

Energy literacy and community action: **shaping new low carbon practices at home and in a school**

RGS-IBG Conference 2011

Learning to be low carbon: leveraging change at home and at work

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Smart Communities

- Two years from May 2011
- A community action project with the main objective of energy consumption reduction (in homes and in school)
- Close relationship between interrelated theory and practice (action research)

Practice theory

Social theories of learning

Social norm theory

Community action theory



Community action



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Practice theory

Social theories of learning

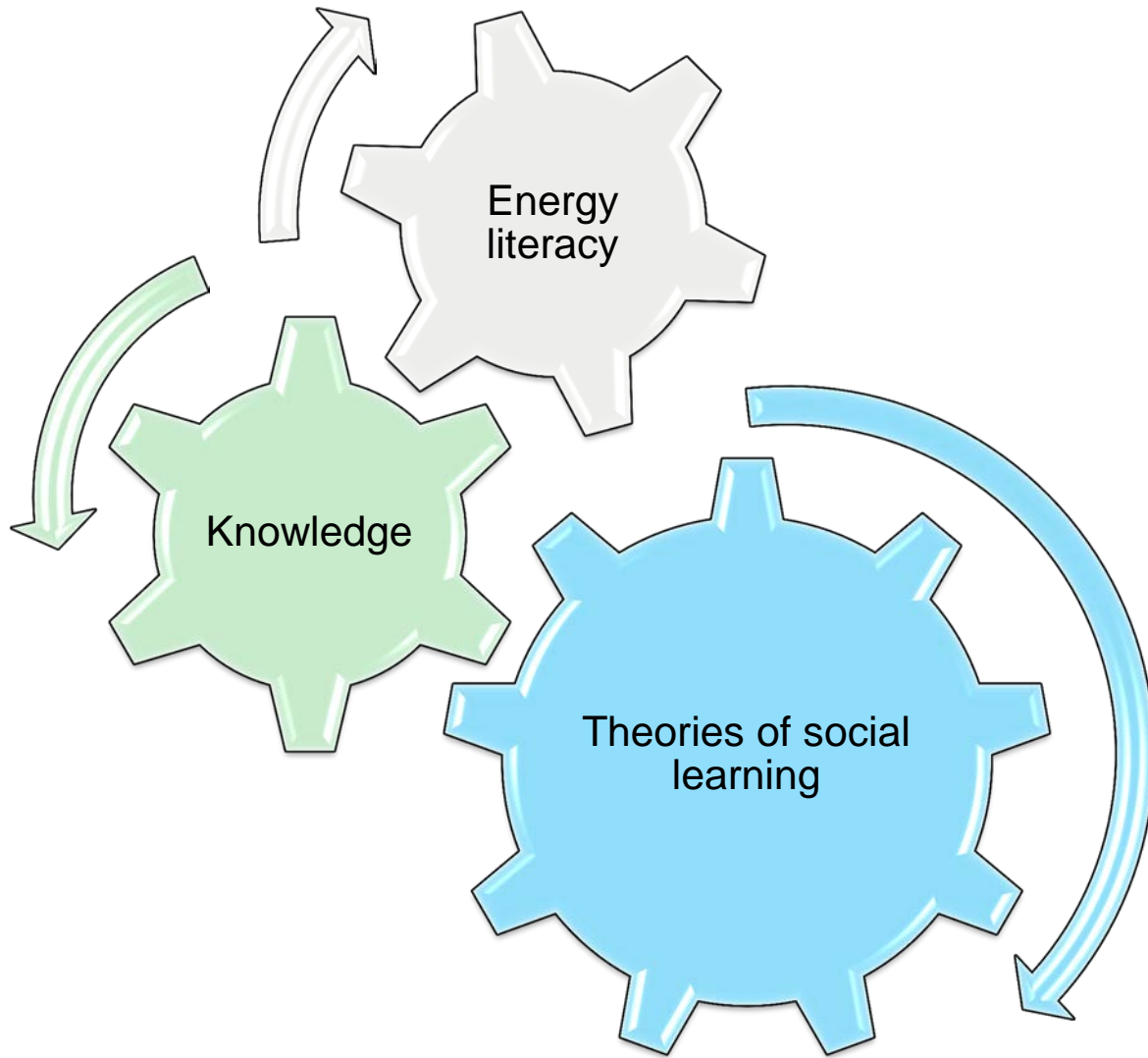
Social norm theory

Community action theory



Community action

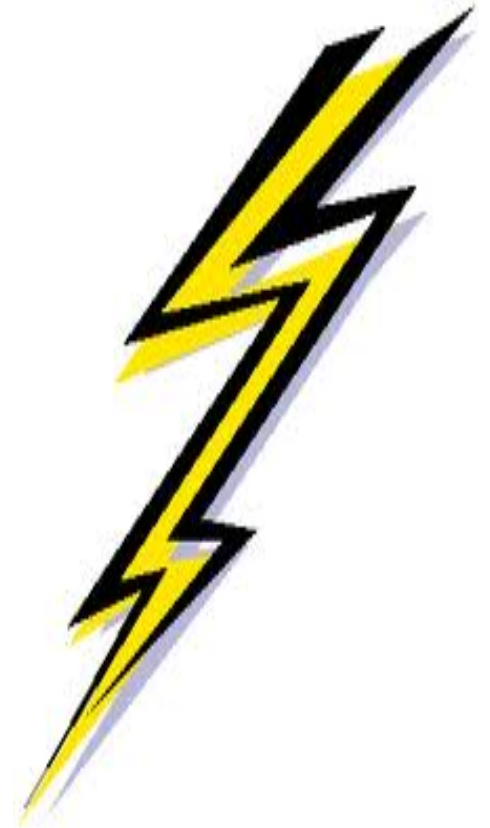




Ethereal energy

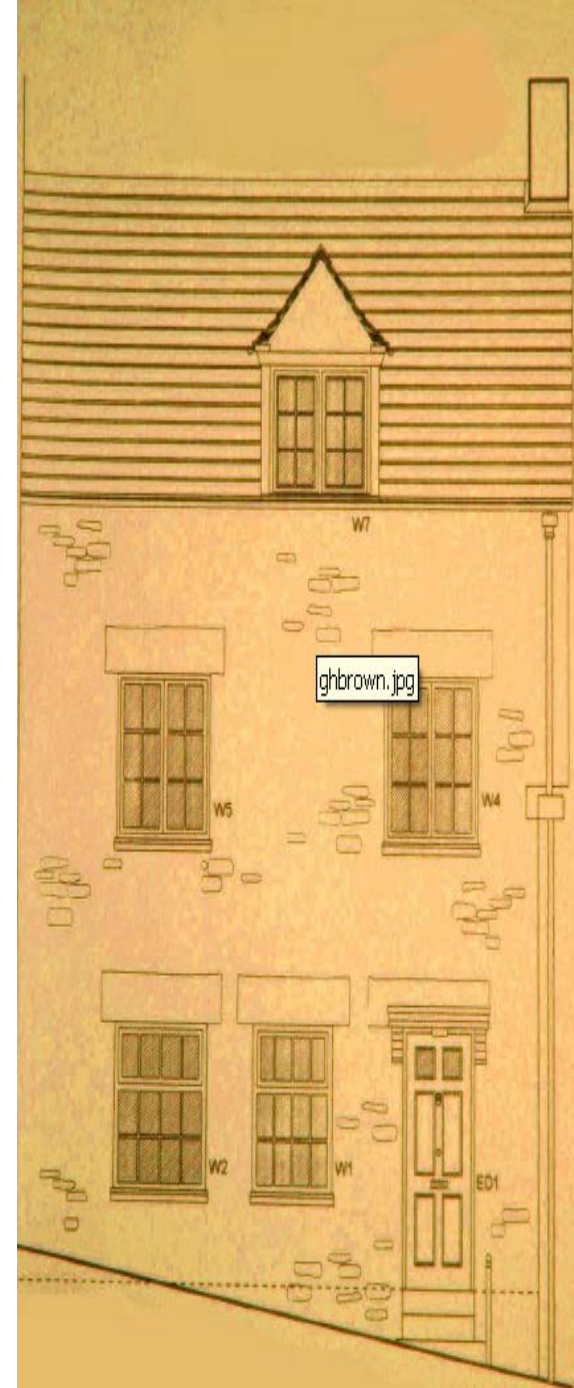
- Not visible
 - Not material
 - Not an end (merely a means)
 - Not generally known or understood
 - Not generally salient
 - Not there
-
- Understood in different ways to energy 'experts'

See 'Folk Quantification of Energy', by Kempton and Montgomery (1982)



Energy literacy

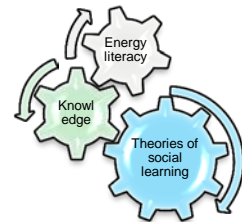
- Objective: to increase the 'energy literacy' of the community
- Energy literacy means understanding
 - Where, when, how and how much
 - energy one is consuming
 - less energy one could be using
 - The energy consumption of others (norms)
- Encompassing
 - One's own ways of doing things and the material objects that one uses
 - Other people's ways of doing things and the material objects that they use (norms)
- But also how to find out about these things
 - Sources of information
 - Who to speak to
 - Ways of experimenting and discovering



Energy literacy as a form of metis

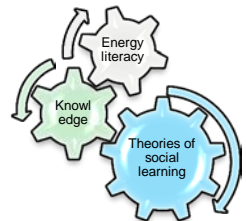
- We conceive energy literacy as: experiential, informal, practical and skills-based, contextualised (local), tacit, flexible, shared knowledge
- And, sometimes also empirical and technical knowledge
- A form of metis, know-how, *savoir faire*

On metis, see James Scott (1998) *Seeing like a state*, chapter 9: Thin Simplifications and Practical Knowledge: Metis
The term know-how is often used within practice theory, see a range of materials by Elizabeth Shove or Theodore Schatzki



Social theories of learning

- Similarly, we frame our interventions in terms of social theories of learning that emphasise: experience, context, informality, practical skills, shared learning and learning from peers
- Constructivist approaches, in general (experience, active, context)
 - Communities of practice (shared) (Lave and Wenger)
 - Discovery learning (enquiry-based, active) (Bruner)
 - Problem-based learning (problem-based, active, collaborative) (Barrows)
 - Situated learning (context, active) (Lave)
 - Social learning theory (peers) (Bandura)



Get started

[Register now](#)
[Helpline/Contact](#)

Welcome

Smart Communities is a community action project in Kingston-upon-Thames, south west London. Our goal is to work together within this community to save energy in the home. We're unique because we focus on the community working together to change the way we do everyday things at home – like cooking, cleaning, lighting and entertaining – so that we use less energy.

[More >](#)

Working together to save energy

You are eligible to join Smart Communities if you live in the area shown in the map bounded by Richmond Road, Latchmere Road and Tudor Drive in KT2. You can also join if your children attend Fern Hill primary school or if you work at the school.

Smart Communities will help you to reduce your energy bills and save money. Every household that joins will receive a free energy monitor. Please join if you want to learn more about saving energy, if you want to share your energy saving experiences, or if you just want to meet some of your neighbours. Smart Communities



Login

Email Address

Password

 Remember Me

Not Registered Yet?

Lost your password?

What's happening?

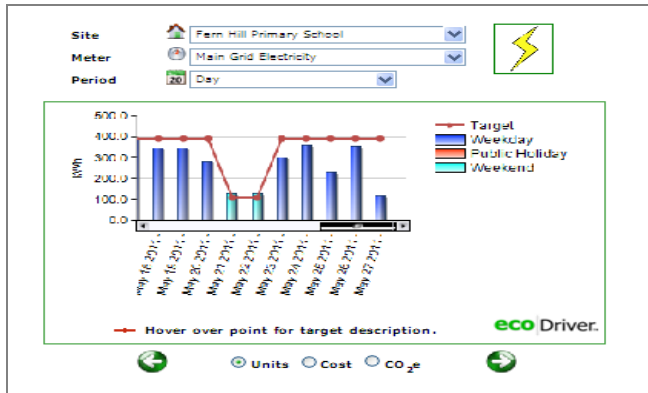
Find out more about solar panels

Solar PV panels: A talk by Street Champions

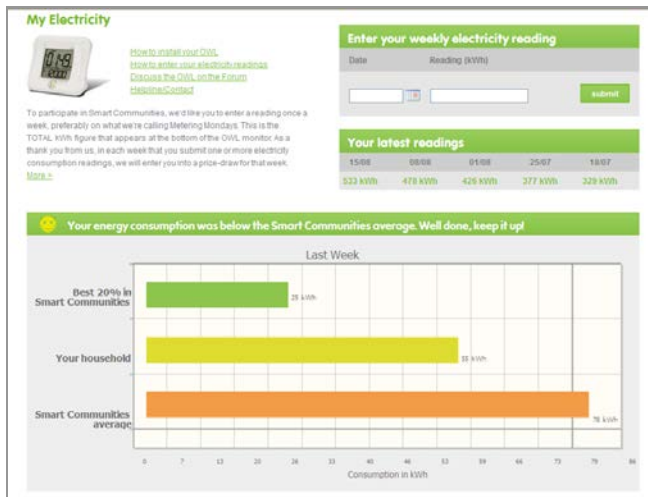
Ham Library, Ham Street, TW10 7HR

Saturday 27 August, 1.00pm – 2.00pm

Energy monitoring and feedback



- Made routine and habitual within the school
- Employed in learning across curriculum and in energy consumption management
 - Weekly monitoring sessions for all classes
 - Incentives and targets for consumption reduction
 - Energy Detectives Team; Energy Cup
- Made routine and habitual in households
 - Weekly, incentivised manual recording of household energy consumption on website
 - Comparative energy consumption feedback (employing social norm theory and practice)



My Electricity



- [How to install your OWL](#)
- [How to enter your electricity readings](#)
- [Discuss the OWL on the Forum](#)
- [Helpline/Contact](#)

To participate in Smart Communities, we'd like you to enter a reading once a week, preferably on what we're calling Metering Mondays. This is the TOTAL kWh figure that appears at the bottom of the OWL monitor. As a thank you from us, in each week that you submit one or more electricity consumption readings, we will enter you into a prize-draw for that week

[More >](#)

Enter your weekly electricity reading

Date	Reading (kWh)
<input type="text"/>	<input type="text"/>
<input type="submit" value="submit"/>	

Your latest readings

15/08	08/08	01/08	25/07	18/07
533 kWh	478 kWh	426 kWh	377 kWh	329 kWh



Your energy consumption was below the Smart Communities average. Well done, keep it up!



Energy experiments

- Encourage members to use monitors to facilitate learning about energy consumption of household appliances and energy consumption issues (e.g. vampire consumption)
- Paper- and web-based
- Data is used in later communications




Please write your surname in this box:

Please write the first line of your address in this box:


1. → Kooky kettles

Ask an adult to pour some water in your kettle, and place your energy monitor close to the kettle. Before you switch on the kettle, write down your real-time energy use in this box (your real-time energy use is the number at the top of the monitor).





Now, ask an adult to switch on the kettle, wait for the real-time figure to change, and write the new real-time energy use in this box.

Subtract the first number from the second, to work out the kettle's load, and write the result in this box.

 *Things to think about and discuss:* Did the number change a lot? Why do you think this is? Were you surprised, and why? *Tip:* Creating heat is the most intensive use of energy around the home. Try to just boil as much water as you need, and buy a low energy kettle when you replace your old one.


2. → Vampire consumption

 Keep an eye on your OWL, and write down the lowest ever real-time energy use figure that you see? First thing in the morning or last thing at night is usually a good time to see how low you can go.

 *Things to think about and discuss:* People often call this vampire consumption, because electricity seems to just bleed away at night! What are the vampire appliances in your house? How could you reduce your vampire consumption? *Tip:* look for appliances that are left on standby or have a digital display or a light on all the time, and turn these off at the wall socket.

Don't forget to hand your completed form back to your teacher.

Smart Communities



Online members' forum

- Encourages learning, and discussion and reflection on learning

The screenshot shows the Smart Communities website forum. At the top, there is a navigation bar with the Smart Communities logo on the left and links for Home, About, Register, Team, Fern Hill, Tips, and Helpline/Contact on the right. A secondary navigation bar below it contains links for My Home, Forum, My Electricity, My Gas, My Pledges, Energy Experiments, and Eco Library. The main content area displays a forum thread titled "Electricity consumption feedback" with 4 posts and 4 voices. The thread is started by Kevin, an Admin, 2 weeks ago. The latest reply is from Ruth. The first post by Kevin reads: "We are really pleased to launch the electricity consumption feedback. Over the next few weeks, you will also be able to see longer term feedback, to switch between kWh, £s and CO2, and see your consumption relative to the number of rooms in your house and the number of people in your household. We'll get all this on-line as soon as we can. I have been watching my weekly feedback for a few weeks now, as we've been testing the system. It has been useful to be able to compare my consumption with the other households. So far, I am doing pretty well (I'm getting two smileys because my consumption is well below the average), but I really want to break into the best 20% group!" The post is dated "POSTED 2 WEEKS AGO @ 141,241.85.38" and includes "EDIT" and "DELETE" links. The second post by Tom, also an Admin, reads: "I've been interested in comparing my weekly electricity consumption with that of my colleagues, but now I can compare my usage with others in the Smart Communities project. I was pleased to find myself in the lowest 20%, and I'm looking forward to be able to see my usage relative to the number of rooms in my flat and people in my household. It made me think that whilst our energy needs may be a bit different, there's nothing to stop us working together to reduce our usage. I wonder how my energy consumption feedback will change over the next few weeks...?"

Profile | Logout

Smart Communities

Home | About | Register | Team | Fern Hill | Tips | Helpline/Contact

My Home | Forum | My Electricity | My Gas | My Pledges | Energy Experiments | Eco Library

[SMART COMMUNITIES FORUM](#) » [SMART COMMUNITIES FEEDBACK](#)

Electricity consumption feedback (4 posts) (4 voices)

- Started 2 weeks ago by Kevin
- [Latest reply](#) from Ruth

Kevin
Admin

Smart Communities

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Tom
Admin

Smart Communities

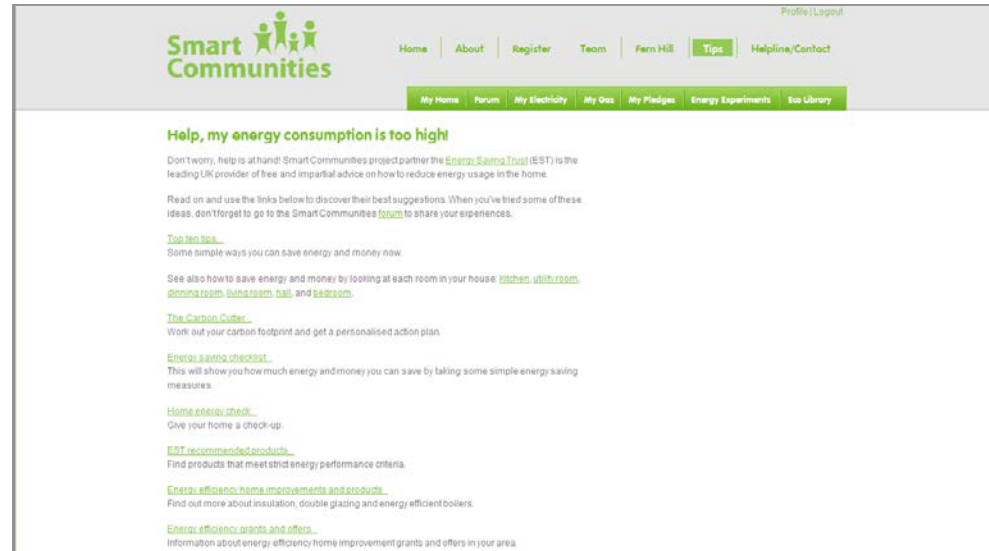
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Tips

- Tips provide a more cognitive form of learning
- Tips appear on Tips page on website and as Tip of the week in weekly emails



The screenshot shows the Smart Communities website interface. At the top, there is a navigation bar with the logo "Smart Communities" and several menu items: Home, About, Register, Team, Fern Hill, Tips (highlighted), and Help/Contact. Below this is a secondary navigation bar with items: My Home, Forum, My Electricity, My Ours, My Pledges, Energy Experiments, and Eco Library. The main content area features a tip titled "Help, my energy consumption is too high". The tip text reads: "Don't worry, help is at hand! Smart Communities project partner the Energy Saving Trust (EST) is the leading UK provider of free and impartial advice on how to reduce energy usage in the home. Read on and use the links below to discover their best suggestions. When you've tried some of these ideas, don't forget to go to the Smart Communities forum to share your experiences." Below the text are several links: "Top ten tips", "See also how to save energy and money by looking at each room in your house: kitchen, utility room, dining room, living room, hall, and bedroom", "The Carbon Cutter", "Energy saving checklist", "Home energy check", "EST recommended products", "Energy efficiency home improvements and products", and "Energy efficiency grants and offers".

Learning about what other people do

- Encourage members to share, consider, discuss, reflect upon the rules and meanings of household practices, and changes in these
 - At home via Energy Experiments
 - At workshops (World Cafe style)
 - Via messages in emails
 - On the website Forum
- These activities open up ‘possibility spaces’ for future reassessment and change in rules and meanings
- Drama workshops for the school children creatively encourage reflection on the meanings of energy



Norms

- At workshops, members decide on 10-15 low energy ways of doing things for adoption by the whole community.
- These will appear on the website.
- Members will record their own pledges and progress
 - We pledge to try this []
 - We have tried this []
 - We're getting there []
 - This is now what we do []
- Members will see
 - Their own pledges and progress
 - The progress of the community as a whole
 - (Social norm theory and approach)



Thank you!

