

Innovative Energy Management System with User-feedback

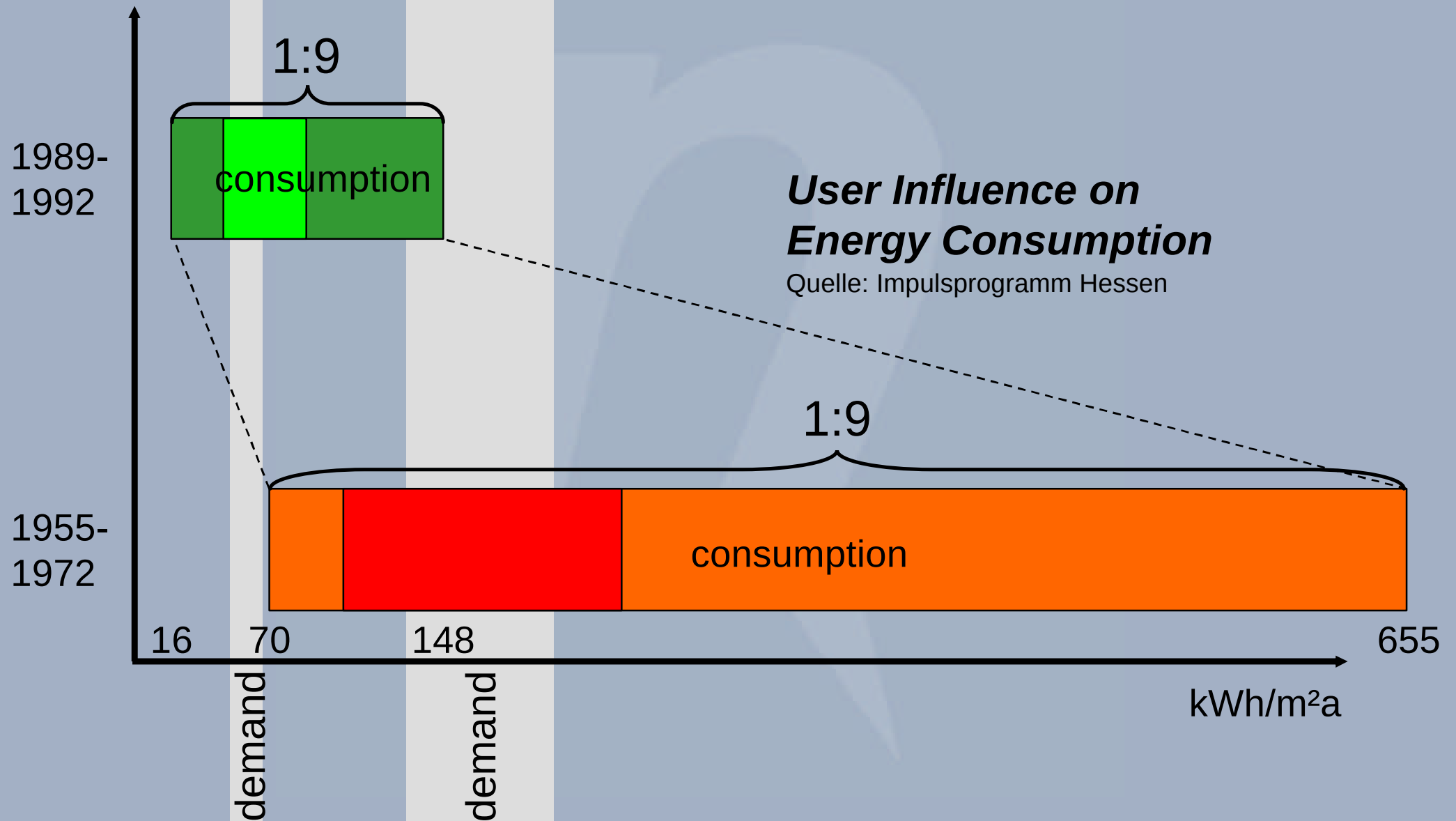
Ingo Stadler

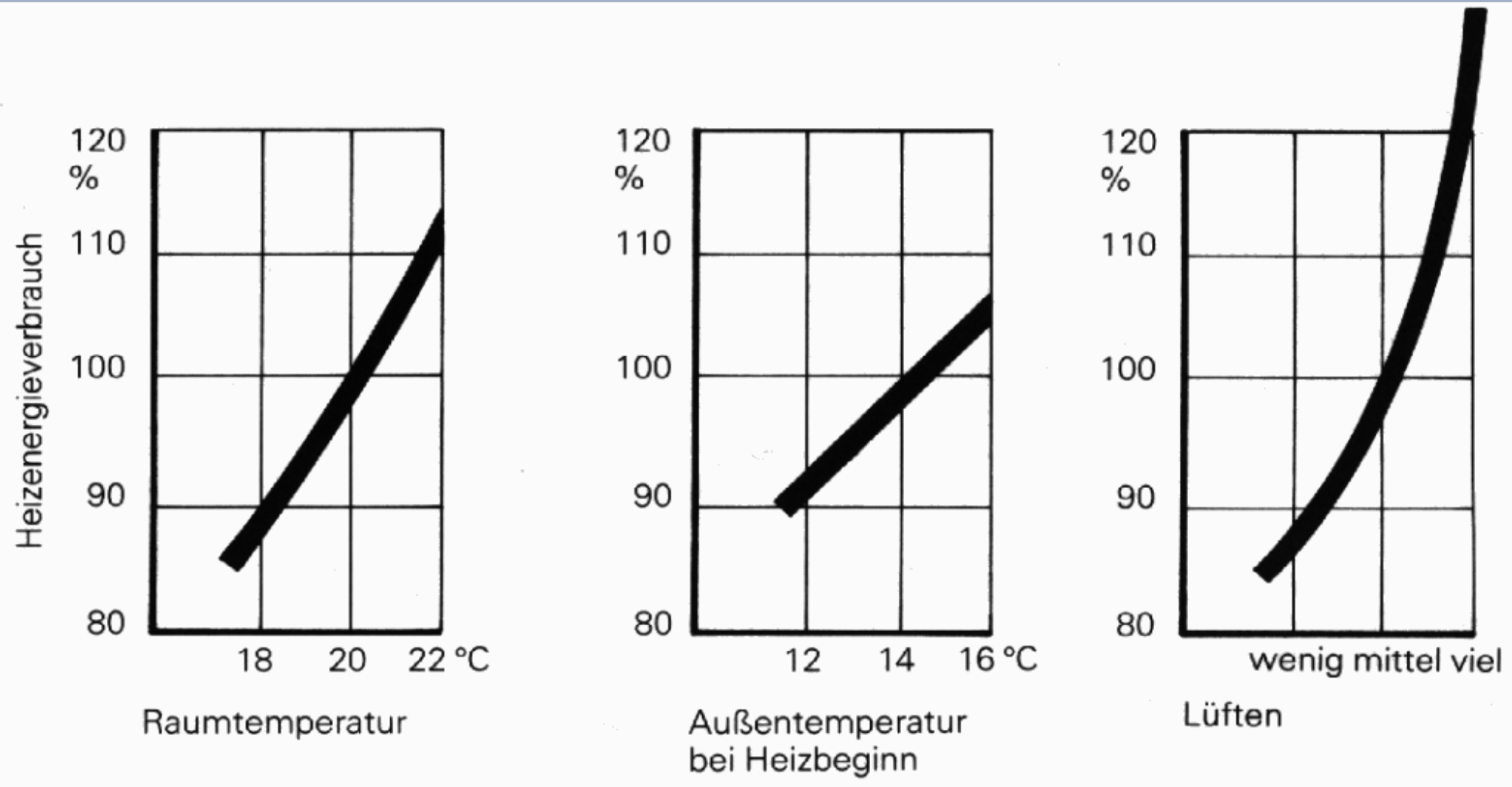
Sascha Beverungen

Saša Bukvic-Schäfer

Why are we talking about user feedback methods?

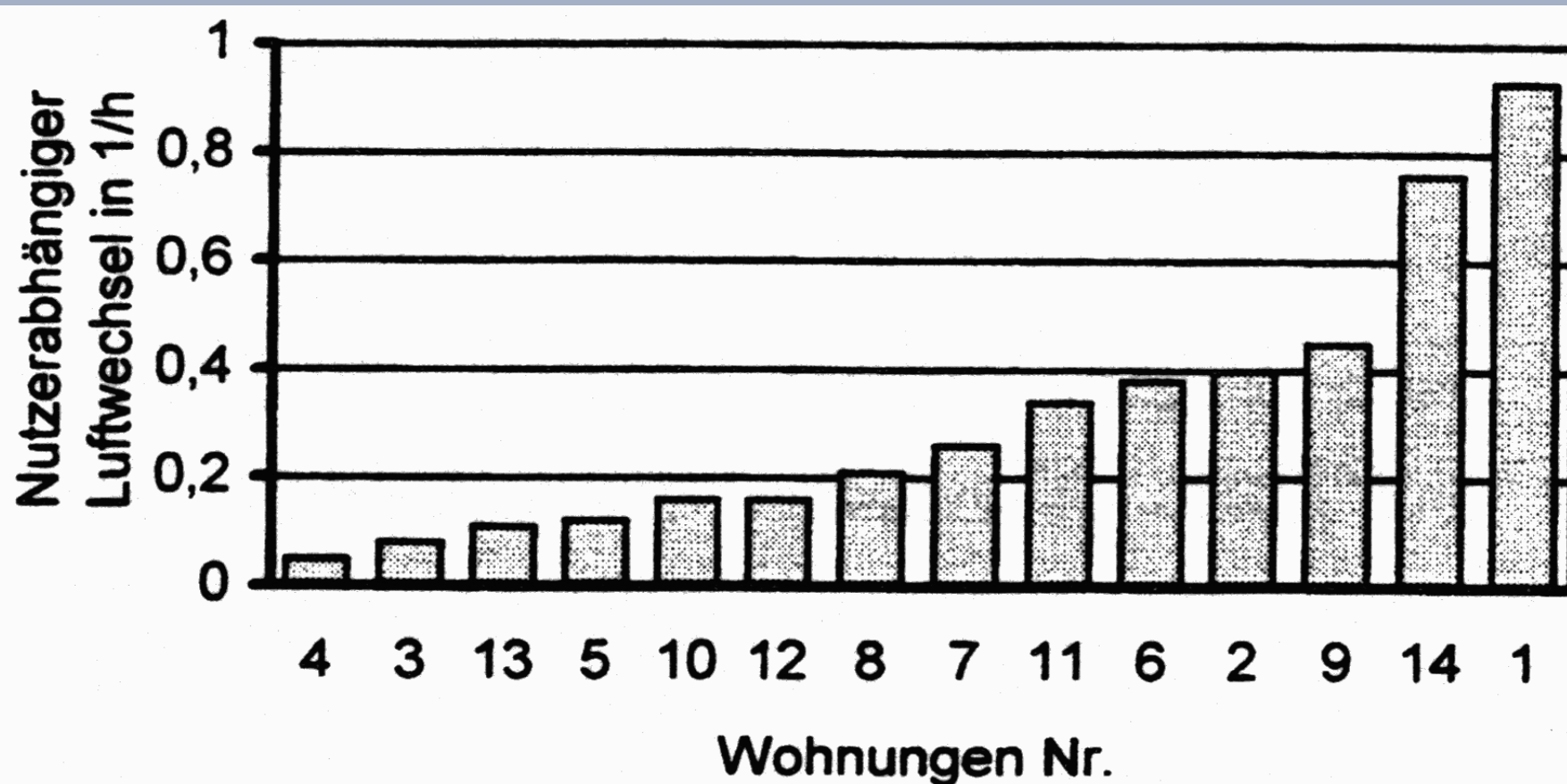
Motivation





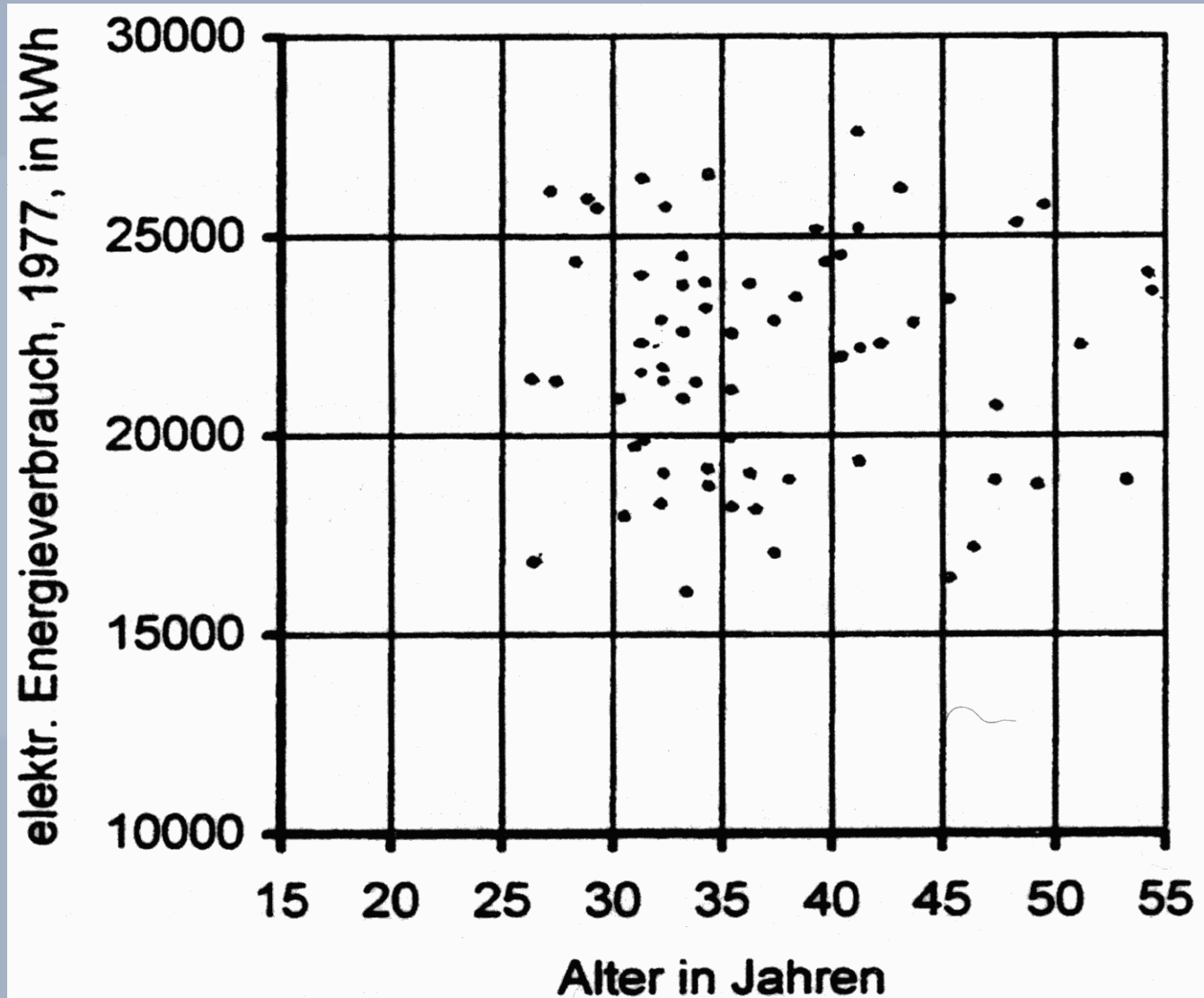
Ventilation
rates through
windows

Investigation
of 14 flats



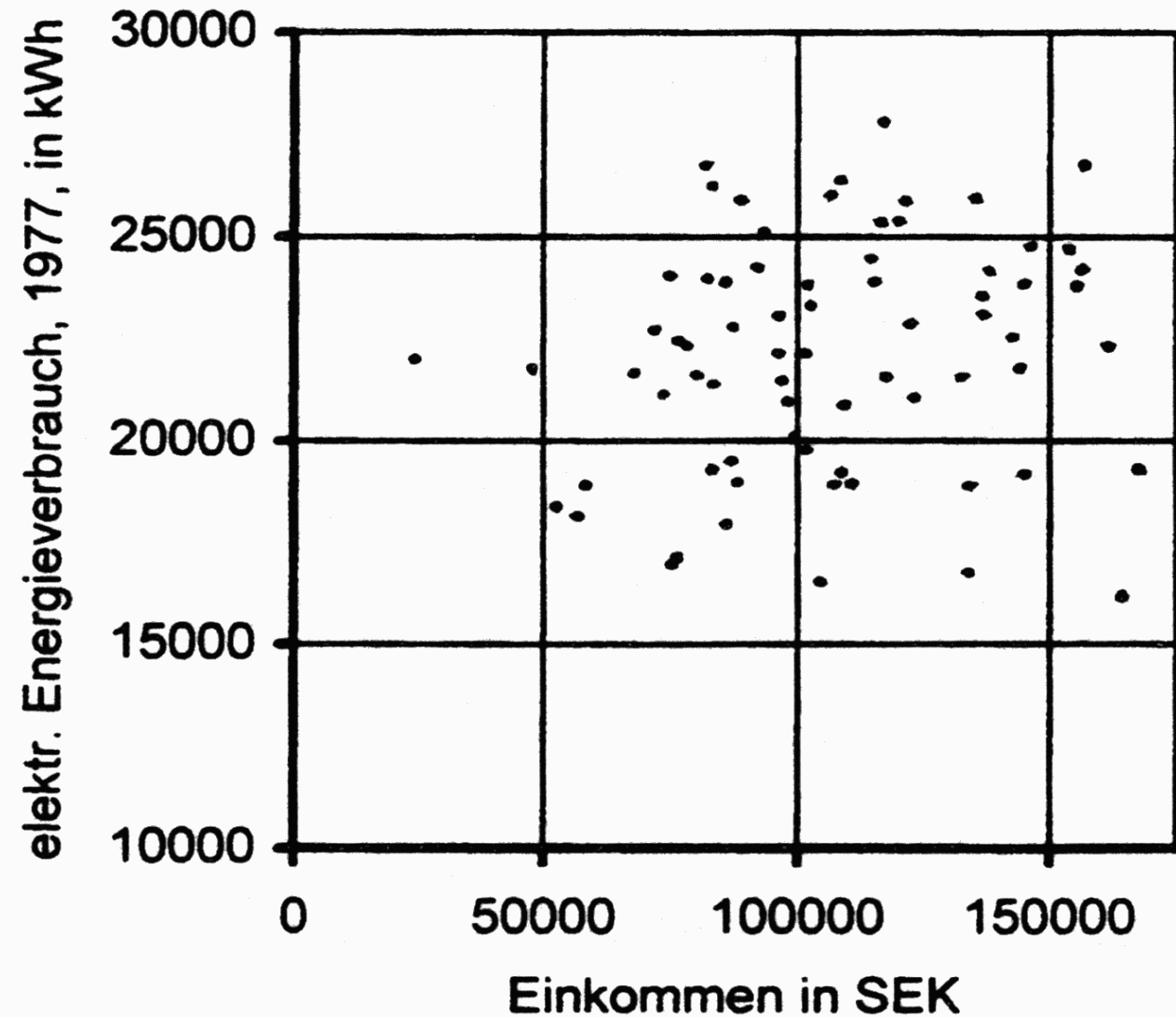
78 buildings

Do older people need more energy than younger?



78 buildings

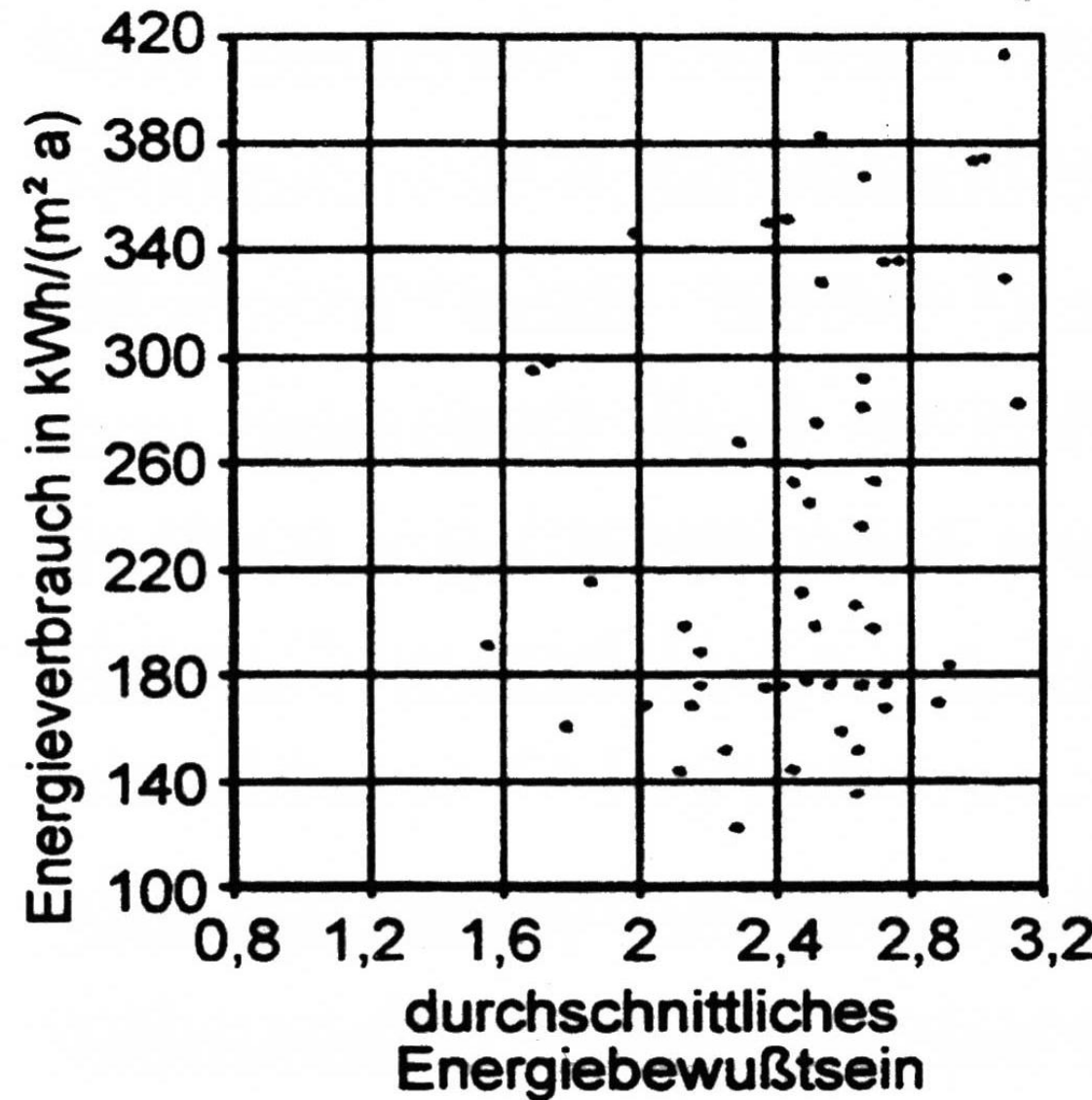
Do rich people not care about energy consumption because they can afford higher energy bills?



78 buildings

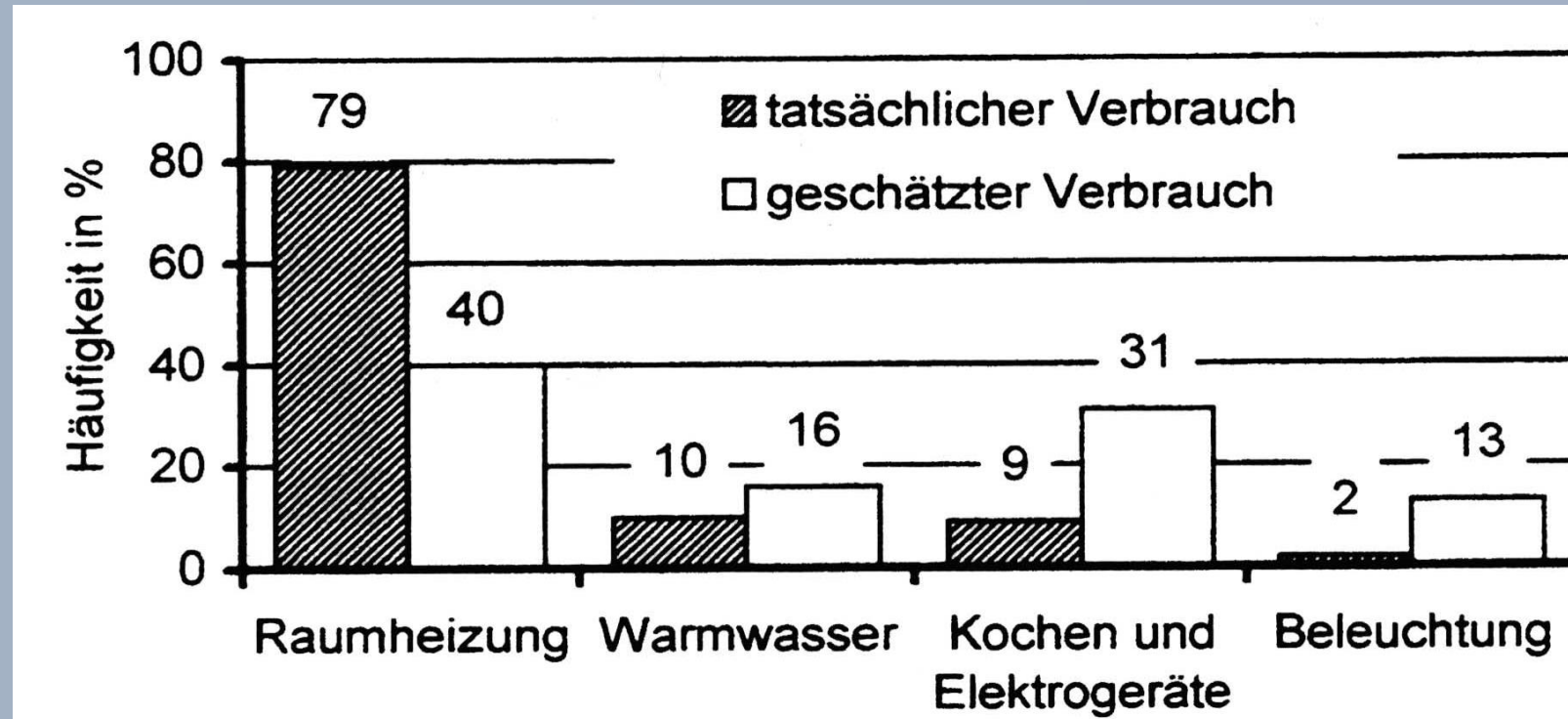
Do people who assess themselves as energy conscious use less energy?

What an astonishing result!



Heat is generally underestimated

Lighting and electrical equipment is generally overestimated

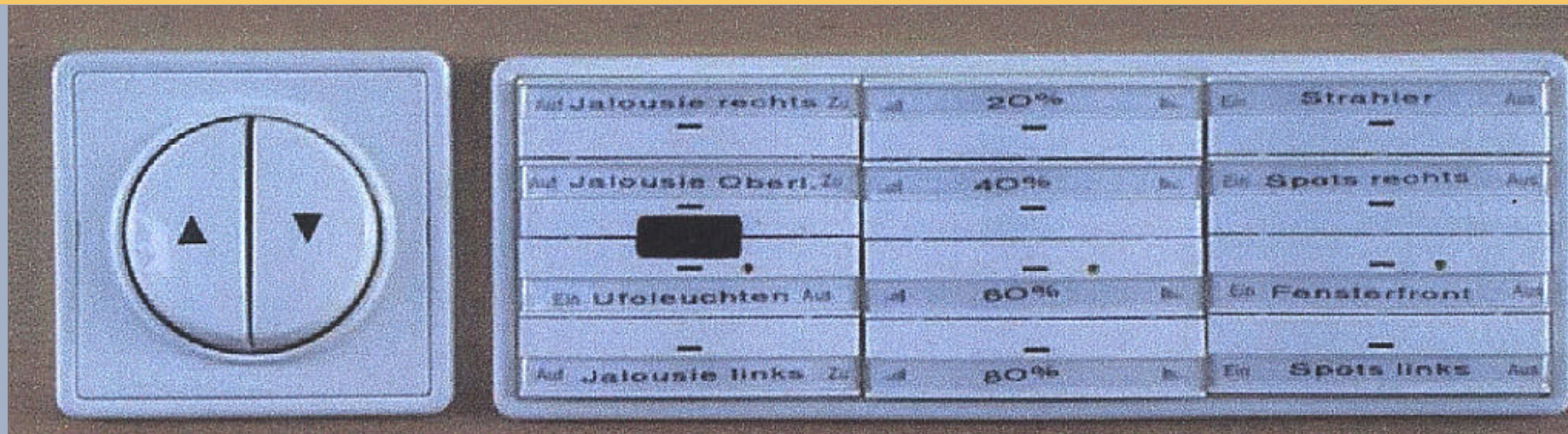


Conclusion:

We have to provide the user with a feedback

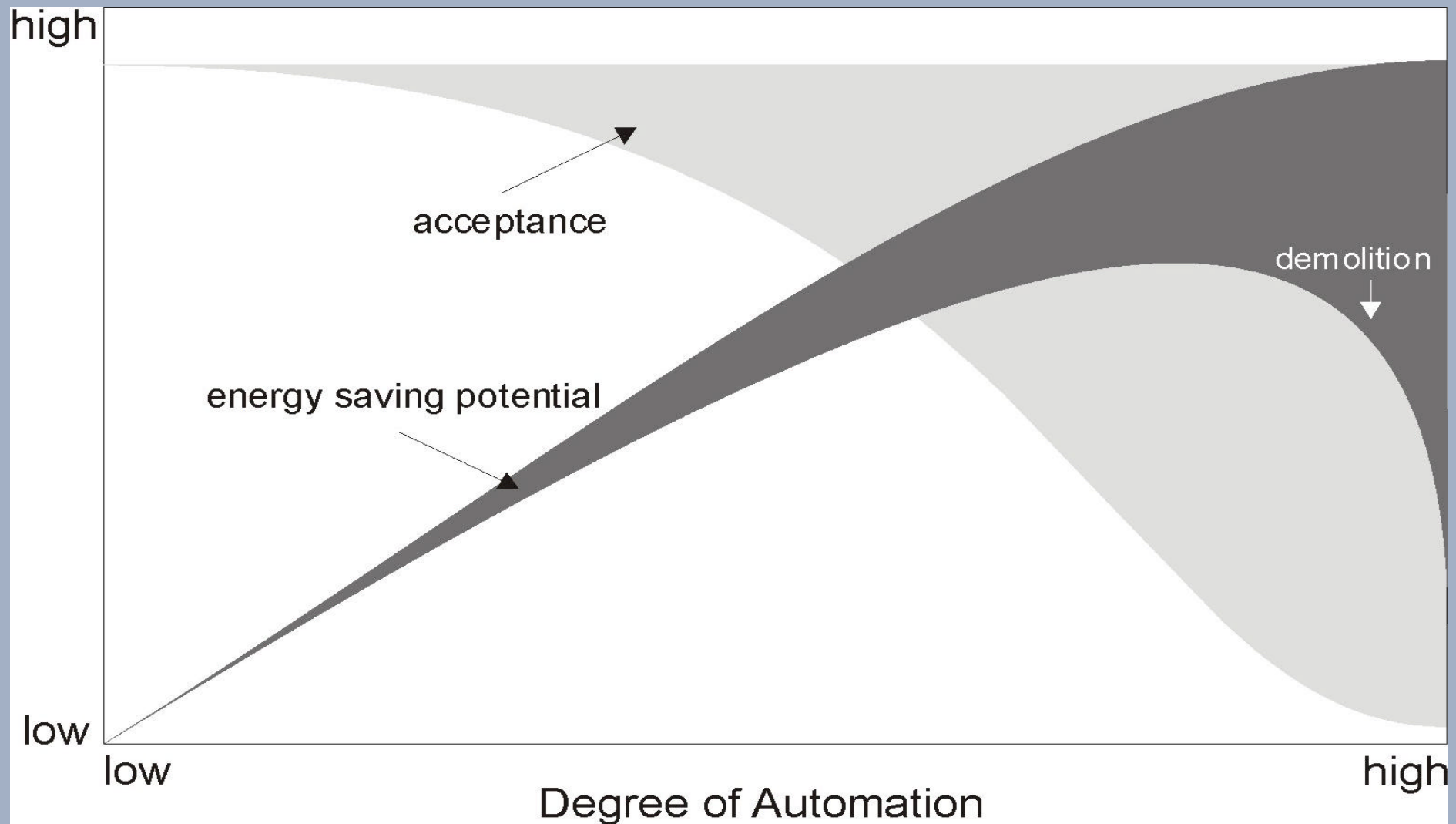
... about his/her energy consumption

... about his/her user behaviour

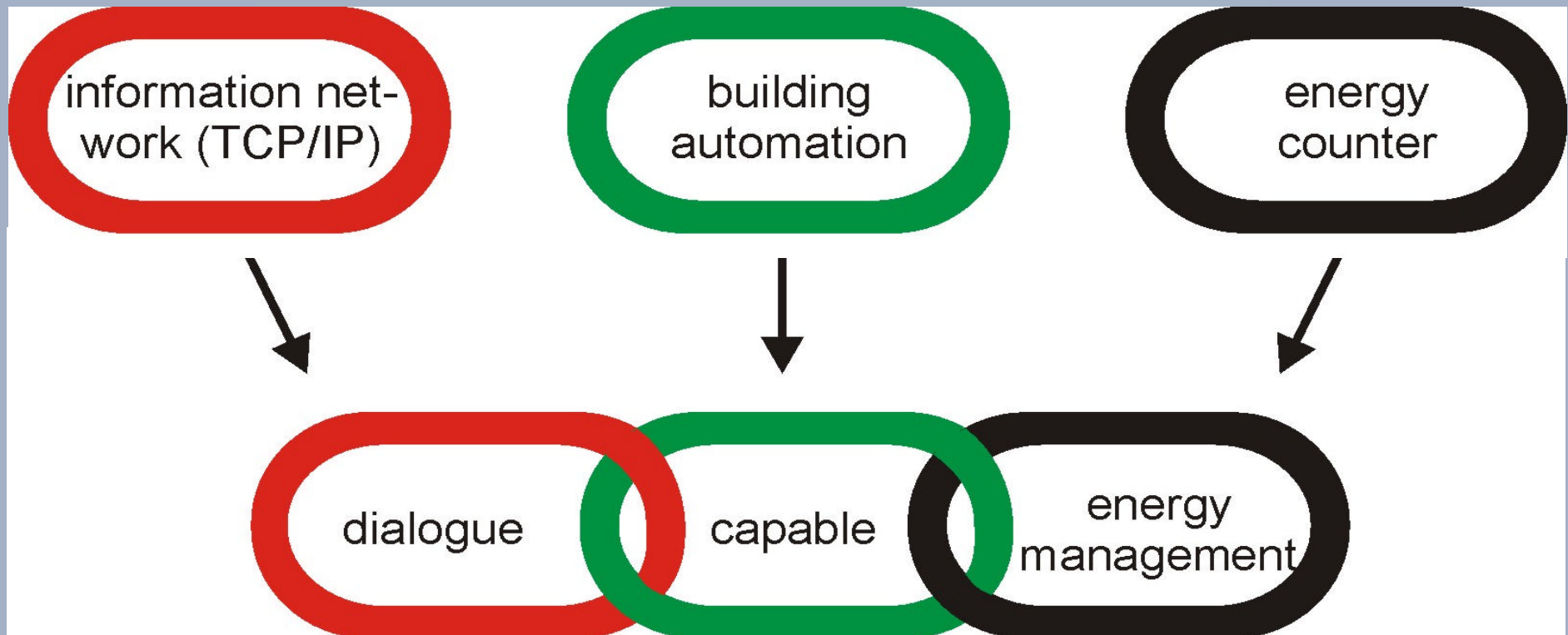


Building automation has the means to restrict user influence on energy consumption and to provide high comfort levels

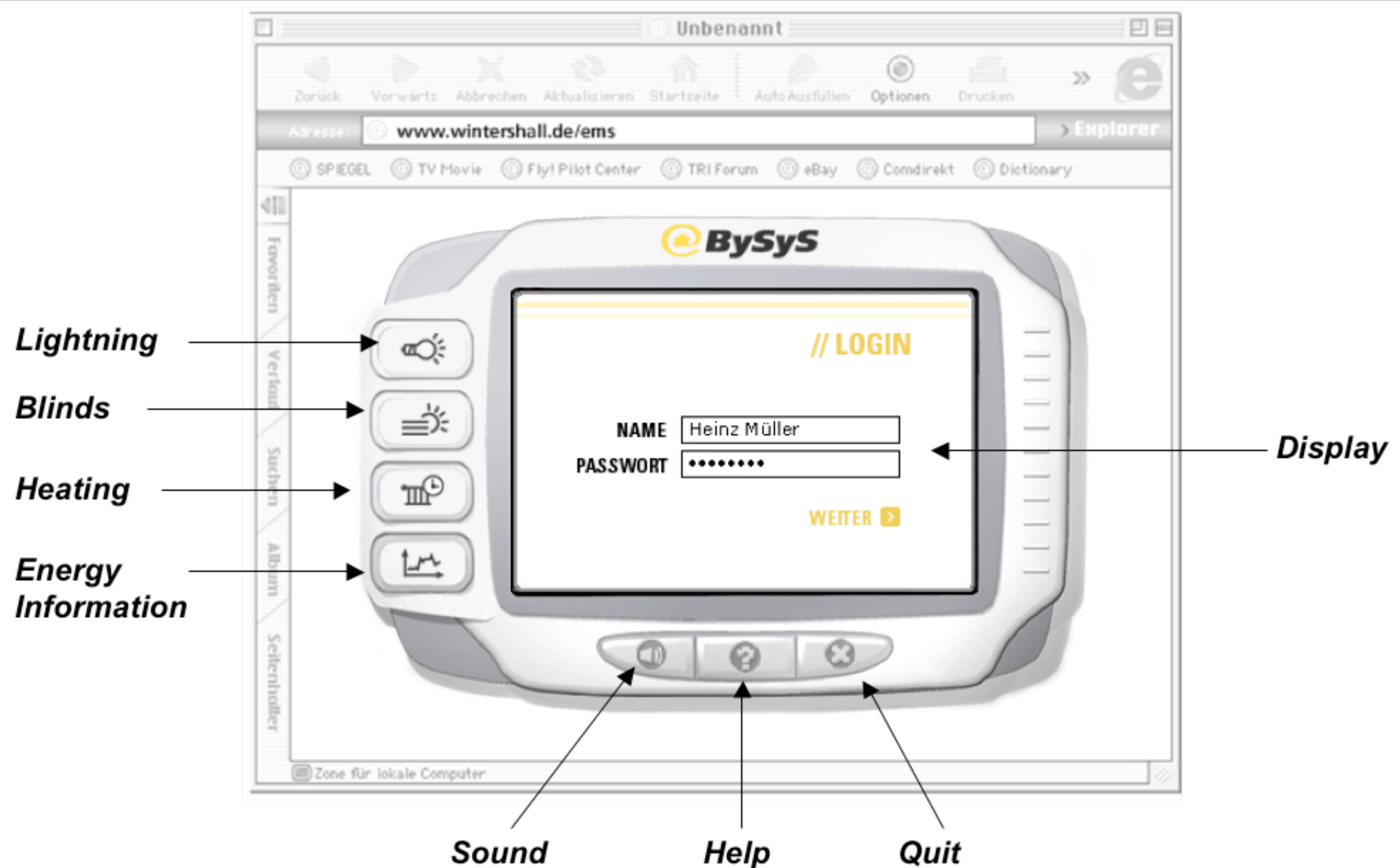




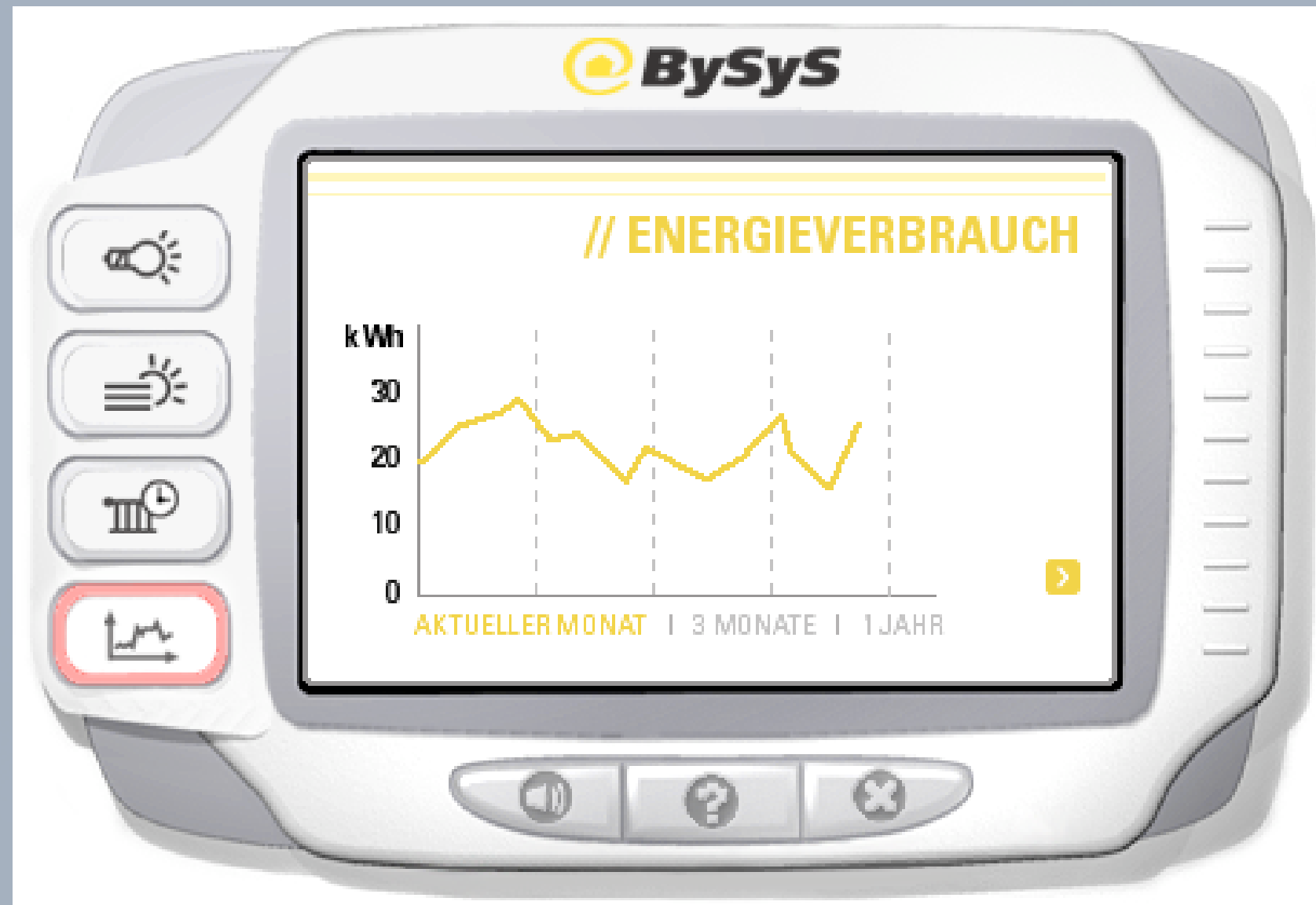
The user does not accept loss of authority !

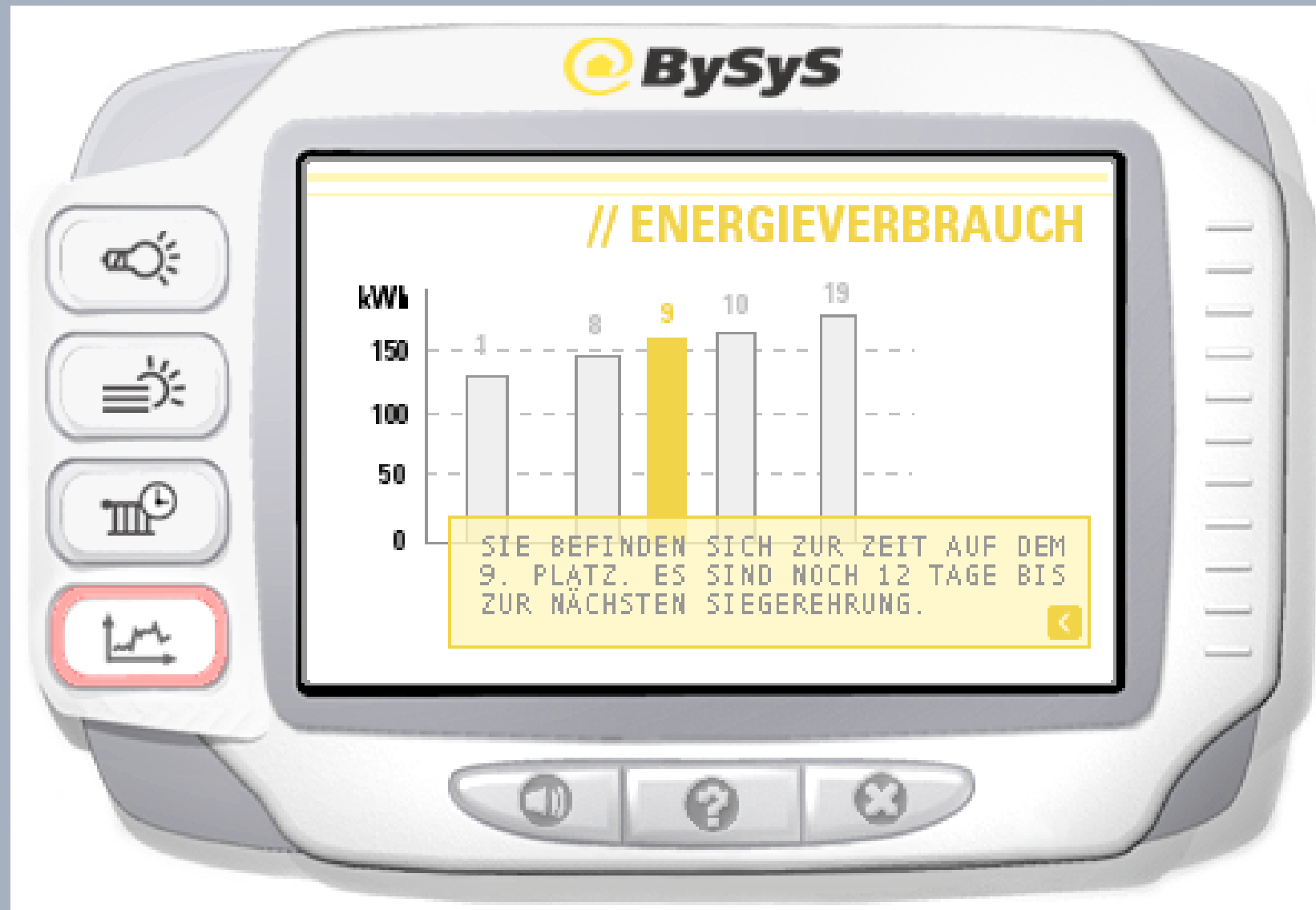


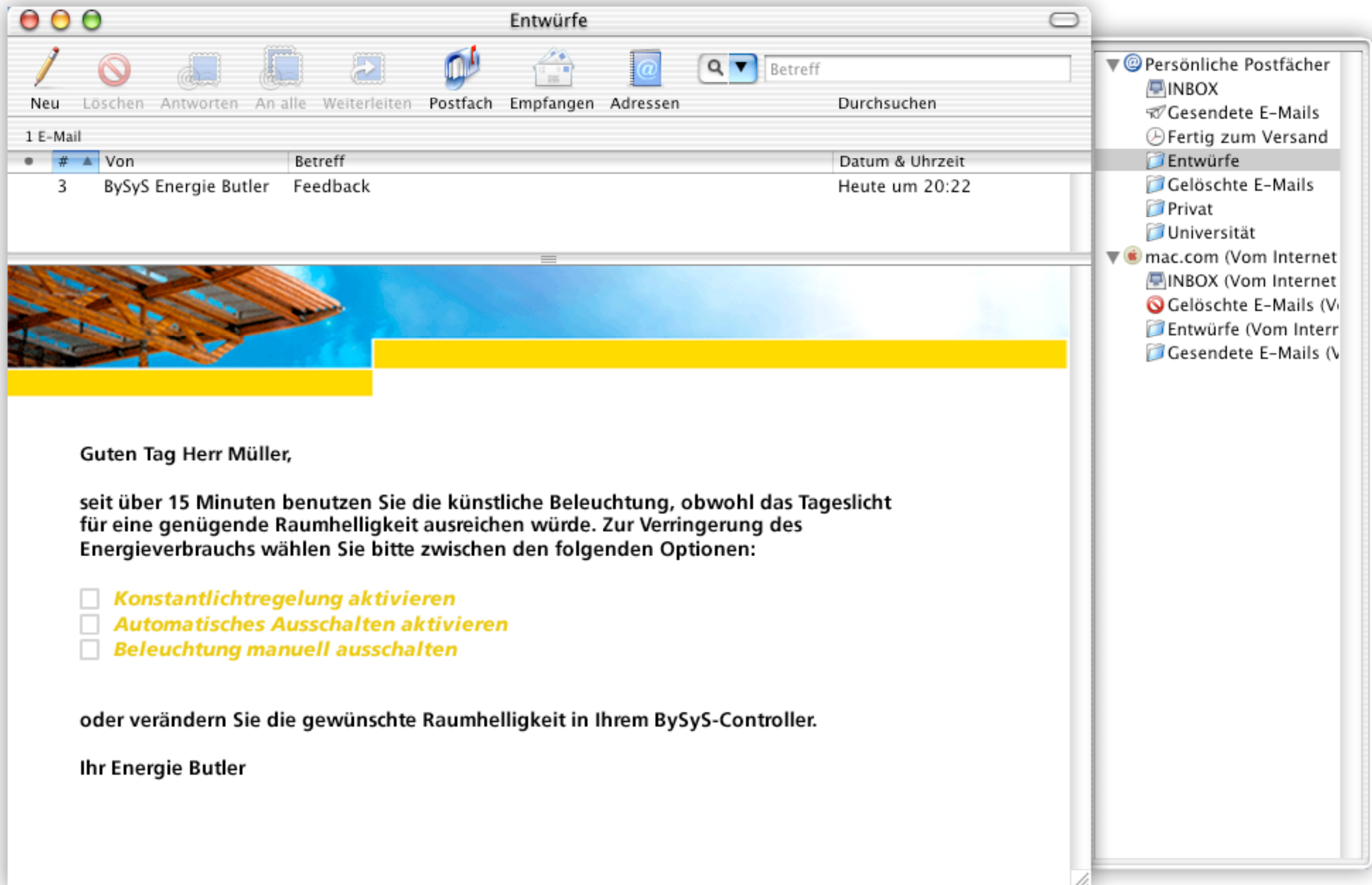
web-based user feedback methods
for
single and multi-occupancy spaces





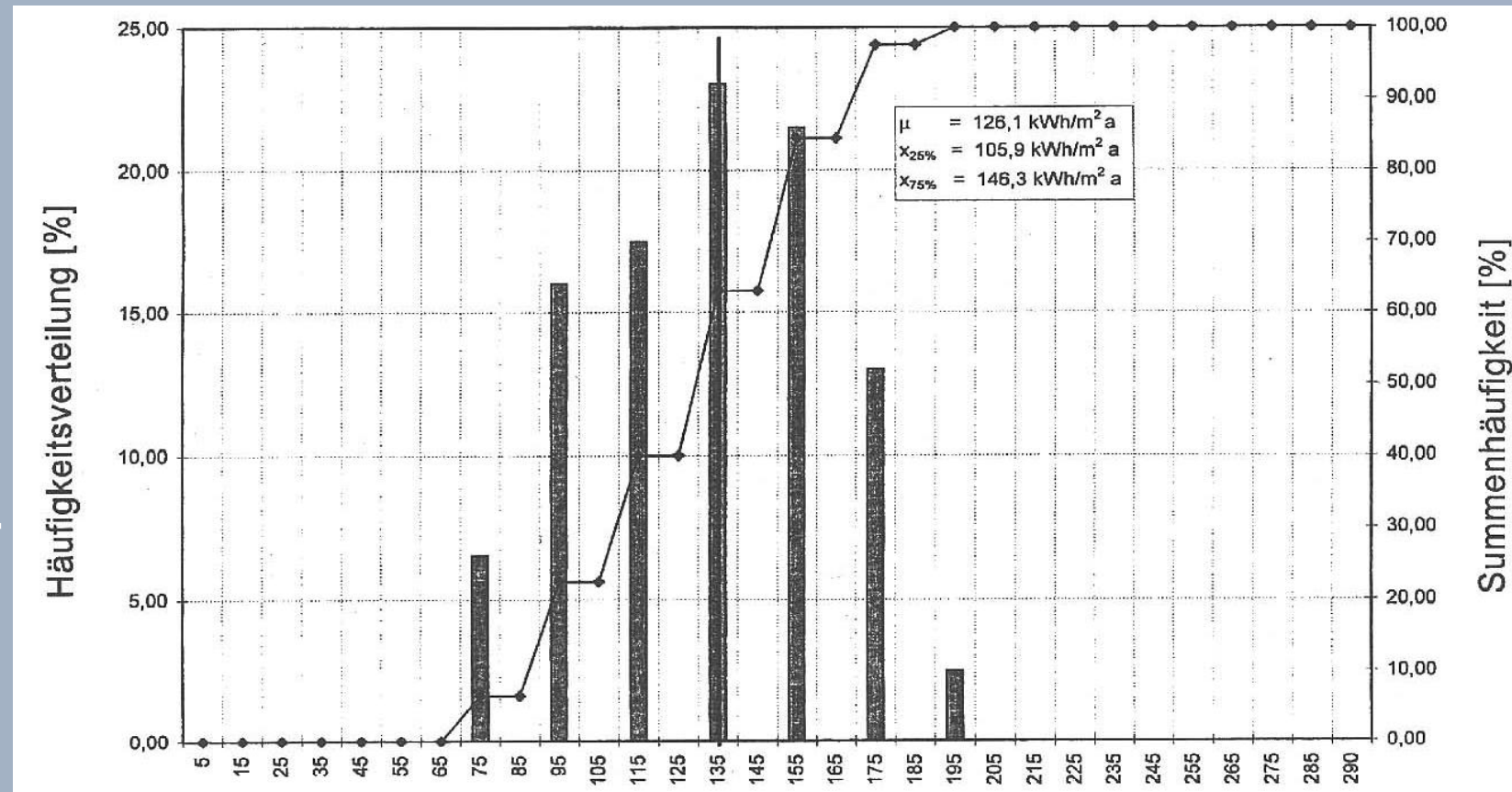






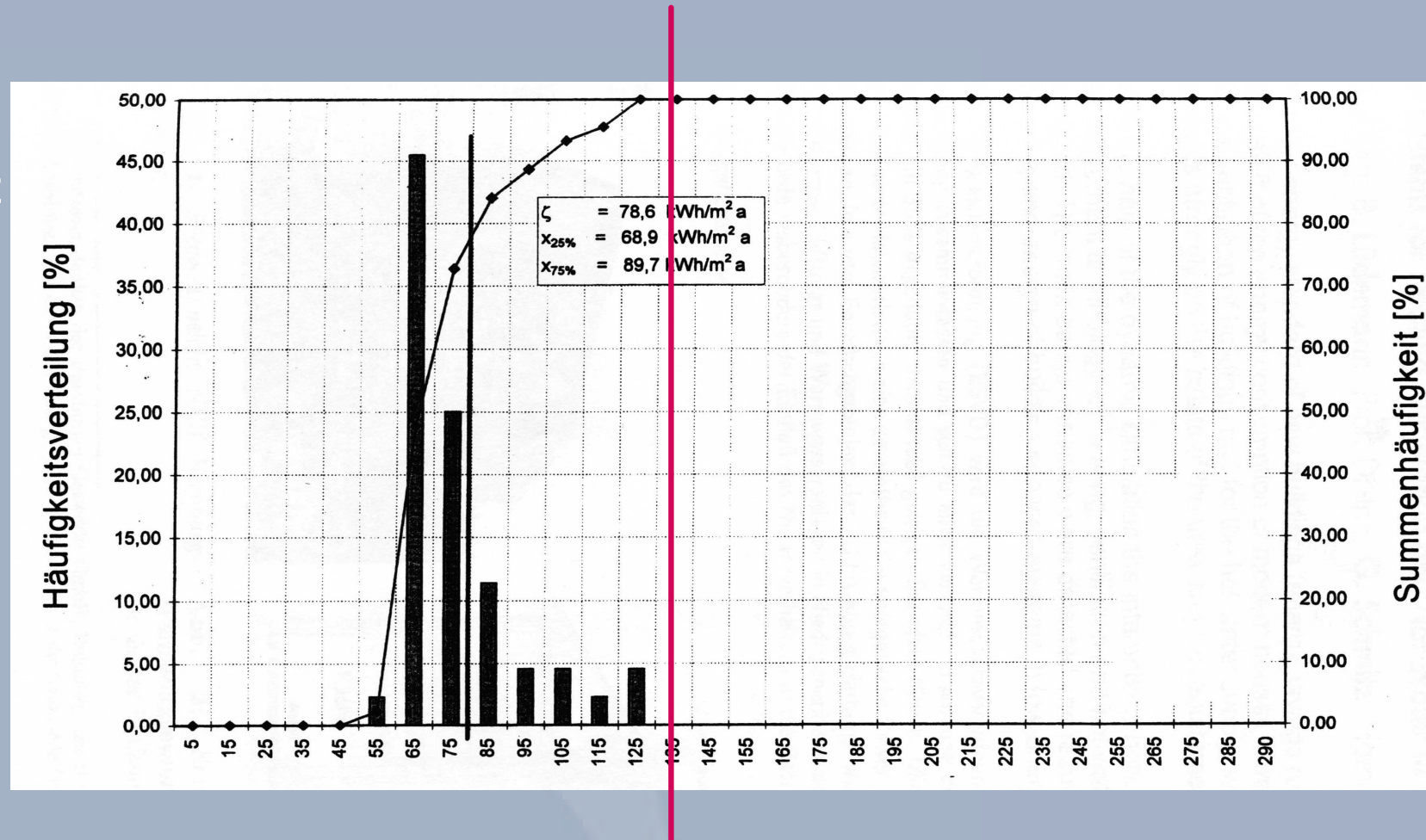
Field test of single room control with user feedback

Frequency
distribution of heat
energy
consumption in
29500 refurbished
apartments in
Berlin; without user
feedback



Field test of single room control with user feedback

Frequency
distribution of heat
energy
consumption in
2800 refurbished
apartments in
Berlin; with single
room control and
user feedback



Implementation in Visby and Gloucester

Feedback System

← → ↺ +

http://www.re.e-technik.uni-kassel.de/eubart/visby/feedback/

Q Google

SPIEGEL NY Times Comdirect eBay BySyS Wetter fremdwort.de Dictionary TV Movie MySQL Mac IEE-RE Kassel FSV

ALMEDALS LIBRARY

USER FEEDBACK

 GOTLANDS
KOMMUN

Dear visitor,
welcome to the visby library feedback system. Please fill out the following form and let us know how satisfied you are with the building or room.

Temperature

Too cold

☐

☐

☒

☐

Too hot

Artificial Lighting

Too little

☐

☐

☒

☐

Too much

Air Quality

Stuffy

☐

☐

☒

☐

Fresh

Air Movement

Still

☐

☐

☒

☐

Draughty

Location

✓ I Don't know
Floor 1 Offices
Floor 2 Entrance
Floor 2 Library
Floor 2 Offices
Floor 2 University
Floor 3 Library
Floor 3 Offices
Floor 3 University
Floor 4 Offices
Floor 4 University

Name (optional)

Comment (optional)

☐ Show comment in guestbook

Submit Feedback

Reset Form

Guestbook

http://www.re.e-technik.uni-kassel.de/eubart/visby/feedback/guestbook/ Google

SPIEGEL NY Times Comdirect eBay BySys Wetter fremdwort.de Dictionary TV Movie MySQL Mac IEE-RE Kassel FSV




Guestbook

These are the guestbook entries of the Almedals Library Feedback System:

Ingo Stadler	Every day a survey? 2003-08-14 12:33:42
Henrik Östensson	Testing 2003-08-14 11:13:03

Feedback System

http://www.re.e-technik.uni-kassel.de/eubart/visby/feedback/

Q Google

SPIEGEL

NY Times

Comdirect

eBay

BySyS

Wetter

fremdwort.de

Dictionary

TV Movie

mysql

Mac

IEE-RE

Kassel

FS

ALMEDALS LIBRARY

USER FEEDBACK



GOTLANDS
KOMMUN

Dear Sascha (Room 1630),
welcome to the visby library feedback system. Please fill out the following form and let us know how satisfied you are with the building or room.

Temperature

Too cold

☐

☐

☒

☐

Too hot

Artificial Lighting

Too little

☐

☐

☒

☐

Too much

Air Quality

Stuffy

☐

☐

☒

☐

Fresh

Air Movement

Still

☐

☐

☒

☐

Draughty

Name (optional)

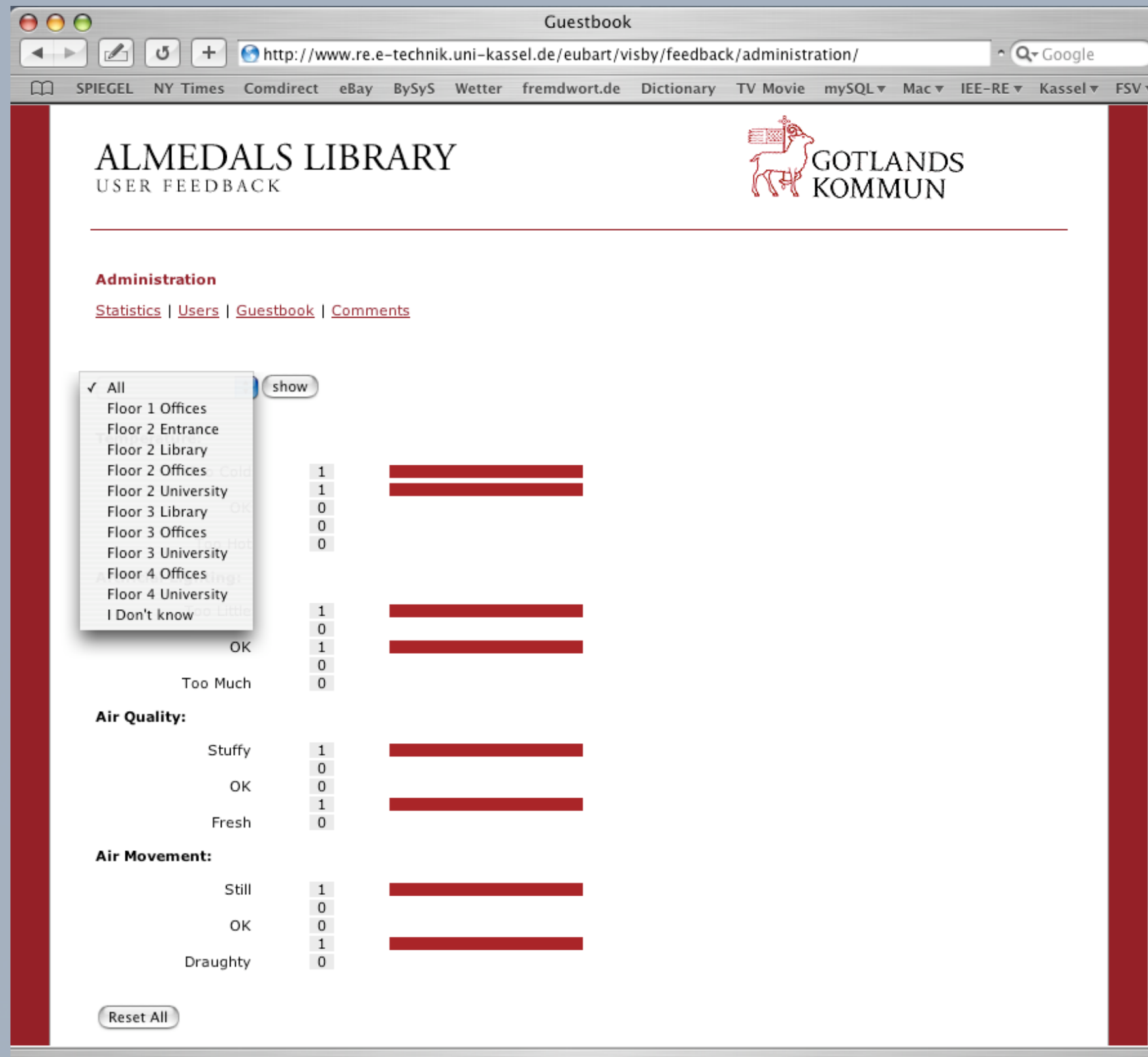
Sascha Beverungen

Comment (optional)

☐ Show comment in guestbook

Submit Feedback

Reset Form



Guestbook

http://www.re.e-technik.uni-kassel.de/eubart/visby/feedback/administration/

Google

SPIEGEL

NY Times

Comdirect

eBay

BySyS

Wetter

fremdwort.de

Dictionary

TV Movie

mysql

Mac

IEE-RE

Kassel

FSV

ALMEDALS LIBRARY

USER FEEDBACK



GOTLANDS
KOMMUN

Administration

[Statistics](#) | [Users](#) | [Guestbook](#) | [Comments](#)

Users: **NEW**

Room	Name	Email	IP adress	
1627	Stadler, Ingo	istadler@uni-kassel.de	141.51.155.186	EDIT
1630	Beverungen, Sascha	beverungen@re.e-technik.uni-kassel.de	141.51.155.146	EDIT

Sender Address

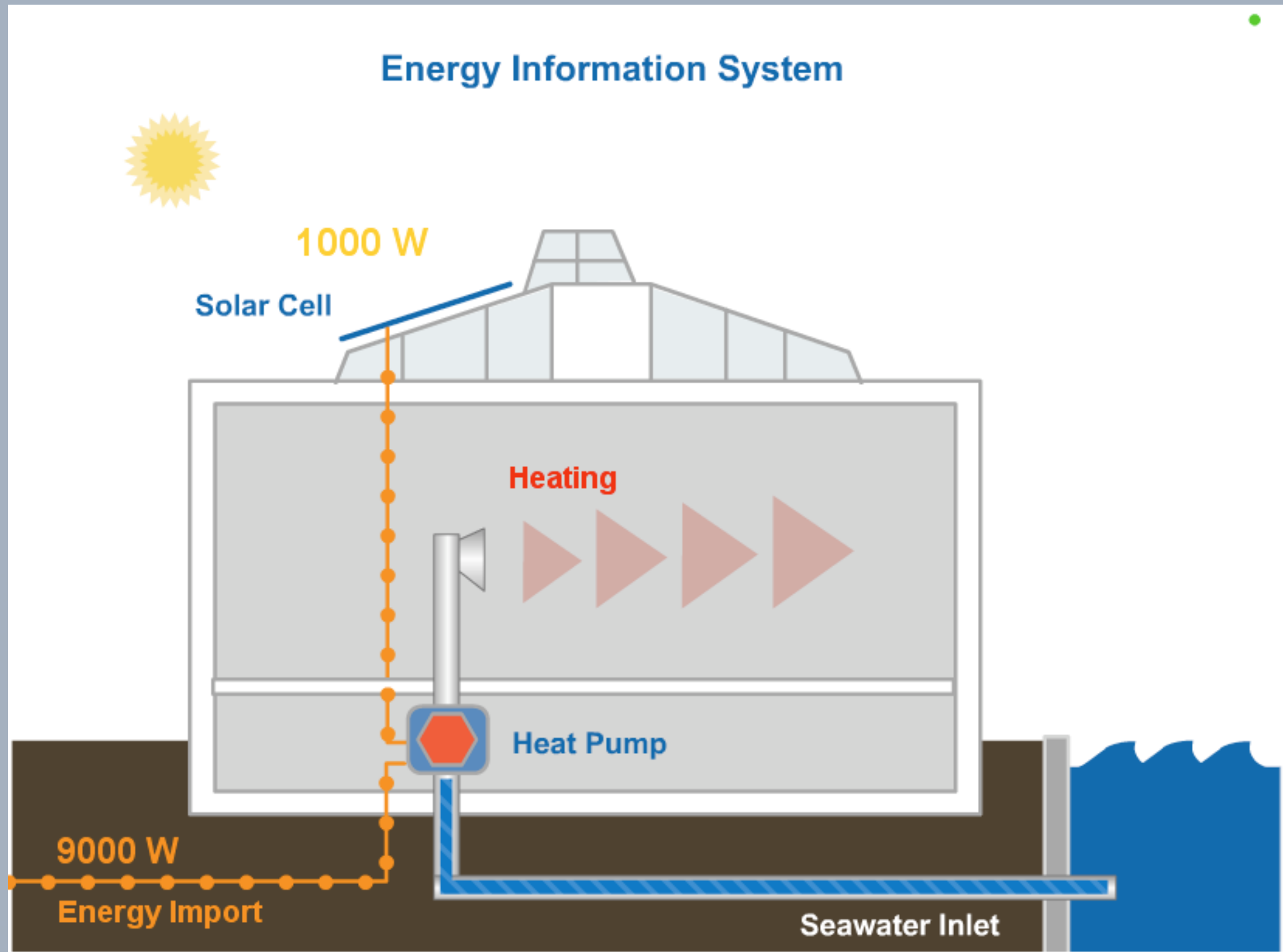
Request Text

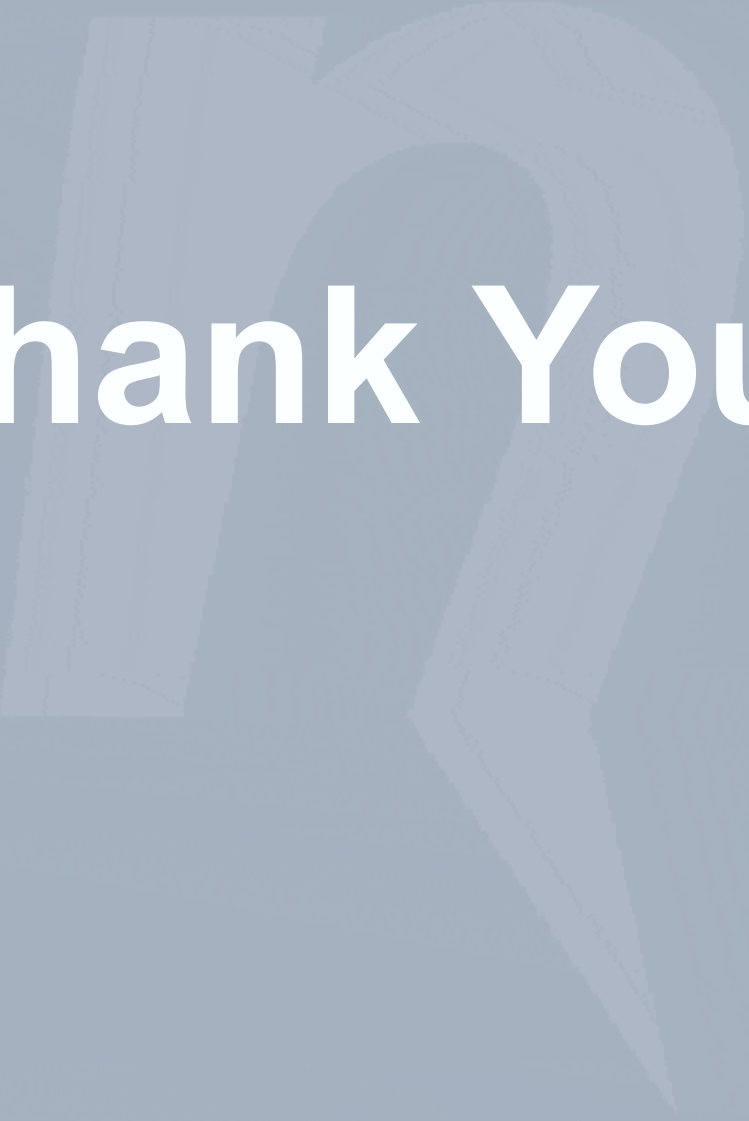
Dear library occupant,

we kindly ask you to visit the library feedback system at <http://www.uni-kassel.de/re/eubart/visby/feedback> and give us a short feedback about your personal opinion.

Thank you
Almedals Library Energy Manager

Ask users to vote





Thank You