



Energy project briefs background

Project statement

“To identify opportunities for new energy services for London “Able to pay” owner occupiers which could substantially reduce Carbon dioxide emissions”.

Background

Residential households make up a significant part of total energy demand and CO₂ emissions – about one third in the UK as a whole, and up to 45% in London.¹ Domestic energy use is therefore of major importance to the success of the Climate Change Programme and the longer-term imperative of cutting emission sharply to avoid damaging climate change.

Clearly, reducing energy use through efficiency gains has a crucial role to play. According to the 2003 Energy White Paper: “The cheapest, cleanest and safest way of addressing our energy policy objectives is to use less energy”.²

Most domestic emissions do not come from fuel poor households, but from the “fuel rich” or “able-to-pay” sector. In London the non-fuel poor sector (both owner occupied and rented) accounts for 38% of all CO₂ emissions - about 16 million tonnes a year. This represents the great majority of domestic emissions.

The crucial fact about this sector is that they are able to invest in their own energy efficiency and home generation. Unlike the fuel poor, where the task is to identify eligible households and undertake free measures, the aim with the fuel rich is to motivate and support investment by householders themselves.

Design Council RED team

The Design Council is a publicly funded body tasked with making UK managers the best users of design, and has a track record in making social and economic change through the application of design. The RED team within the Design Council uses design methodology and the creativity of designers to produce new approaches and solutions to intractable problems. Through focusing on users and combining this with expertise from within appropriate fields design provides a space for innovation. Previous projects have included; investigating how the interaction between citizen and state could be redesigned to enhance a sense of nationality; and most recently developing new approaches to the question of public health focusing on chronic condition management and prevention.

The team is led by Robin Murray, and includes a core team of designers and policy experts.

For further information on RED and the work that we are doing please look at our weblog at: <http://www.designcouncil.org.uk/red/>

¹ Environmental Change Unit (2005) *40% house* Oxford University, p 11; GLA (2004) *Green Light to Clean Power: The Mayor's Energy Strategy* p 13

² DTI (2003) *Our Energy future – Creating a low carbon economy* p 32

Brief A: Home Energy Monitoring System

"If you can't measure it, you can't manage it..."

This truism is attributed to management consultancy McKinsey - at the RED team, we like the distortion;

"If you can't see it, you can't do anything with it..."

Our initial user research has pointed us to considerable interest for our target user group in better understanding their own energy usage. Current metering technologies are largely invisible to the householder – the electricity meter being a largely forgotten product, tucked away in a cupboard or hallway, out of sight and out of mind.

There is a design challenge to rethink this invisible product – in terms of its form, place in the home, and how it might work. In our research so far, users have likened this to designing a “dashboard” for the home. In the same way that a vehicle’s instruments tells its user how much fuel is being used, how might a domestic equivalent better inform the home owner about similar measures – and what effect could this have on the households awareness and behaviour as related to use of electricity or other fuels..?

This system is likely to consist of some, or all, of this list of components - all connected together wirelessly;

- Visual display, probably an l.c.d. - either large scale monochrome or small scale colour
- Range of sensors to measure energy usage at sockets, circuits, pipes or meters
- Microprocessor based control unit
- Range of actuators to modulate / turn down (or turn off...) home devices or appliances

Domestic renewable energy technology is moving out of the laboratory and into everyday life. As these advanced technology services become increasingly mainstream, design will have increasing leverage in differentiating one technology provider over another. Brand communication, retail, service and product design will each have a greater role to play.

In considering this challenge there are a number of related or adjacent issues that might be worth thinking about;

- Does this system integrate or co-operate with existing products like boilers, meters, appliances, etc?
- Is there a new, aspirational aesthetic for home energy products?
- What enhanced functionality would make people more aware of household CO₂ emissions?
- How might energy utility companies harness this technology to help their customer relationships?
- Is there scope for new retail approaches to selling energy technologies for homes?