



**SusLabNWE:
Integrating Qualitative
and Quantitative Data
to Understand
People's Everyday
Energy Behaviour**



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People and Energy



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@danlockton
@suslabnwe



'Behaviour change'

 Go

Behavioural Insights Team Blog



Partners in Washington to build on BIT work

Over the past week or two there has been lots of coverage of a new team in the White House that will look to apply lessons from behavioural science to public policy. The US team will be headed by Maya Shankar, who met members of BIT in Washington to discuss how we will exchange ideas and share research – a process first started by our Director, Dr David Halpern, and Prof Cass Sunstein while Cass was at the White House.

On Friday, TIME Magazine ran an[read more](#)

Date posted: August 9, 2013 | Author: [Behavioural Insights Team](#) | [No Comments »](#)
Categories: [Uncategorized](#)

Growth Vouchers

We've been working with the Department for Business, Innovation and Skills (BIS) on the £30 million business support programme which was announced at Budget. The announcement in the budget stipulated that the programme would be run as a randomised controlled trial (RCT), the first time that we know of where the government has explicitly required a programme to be conducted as an RCT in order for it to go ahead.

Growth Vouchers are a different approach to Government business support. The[read more](#)

Date posted: August 8, 2013 | Author: [Behavioural Insights Team](#) | [No Comments »](#)
Categories: [Uncategorized](#)

Policy school

About

[The Behavioural Insights Team](#), commonly known as the 'Nudge Unit', was set up in July 2010 with a remit to find innovative ways of encouraging, enabling and supporting people to make better choices for themselves

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Archives

- [August 2013](#)
- [July 2013](#)
- [June 2013](#)

**'Energy use
behaviour change'**

Published 22 January 2013

 Department of Energy & Climate Change

Smart meters: a guide

Smart Meters put consumers in control of their energy use, allowing them to adopt energy efficiency measures that can help save money on their energy bills and offset price increases.

Contents

- [The new meters](#)
- [Benefits of smart meters](#)
- [How they work](#)
- [Supplier led roll-out](#)
- [Consumer Protections](#)
- [Consumer Privacy](#)
- [Switching Suppliers](#)
- [Prepayment Customers](#)

The new meters

Smart meters are the next generation of gas and electricity meters and they can offer a range of intelligent functions.

For example they can tell you how much energy you are using through a display in your home. They can also communicate directly with your energy supplier meaning that no one will need to come and read your meter in future.

Benefits of smart meters



1086 MG

30
25
20
15
10
5
0

THIS DAY

OWL

Emerald

Design and behaviour change

**All design affects
behaviour**

Operating instructions

REV24RF..: 7-day radio room temperature controller for the light temperature at the night time. As factory settings already provide optimal living comfort. You can easily adjust the controller to your needs with the accelerated (over-fast) display and program selection slider.

REV24RF.. (controller with radio transmitter) is a wireless device that you can mount on the wall or place freely on a base in the room.

Its radio frequency 868 MHz is largely immune to external disturbances. The signal level meets regulations and is kept as low as possible. The devices are approved for all EU member states, Iceland, Norway, and Switzerland.

Note the following for placing the device:

- Make sure no other influencing factors influence the controller's temperature sensor (no solar radiation and other heat or cold source influences).
- The distance between controller and receiver may not exceed 20 m or 3 floors.
- Do not place near mobile tele- or electrical devices, etc.

Display

Operating elements and settings

Slider positions

If the selected operating mode does not support the setting, the time display shows **PASS**.

Special symbols displayed

The controller display can show the following special symbols:

Is symbol [Error] displayed?

The error indicates an error. Press the P/Bt button and check the error message (e.g. radio link signal, radio connection to receiver, etc.). Contact a specialist as needed.

Is symbol [Heating] or [Cooling] displayed?

The controller is in "heating mode" or "cooling mode".

Is a rolling triangle symbol [Rolling Triangle] displayed?

The controller sends...

Is symbol [Signal] displayed?

This symbol tells you that you months.

Insert 2 new alkaline batteries (p. Remove the controller from the rear; remove the old batteries; insert the base.

Caution: Time and date are (All other settings in Depend on the batteries as per

Is symbol [Radio Clock] displayed?

The radio clock symbol only appears (time signal from Flensburg (German date of the controller are synchronized). The symbol flashes if the signal is

Commission receiver RCR10

The factory setting: After commissioning, Please the override delay. After ca. 15 m kilograms.

The relay turns off a receipt of the last or Receiver and emit "LEARN" for ca. 4 s slowly learning mode on the controller for quickly, LED_1 goes Max 15 receivers is

Commission the controller

The controller comes a factory's Proceed as follows for initial com

- Remove the controller (p. tape from the 2 batteries: controller in the mounting
- After startup, a welcome (to interrupt the message setting). Press [+] or [-] the slider to accept your
- Slider in position 1 (time) Note: No entry if there
- Slider in position 2 (date) Note: No entry if there
- Move the slider to the
- Set the operating mode w

Read the operating instructions an

Tips to save energy without

- Heat your rooms to max 21 °C.
- Use [E] as switch to energy so
- Air out your rooms freely, but y

Operating instructions

RCR10/868

REV24RF... 7-day radio room temperature controller for the right temperature at the right time. All factory settings already provide optimal living comfort. You can easily adjust the controller to your needs with the user-assisted clear-text display and program selection slider.

REV24RF.. (controller with radio transmitter) is a wireless device that you can mount on the wall or place freely on a base in the room.

Its radio frequency 968 MHz is largely immune to external disturbances. The signal level meets regulations and is kept as low as possible. The devices are approved for all EU member states, Iceland, Norway, and Switzerland.

Note the following for placing the devices:

- Make sure no other influencing factors influence the controller's temperature sensor (no solar radiation and other heat or cold source influences).
- The distance between controller and receiver may not exceed 20 m or 2 floors.
- Do not place near metallic items or electrical devices, etc.

Display

- Day of week
- Low battery
- Radio clock active
- Date
- Setting: 1-5, 6-7, 1-7
- Reading: 1..7
- Time display
- Holiday mode
- Automatic mode
- Party mode active
- Exception day mode
- Continuous comfort mode
- °C or °F
- Continuous energy saving mode
- Heating On / Cooling On
- Protection mode
- Temperature display
- Temperature setpoint symbols
- Text display
- Alarm
- Cooling mode / Heating mode
- Switching pattern with time cursor

Operating mode selector:

- Automatic
- Exception day
- Comfort mode
- Energy saving mode
- Prot. mode

info button

- Increase values, set time or make a selection
- Change between Comfort and energy saving temperature (active unit next switching time) and Party function
- Decrease values, set time or make a selection
- Program selection slider

Operating elements and settings

Operating element	Setting
1	This setting
2	Day / Month / Year
3	Weekday step 1, 2 or 3
4	Comfort phase
5	Comfort phase 1
6	Comfort phase 1
7	End
8	Start time
9	Temperature
10	Comfort phase 2
11	Temperature
12	Comfort phase 3
13	End
14	Start time
15	Alarm
16	Temperature
17	Alarm

Slider positions

1	Time setting
2	Date setting
3	Operating mode

Operating mode

- 1: Automatic
- 2: Exception day
- 3: Comfort mode
- 4: Energy saving mode
- 5: Prot. mode

Operating mode selector

info button

Program selection slider

Operating elements and settings

Slider positions

Operating mode

Special symbols displayed

The controller display can show the following special symbols

Is symbol [alarm] displayed ?

The alarm indicates an error!

Press the info button and check the error message (e.g. radio clock signal, radio connection to receiver, etc.). Contact a specialist as needed.

Is symbol [heating/cooling] displayed?

The controller is in "heating mode" or "cooling mode"

Is a rolling triangle symbol [triangle] displayed ?

The controller sends

Is symbol [radio] displayed ?

This symbol tells you that you months.

Insert 2 new alkaline batteries (type AA) into the controller. Remove the controller from the mounting; remove the old batteries; insert the new batteries into the base.

Caution: Time and date are (All other settings in factory setting)

Dispose of the batteries as per local regulations.

Is symbol [radio clock] displayed ?

The radio clock symbol only appears if the controller receives a time signal from Frankfurt (Germany). The symbol flashes if the signal is weak.

Commission receiver RCR11

The factory setting is "Automatic". After commissioning, press the override button. After ca. 15 m telegrams, the relay turns off a receipt of the last telegram.

The relay turns off a receipt of the last telegram. Receiver and control "LEARN" for ca. 4 s slowly, learning mode on the controller for quality, LED_1 goes on. Max 15 receivers can be connected.

Commission the controller

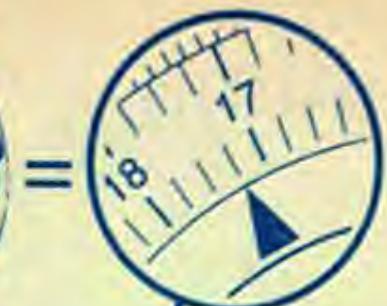
The controller contains a factory setting. Proceed as follows for initial commissioning:

1. Remove the controller from the base. Insert the 2 batteries into the controller in the mounting.
2. After startup, a welcome message is displayed. Press the info button to accept your settings. Press the info button or the slider to accept your settings.
3. Slider in position 1 (time setting). Note: No entry if there is an error.
4. Slider in position 2 (date setting). Note: No entry if there is an error.
5. Move the slider to the very end.
6. Set the operating mode with the slider.

Read the operating instructions and the user manual.

Tips to save energy without

- Heat your rooms to max 21 °C.
- Use the energy saving mode to switch to energy saving mode.
- Air out your rooms briefly, but v





Requisite Variety

[Design, people and systems](#) [What we offer](#) [Clients & collaborators](#) [Design with Intent toolkit](#) [Blog](#)

Design with Intent toolkit



Design with Intent: 101 patterns for influencing behaviour through design
by Dan Lockton with David Harrison & Neville A. Stanton. ISBN
978-0-9565421-0-6 (print) & 978-0-9565421-1-3 (PDF)

Requisite Variety's **Design with Intent toolkit** is a collection of design patterns, or 'gambits', for influencing user behaviour through design.

[Download the toolkit \(free\)](#) or [buy printed packs](#)

It's applicable across **product, service, interaction** and **architectural design**, aimed at **socially** and **environmentally beneficial** behaviour change. The patterns are drawn from a range of disciplines, and are phrased as questions or provocations to enable the toolkit's use as both a brainstorming tool and a guide for exploring the field of design for behaviour change. [More about the toolkit >](#)

The toolkit's in use by [industry](#), [public sector](#) and [educational organisations](#) worldwide, and [Requisite Variety](#) also offers [workshops](#) and [consultancy](#) using it, as well as exploring other aspects of design for behaviour change, and the interface between people and technology. [More about Requisite Variety >](#)

Explore the eight 'lenses' of the toolkit





Design, people and systems What we offer Clients & collaborators Design with Intent toolkit Blog



Design with Intent toolkit

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designwithintent.co.uk





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Sustainable Design with Intent: A Toolkit for Designers and Engineers

Updated October 19, 2012

In this webinar recording, Dawn Danby reviews a range of sustainable product development strategies, focusing on ways designers can guide users to more sustainable behavior. explaining this work and how it can inform better sustainable design.



by Adam Menter, Autodesk Sustainability Education Program Manager

Designing with Intent

"Design is the first signal of human intention." This is a powerful statement from William McDonough, co-author of the book Cradle to Cradle®. But what does it mean in practice and how can a designer's intention lead to a more sustainable world by improving the environmental impacts of user behavior?

USE TO PM
AS A
WARMER!

Perceived affordances

Can you design the form of your system to suggest particular actions (or constraints on action) to users?



Investigating the roles on bits to users the form of different types of users has been shown to increase activity levels significantly.

What's missing?







NSF



airblade







**SMOKING CAUSES
BLINDNESS**



Brand
Variant

25

**DON'T LET
CHILDREN BREATHE
YOUR SMOKE**



**SMOKING CAUSES
MOUTH AND THROAT
CANCER**



**SMOKING CAUSES
MOUTH AND THROAT
CANCER**

**SMOKING CAUSES
BLINDNESS**

**SMOKING CAUSES
MOUTH AND THROAT
CANCER**



**SMOKING CAUSES
BLINDNESS**

Brand
Variant



SMOKING
CAUSES
BLINDNESS



Street

SMOKING
CAUSES
BLINDNESS



SMOKING CAUSED MOUTH
AND THROAT CANCER



MOUTH CANCER

Quit Now
131 646

Smoking is the major cause of cancers
affecting the mouth and throat. These cancers
can result in extensive surgery, problems in
eating and swallowing, speech problems and
permanent disfigurement.

You CAN quit smoking. Call Quitline 131 646
talk to your doctor or pharmacist, or visit
www.quitnow.info.au

AUSTRALIAN FIRE RISK STRATEGIC COMPLIANT
USE CARE IN DISPOSAL



The dominant 'behaviour change' approach to energy assumes that 'demand' is largely homogeneous, and can be addressed mainly through pricing changes

Quantitative energy data gives us **what?**
But not **why?**



**People are not setting out to
'use energy' – they're meeting
everyday needs for family
comfort, cleaning, food,
entertainment and so on.**



So we need to understand the contexts of people's everyday routines, and their interactions with energy, in a much more nuanced way to be able to design interventions that can help them reduce their energy use.





Electricity summary

Last Reading		This Reading		Electricity units used	Cost Split	Charges
Charges for Tariff - Standard Electricity / Quarterly Receipt of Bill						
Day	30/04/2013 10697 Estimated	30/04/2013 10714 Estimated	16 kWh	first 2 at 25.240p next 14 at 18.330p	Meter Number: L8715695	
Night	30/04/2013 30423 Estimated	30/04/2013 30427 Estimated	3 kWh	3 at 5.870p	£0.50	£2.57
Day PC*	01/05/2013 10714 Estimated	08/07/2013 11776 Actual	1062 kWh	1062 at 18.330p	£0.18	
Night PC*	01/05/2013 30427 Estimated	08/07/2013 30593 Actual	166 kWh	166 at 5.870p	£194.66	
Standing Charge				69 days at 13.800p per day	£9.74	
				Cost of electricity used this period	£9.52	
				VAT at 5% on £217.17	£217.17	
				Total electricity charges for this period	£10.86	
					£228.03	

Your supply number

S	02	016	100
	19	0003	8002 482

* Price change

Please note - there's been a price change during this bill period. We've split prices.

08101_1626140020-43033>_521513-PK06267 18800

Energy Now 72 Watt

Cost PER MONTH £5.22^p

Last 7 Days

24

KWHR

24°C

TEMP

11:34

TIME

“1 in 5 people don't know what kWh (kilowatt hour) stands for—some thought it was a make of Japanese car, a type of heavy goods vehicle or even a boy band.”

(E.ON survey)



Royal College of Art
**THE HELEN HAMLYN
CENTRE FOR DESIGN**

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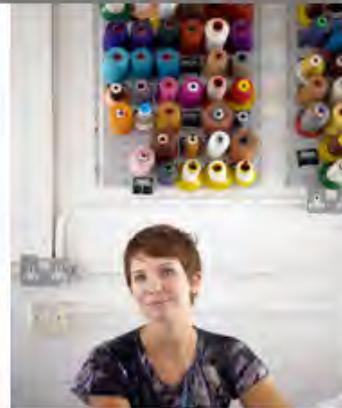
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Partner log-in

Investing in Opportunities



This project has received European Regional Development Funding through INTERREG V.B



INTERREG | VB



Royal College of Art

THE HELEN HAMLYN CENTRE FOR DESIGN



Royal College of Art

SUSTAINRCA



Institute for Sustainability

Imperial College London

Bedroom	12.6m ²
Living	18.2m ²
Kitchen	6.0m ²
Bathroom	3.8m ²
Circulation	9.13m ²

Total Floor Area
(1 Bed house)

Bedroom 1	17.8m ²
Bedroom 2	17.7m ²
Living	17.7m ²
Dining	17.7m ²
Kitchen	6.2m ²
Bathroom	6.7m ²
W.C.	1.9m ²
Circulation	12.4m ²

Total Floor Area
(3 Bed house)



ground floor plan
1 bed apartment



HSB Living Lab





**Aim is to integrate
quantitative data
from monitoring**

**Aim is to integrate
quantitative data
from monitoring with
qualitative data from
engagement with
householders...**

**...to understand the
everyday contexts of
energy use**

**...to understand the
everyday contexts of
energy use, and
opportunities for new
products and services**

May – July:
In-depth interviews with nine households









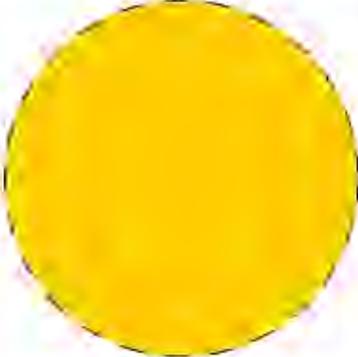




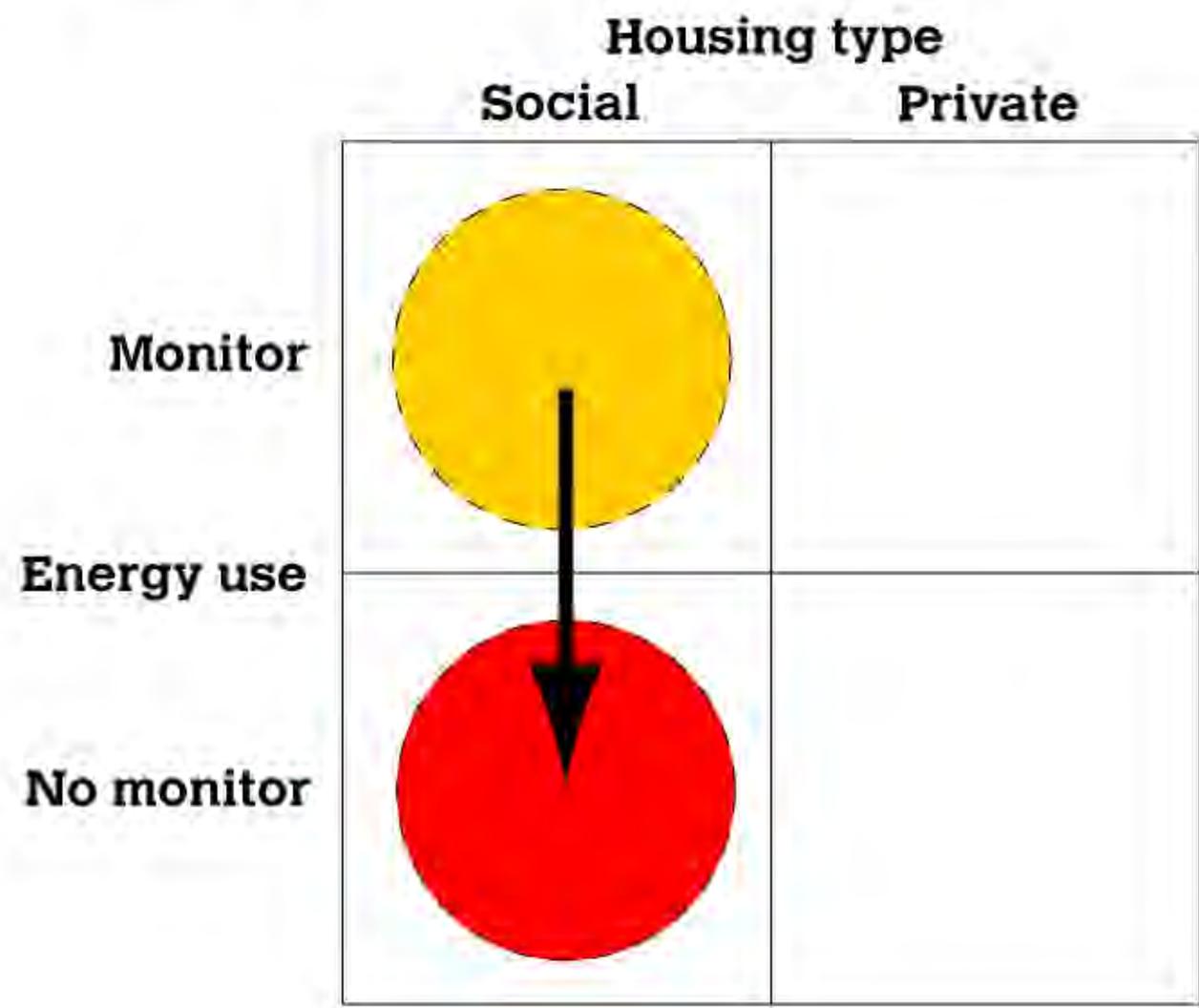
Lead users

	Housing type	
	Social	Private
Monitor		
Energy use		
No monitor		

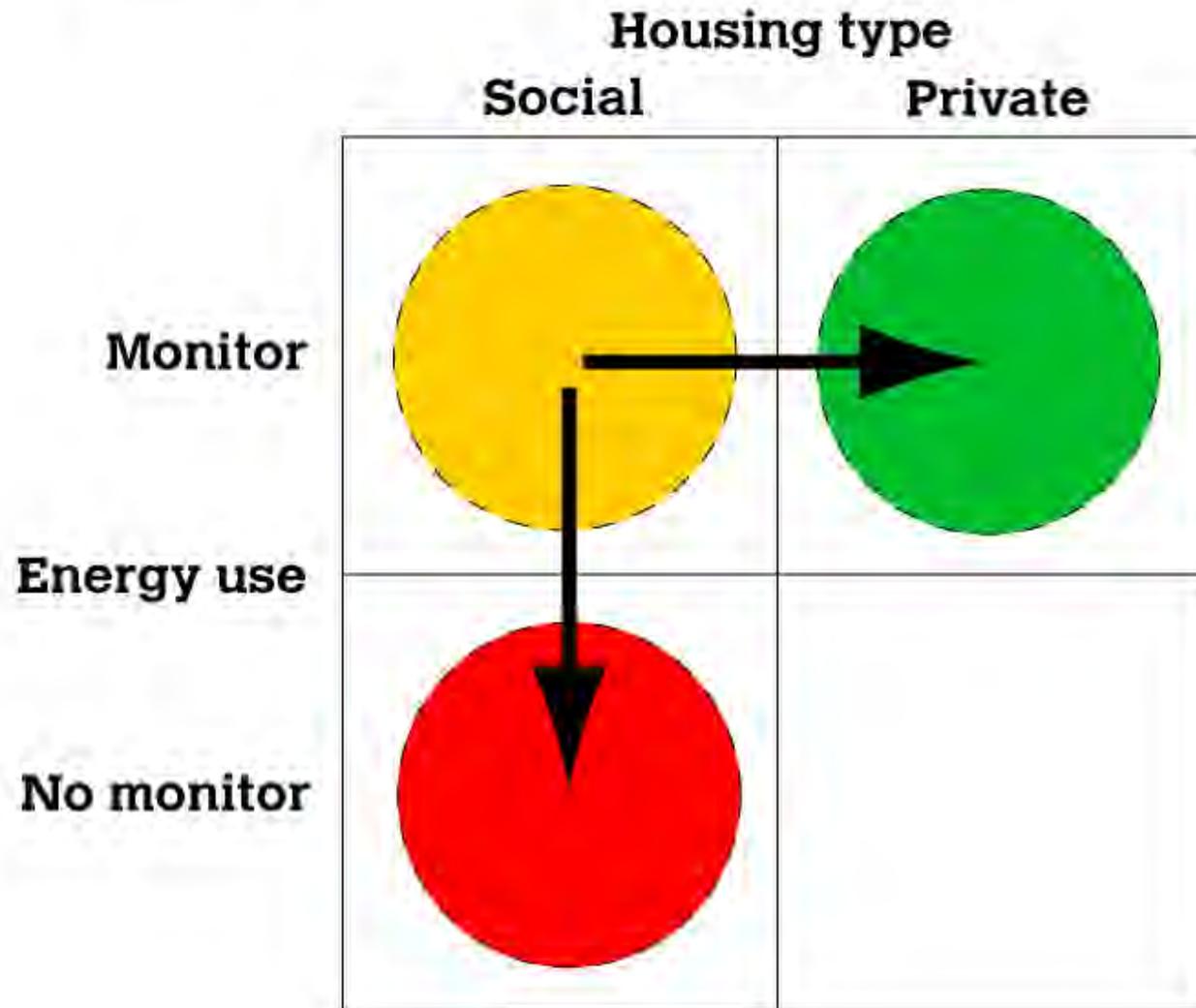
Lead users

		Housing type	
		Social	Private
Monitor			
Energy use			
No monitor			

Lead users



Lead users









ESHI PARENTS ASSOCIATION
শ্রী প্যারেন্টস এসোসিয়েশন
TEL: 020 7987 3505
ROY STREET, POPLAR, LONDON E14 0NU

53

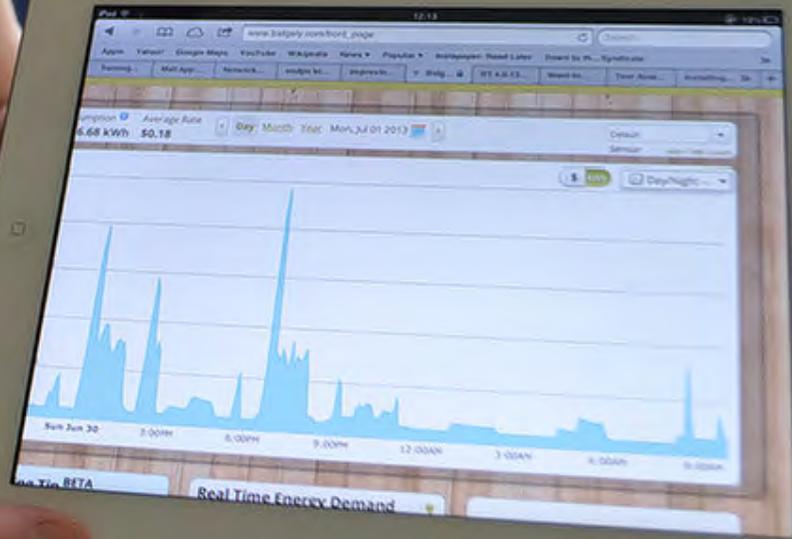
55  **MIU VALLE**
FISH & CHIPS - CHINESE & MALAYSIAN HOT FOOD





FLOUR













OWL

Date	Time	Cost	Balance	Notes
Sun/20/04	4:30	6286.0	6286.0	
Tue/18/May	3:30	6831.2	6217.7	→ Br Gas monthly
Sun/10/Jun	2:10	6863.8	47709.1	→ Br Gas monthly
Thu/11/Jun	6:05	6882.8	48072.8	→ Br Gas monthly
Thu/11/Jun	11:50	6944.5	48107.9	Boiler Serviced → Br Gas
Sun/13/Jun	2:10	6975.0	48355.5	→ Br Gas
Mon/1/Jul	11:15	7004.9	48452.5	→ Br Gas 24H no gas (leak fix, roof, hole) → E.ON
Sun/28/Apr	12:00	7059.6	48559.2	→ Br Gas
Sun/5/May	1:30	7092.1	48784.9	→ Br Gas
Mon/6/May	1:15	7098.1	48990.5	→ E.ON St. Un → Br Gas 27.375P
Sun/2/Jun	6pm	7121.7	49024.3	mPort / m.Fi. Ends washing m/c x1
Sun/30/Jun	6:45 pm	7134.3	49204.2	1032 mill. bars midday man? → Br Gas
			49364.2	→ Br Gas

2 - was 3d.
red water
at equal m/c

up the kids/get home from
least favoured Why?

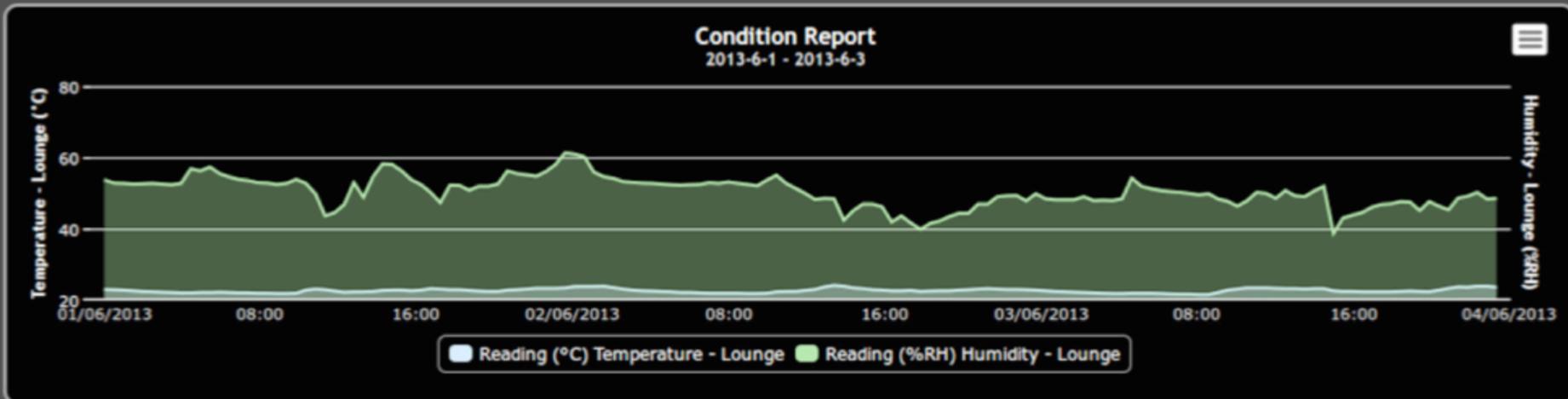
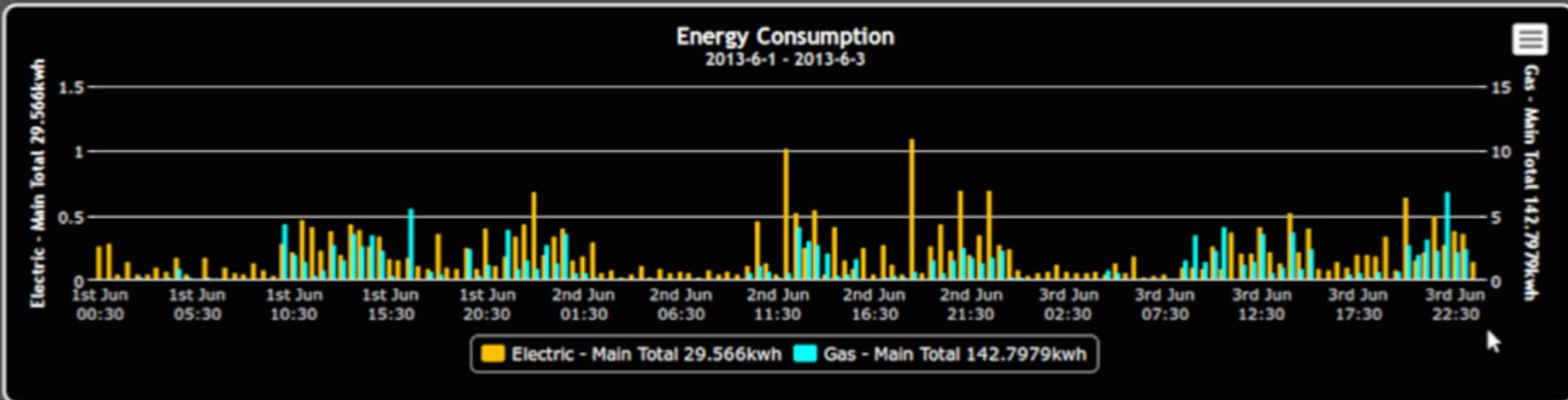
on the timeline

low (capped)

8 am
9 am
10 am
Get







Compare Conditions

Select start and end dates

update graph

Sensor 1
Temperature - Lounge

Show 2 sensors

June 2013						
Mo	Tu	We	Th	Fr	Sa	Su
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16

Compare Dates

Choose 2 dates

update graph

Condition Sensor
Temperature - Lounge

Report Type
Day on Day

June 2013						
Mo	Tu	We	Th	Fr	Sa	Su
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16



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Energy on Show

painting in the street or smiley face signs at your house can make public displays of such energy you use.

How do you feel about this kind of energy display?



Can you explain why?

More info should be shown up.



Do you think it would affect how you use energy at home?



Can you explain why?

People are already energy conscious. It's the energy you need yourself.



Digital Aquarium

One fish in the aquarium represents your home energy use. Reduce your energy use to see your fish grow and swim. The other fish represent your neighbours, making the whole community's energy use visible.

How do you feel about this kind of energy display?



Can you explain why?

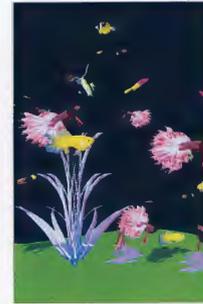
Saving the planet.

Do you think it would affect how you use energy?



Can you explain how and why?

Saving the planet.



Intelligent thermostat

This 'intelligent' thermostat learns your daily routines (when you're in, and when you're out), and then automatically programmes itself. You can also 'teach' it so it makes better predictions. It's claimed to lower your heating bills by up to 20%.

How do you feel about this product?



Can you explain why?

To stay warm, heat needs to come on & to sleep. Really would want to be certain wouldn't want something that makes you sleep in a safe zone!

Do you think this would change how you use energy at home?



Can you explain why?

It depends.



Home energy display

Some housing associations are providing householders with home energy displays. These usually show the amount of electricity or gas the house is using, and the costs, both in 'real time' and the total so far for each day. Some break it down by appliance too.

How do you feel about this idea?



Can you explain why?

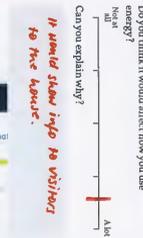
Environmental benefits.

Do you think this would change how you use energy at home?

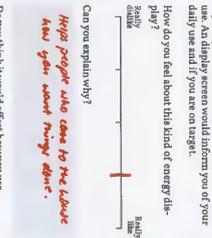


Can you explain why?

Already aware of energy use.



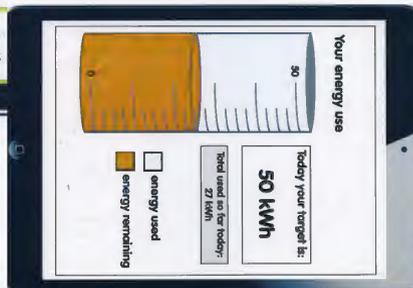
It would show info to visitors. Hope people who come to the house have you about 'energy' done.



Hope people who come to the house have you about 'energy' done.

Daily Targets

Daily target would allow you to set yourself regular goal to maintain or reduce your energy usage. You can set a target for your daily use and if you are on target.



Pre-pay Meters

With key- or coin-meters you pay for your energy before you use it. It means you have to plan ahead, but also allows you to accurately budget for your energy costs.

How do you feel about this kind of energy system?



Can you explain why?

Problem of remembering to do it.

Do you think it would affect how you use energy?



Can you explain why and how?

Would make sure it's always topped up. Don't want to risk running out.



3. Everyday Activity

Even quite routine everyday activities can have a lot more complexity to them than we normally think about.

Have a look at the simple statement below:

I vacuumed my bedroom

and then look at the story in a bit more detail:

I decided to vacuum my **bedroom** because I noticed lots of **cat hair** on the **floor** when the **sunlight** came streaming in this morning.

I opened the **cupboard** and checked that the **Hoover bag** wasn't full, wheeled the **Hoover** out of the **cupboard** and into the **hallway**, then bumped it up the **stairs**. One of the **wheels** gets stuck sometimes.

I bent down to unreel the **cable**, pulling the **plug** out and plugging it into the **socket** on the **landing**, then switched the **socket** on. I stood up, turned the **handle** to open my bedroom door, and pushed the **Hoover** into the room.

...and so on!

The words highlighted in **yellow** are all 'things' that you could point to, or even label in real life. Simple activities involve lots of different steps with things around the house.

We'd like you to break down a daily routine for us: **making tea**. Make a cup of tea, like normal, break it down like a story, and label some of the **steps that make it up** around the house.

Things involved in the process of kettle
Then, please take photos of the labels stuck in place.

What to use to label?



Steps in an everyday activity

You can write comments on the labels if you like.

I made tea

What are the steps involved? You can describe them in the space below.

- Lift kettle from base
- Press button for lid to flip up
- Turn cold tap on & fill with particular amount of water (there's a measure on side that indicates ml/cups) - although, with calcification it gets hard to see level.
- Turn off tap
- Put kettle back on base. Fill out from wall (to stop vapour visible) ^{teaspoon} ^{whiter} ^{cupboard}. Press on button. Take teabag from tea caddy, put in mug. When kettle boils (pretty noisy & long boil so turn off before designed time), pour water straight into mug. Add teaspoonful of sugar, get milk from the fridge. Add a bit of milk. Stir with a teaspoon. Take teabag out. ... dghhh!



Steps in an
everyday
activity

Amigo
Just leave
up in water

ORIGINAL DANISH
BUTTER COOKIES

1. Words and Meanings

The thesaurus suggests some of the following as other words for energy.

Which of these words would you associate with energy?
Please circle them.

A large dotted-line box contains the following words, some of which are circled in blue ink:

- enthusiasm
- activity (circled)
- get-up-and-go (circled)
- potency (circled)
- enterprise
- power (circled)
- juice
- ambition
- verve (circled)
- exertion (circled)
- intensity (circled)
- endurance
- animation
- drive (circled)
- impetus (circled)
- momentum (circled)
- originality
- toil
- ability
- mettle
- force (circled)
- strength of character

Can you think of other words for energy? Please add words in the space below.

What does energy mean?

Power

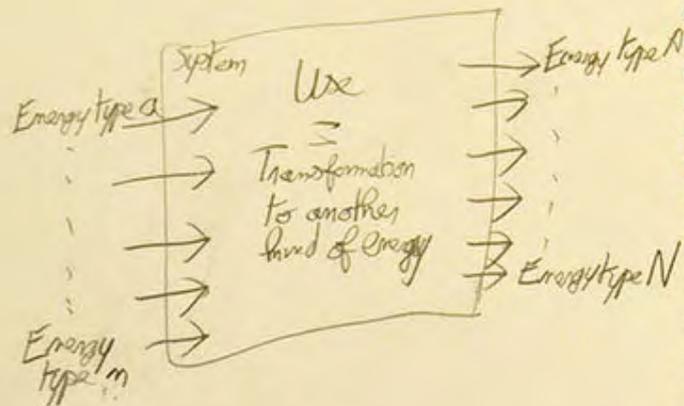
What does

Heat

What does energy look like?

Use this space to draw or write something that represents how you think about energy. There are no right or wrong answers.

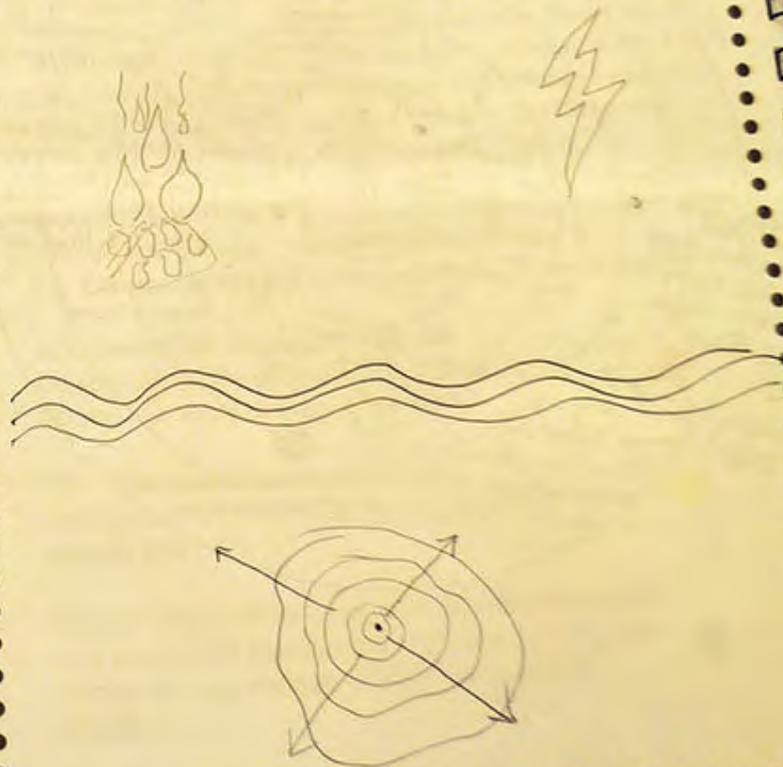
Flow: Energy is like. Everything you do, everything you see needs to amount to energy



Energy is everywhere

7. What does energy look like?

Use this space to draw or write something that represents how you think about energy. There are no right or wrong answers.



Name: PERNILLA

What does energy look like?

Use this space to draw or write something that represents how you think about energy. There are no right or wrong answers.



LOOP
 NOTHING IS LOST!
 ENERGY CAN'T BE USED UP!

Name: Sara R.

What does energy look like?

Use this space to draw or write something that represents how you think about energy. There are no right or wrong answers.



A CLOUD MATERIALISING
 INTO DROPS (ELECTRONS)
 MOVING INTO CABLES

LIKE A POOL
 TABLE -
 BALLS ~~GOING~~
 DISAPPEARING...



... BUT NOT
 REALLY DISAPPEARING

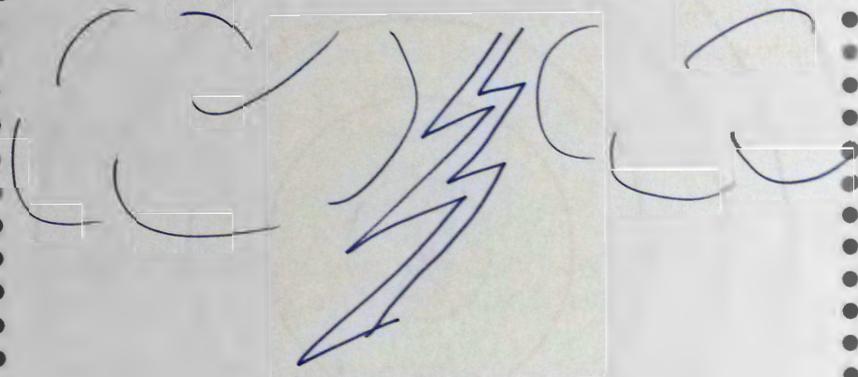


LIKE A
 DANCE FLOOR
 IN A CLUB
 PEOPLE SHAKING

e⁻

7. What does energy look like?

Use this space to draw or write something that represents how you think about energy. There are no right or wrong answers.



A Thunderbolt.

Home
Home, Energy and the Future

Dan Lockton (left) and Flora Bowden (right) interview a resident in East London about attitudes and routines in using domestic energy.

Research Associate
Flora Bowden
Research Associate
Dan Lockton
Research Fellow
Helen M. Wall



suslab.rca.ac.uk

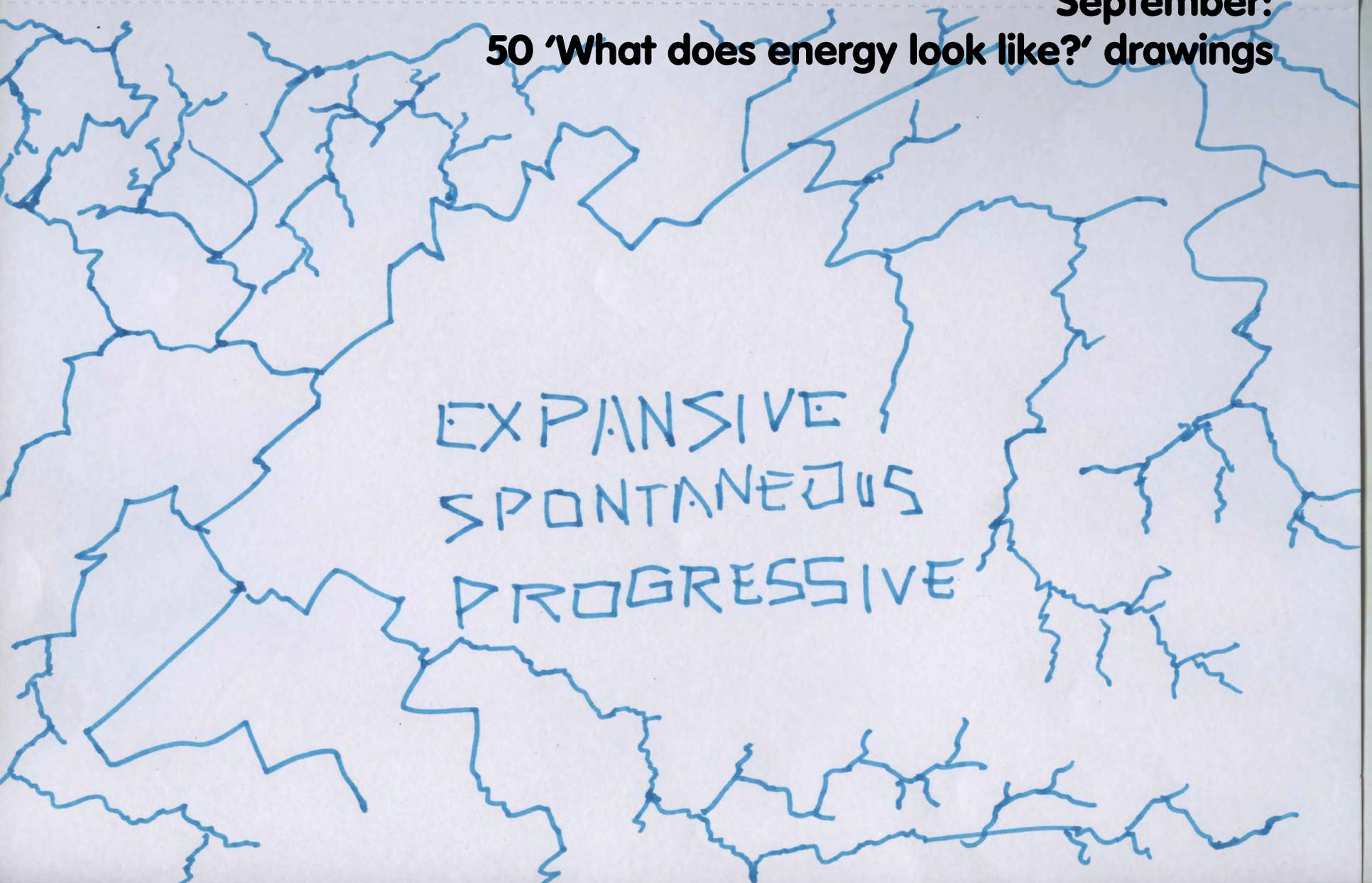


What's that?



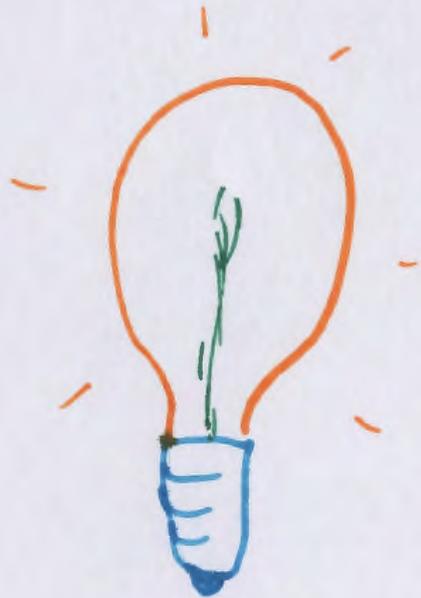
September:

50 'What does energy look like?' drawings



EXPANSIVE
SPONTANEOUS
PROGRESSIVE





Energy is light,
an idea,
excitement,
positivity.



September:
Co-creation workshop with householders and designers





Introductions

- Name
- Why you're here
- Favourite food, place or film



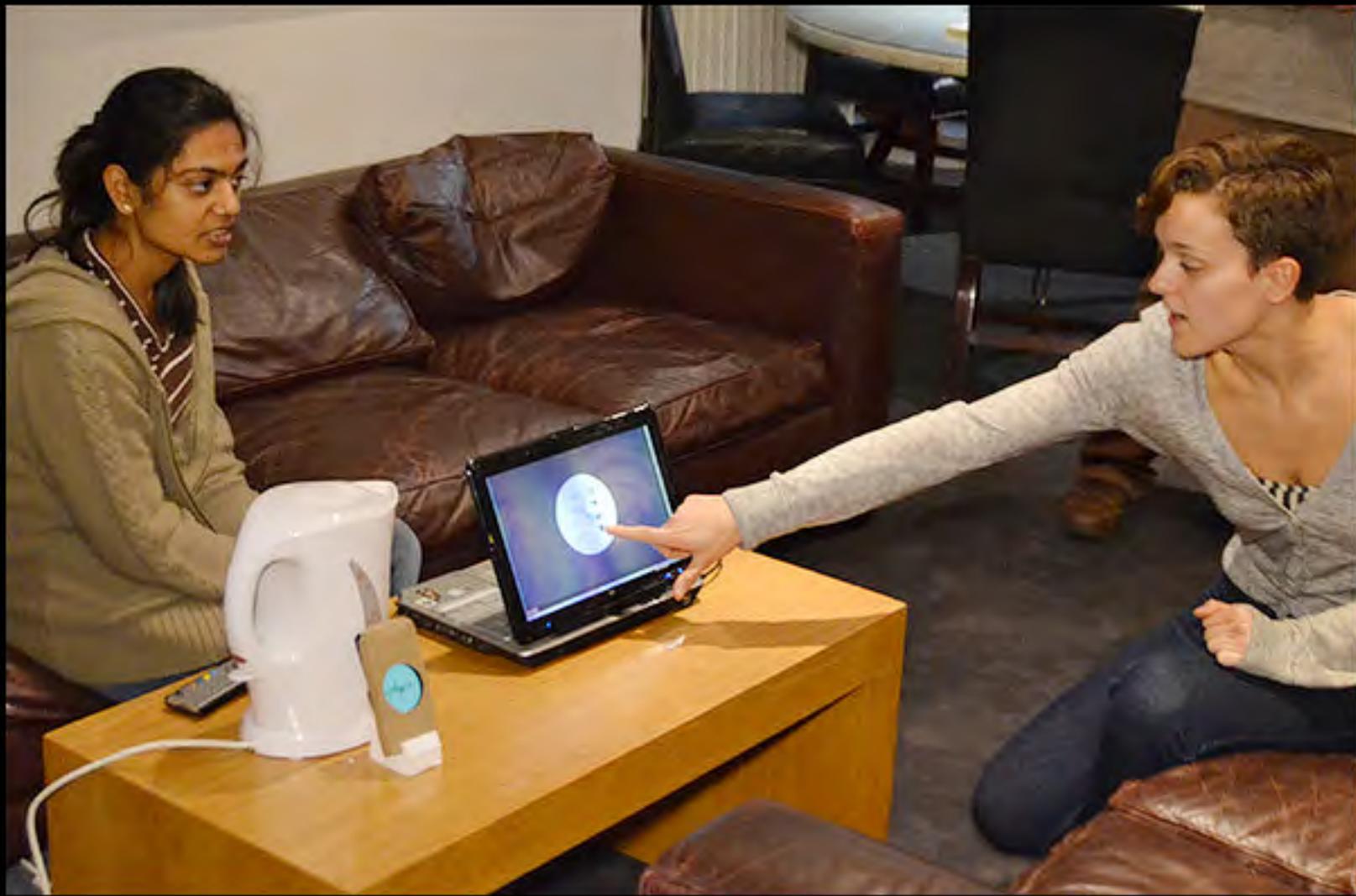


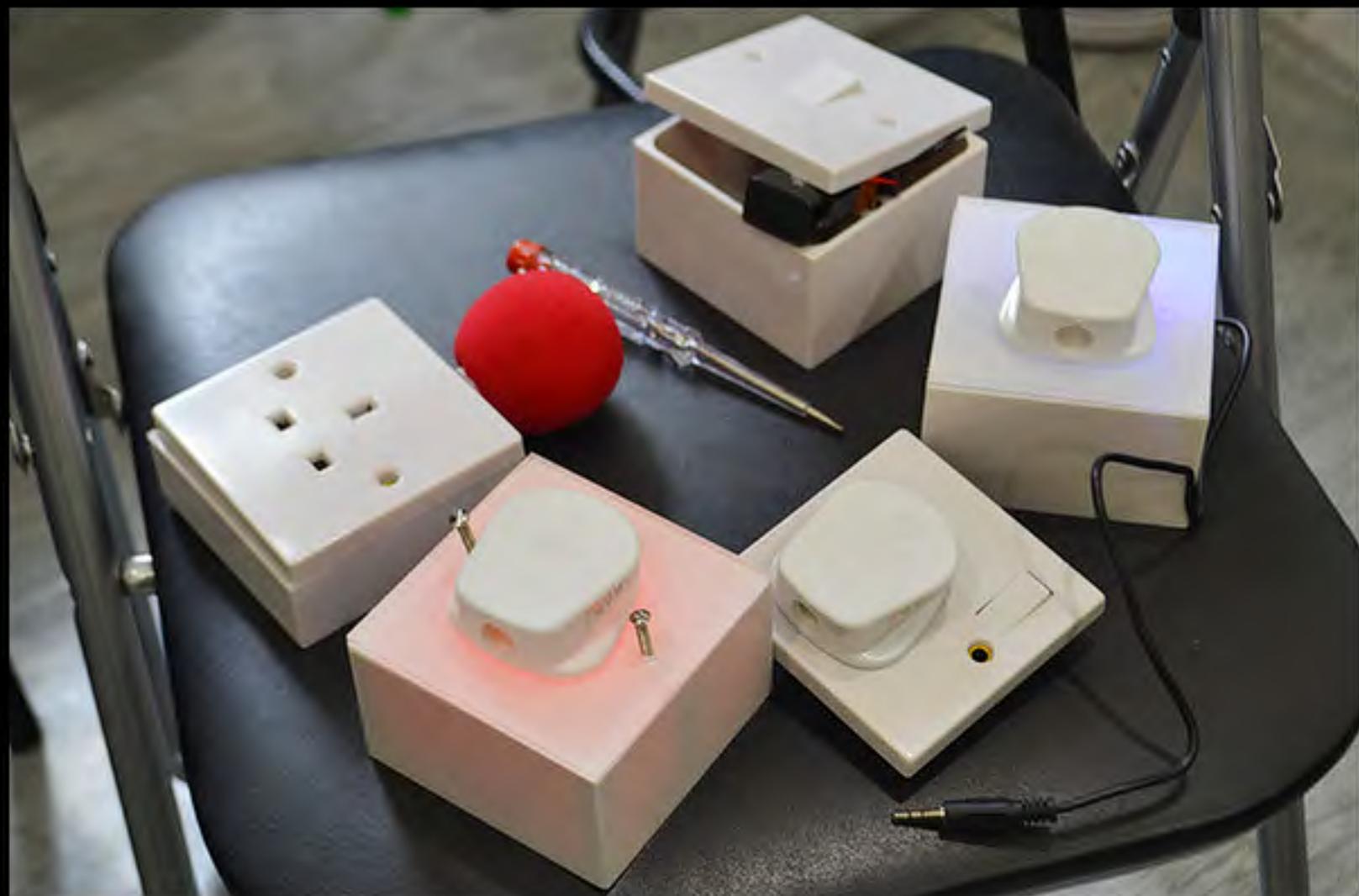
Key Findings from Interviews, Logbooks and Co-creation

- The invisibility and intangibility of energy makes it difficult for people to understand what they are using, and how to change the ways they use it
- Communicating home energy use through different senses (e.g. audio) could offer new ways for householders to relate to their energy use and appliances
- New ways of communicating the load on the grid, e.g. better or worse times to use energy, would also be valuable information
- Devices or apps that tell people about their home energy use when they are out could also address security worries, such as leaving the gas on.

**October:
Week-long workshop with 20 RCA students, from 12 courses**











**November:
Home Energy Hackday
with 35 designers,
developers, energy utilities,
energy-related start-ups**





Find

Start




We're talking Urban infrastructure, smart grid, open hardware, quantified self, open data, environmental monitoring and more...

London, United Kingdom

Founded Oct 4, 2011

About us..

- Members 2,037
- Group reviews 44
- Upcoming Meetups 2
- Past Meetups 30
- Our calendar



#iotlondon

+ SUGGEST A NEW MEETUP

Upcoming 2 Past Calendar

Internet of Things Meetup 26

Xively

4th Floor, 13-21 Curtain Road, EC2A 3LT, London (map)



Join us for drinks and networking as we listen to 3 speakers who are making the Internet of things a reality. Interested in speaking? Get in touch on twitter at @...

LEARN MORE

Hosted by: Alexandra Deschamps-Sonsino (Co-Organizer)

Tue Nov 19 7:00 PM

Waitlist

95 attending 171 waiting 11 comments

Internet of Things Meetup 27 (The Christmas edition)

What's new



MORE

NEW RSVP

David Stevens RSVPed Waitlist for Internet of Things Meetup 26



Briefs:

In/visibility of energy: Householders have told us that not being able to 'see' the energy they use (and what's actually using it) limits their ability to change how they use it. This doesn't just mean visualisation via numbers and graphs - what could be new ways of communicating energy? Following on from this, are there opportunities for more **ambient (e.g. audio) interfaces for energy use?**

Thermal comfort: Heating uses the largest proportion of energy in homes, but can we look at this question not directly through temperature, but instead from the perspective of householders' **comfort and their sense of control** over the home environment?



Air Quality EGG

An internet-enabled environmental monitor

IAMS
IAM

DIGITAL MULTIMETER











localised heating

Most people spend most their time in most a few specific places in house - desk, bed, sofa - can we target these most specifically to artificially provide feeling of thermostat

personalise settings

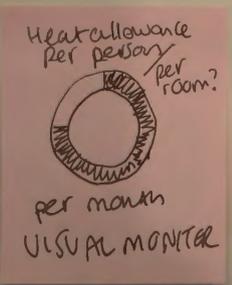
Smart thermostats in each room

Energy billed per room? separate climate controlled per room (like CC zone in cars), introduce competition between rooms

MATCH COMFORT TO SCHEDULES & PATTERNS OF OCCUPANCY



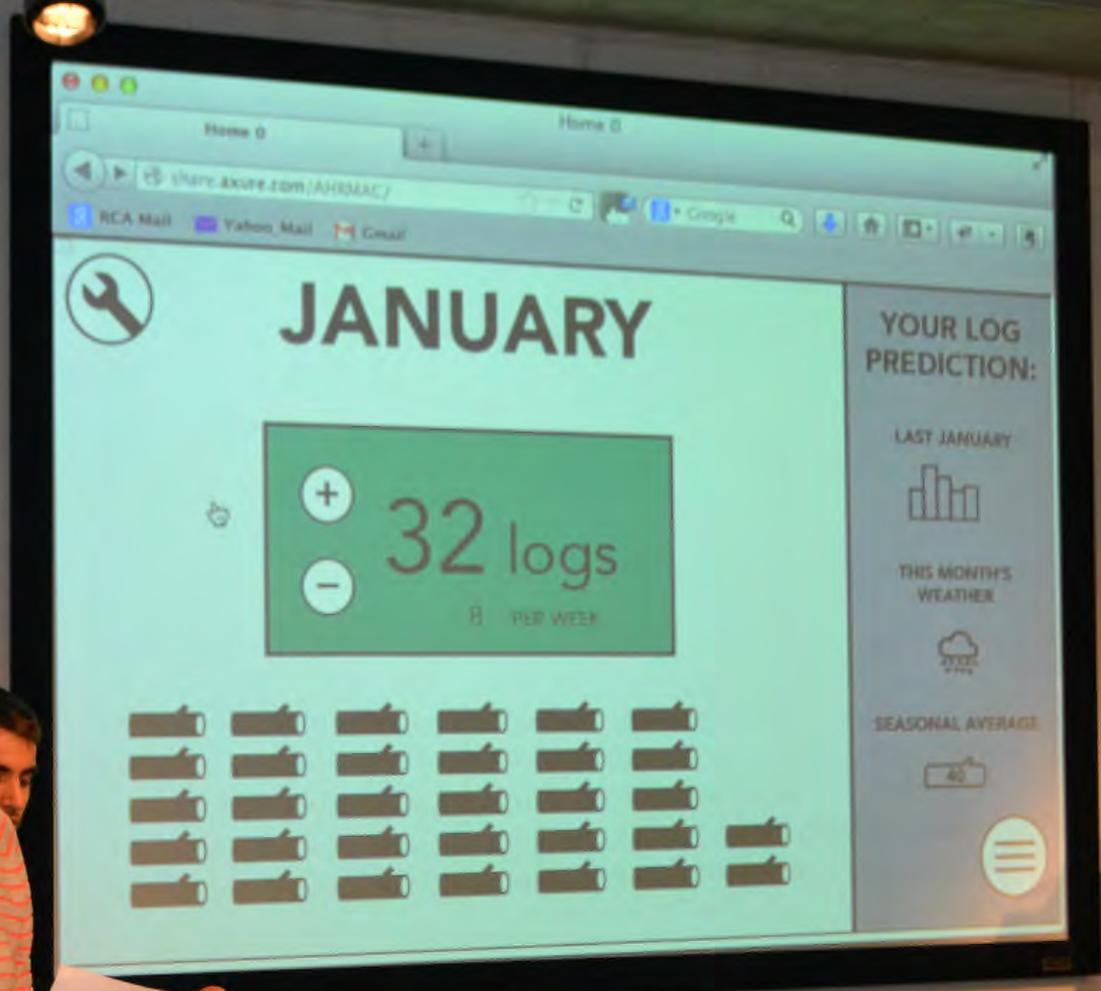
Furnishings?
Recliner?
Environment?



Control over individual room temps

where in the house is warmest

communal use of energy





Next steps:

- Prototyping new energy visualisation / ambient interfaces
- Prototyping new thermal comfort / control interface
- Trials of devices with householders, both at home and in the SusLab living labs across Europe
- Iterative development
- ???
- ~~PROFIT~~ Energy savings

SusLab at the RCA

People, energy & everyday life



Invitation: Home Energy Hackday, Saturday 9 November

SusLab Home Energy Hackday, Dana Centre, Science Museum, London SW7 5HD
Saturday 9 November, 8.30am – 8.30pm

[Sign up at Eventbrite](#)

Are you interested in energy, design, prototyping or user research? As part of the European [SusLab project](#), we're running a one-day hackday event to explore new ways of **making home energy use more tangible, visible, or understandable**, and we'd love you to take part. We're looking for makers, however you define: hackers, coders, designers, artists, systems people, to come together and push this area forward.



There's loads of work going on about reducing energy use, feedback, behaviour change and smart metering, but a lot of it misses a fairly basic insight: **people don't understand energy very well**, and it's difficult to change what you're doing if the feedback doesn't mean much to you.

 Search

RECENT POSTS

- [Seeing Things: The projects](#)
- [AcrossRCA Seeing Things: introducing the week](#)
- [Invitation: Home Energy Hackday,](#)



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