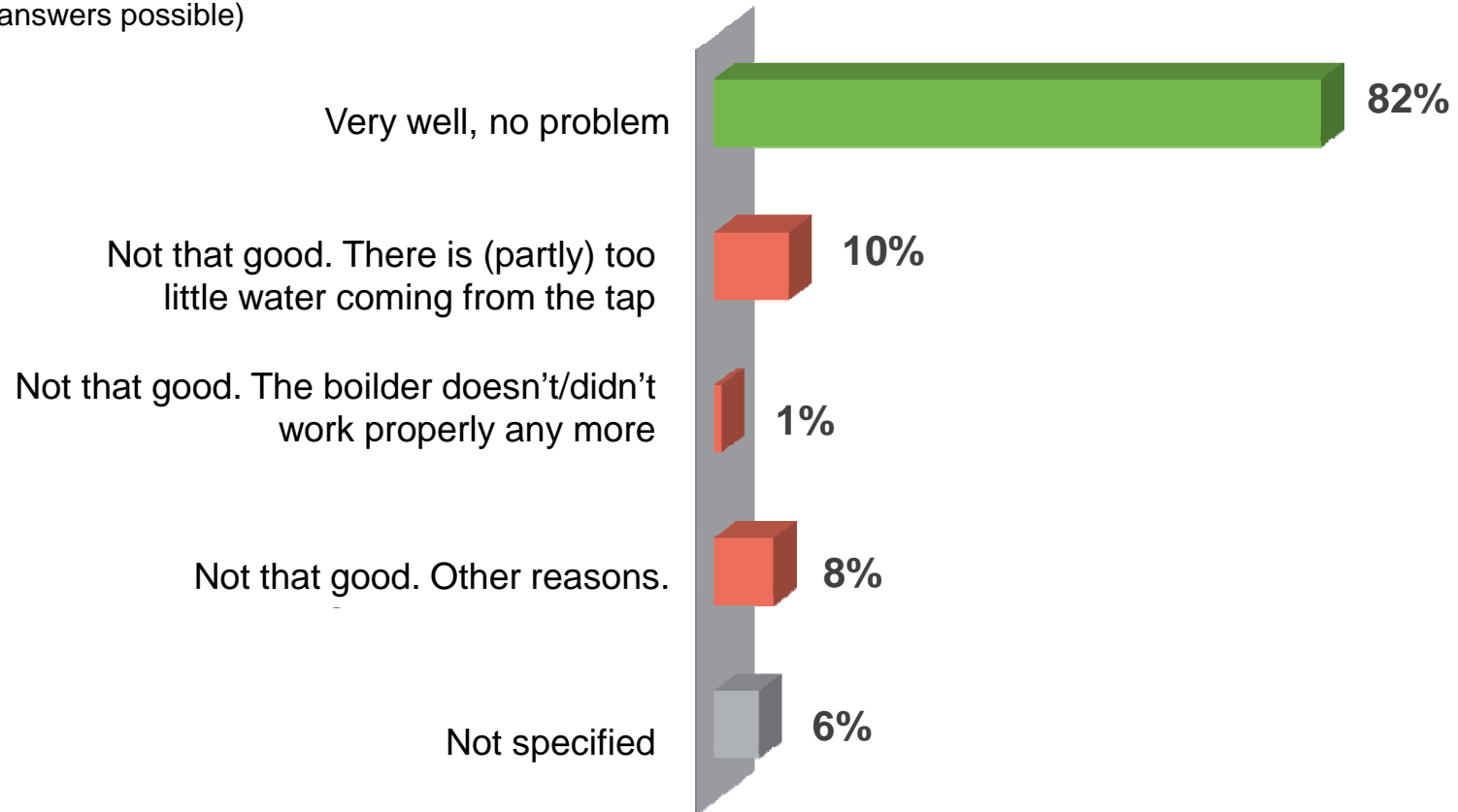
→ average size of household: 2,27 persons +

→ a disproportionate number of households with 3 and more persons have a migration background

Use of water saving devices installed

Basis: 100
Filter: all households in which water saving devices had been installed
(Multiple answers possible)

Are those water saving devices installed easy to use, do you get along or is there something that you do not like? (aided question)

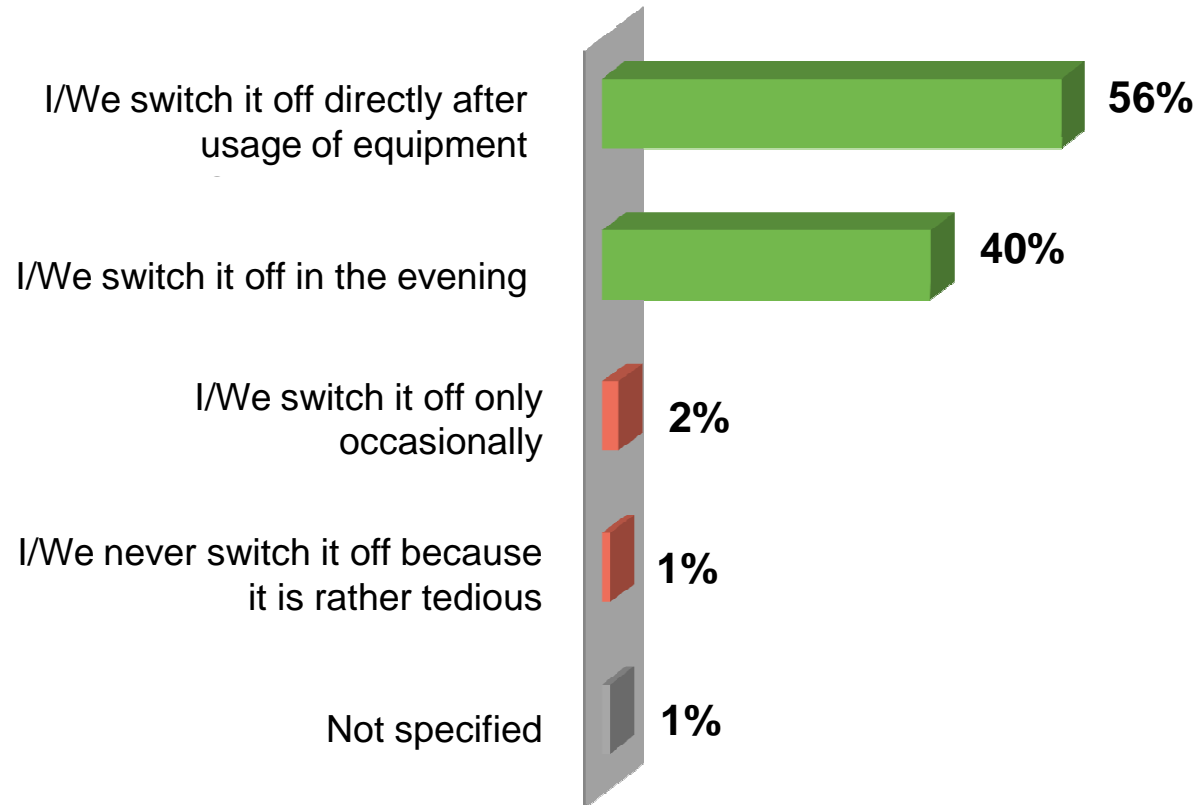


Use of switchable power strips installed

Basis: 84

Filter: all household which got a switchable power strip

How often do you switch off your power strip? (aided question)



Evaluation of the Cariteam-Energiesparservice

Long-term cost savings in the City of Frankfurt due to Cariteam-Energiesparservice in two years

