

Ageing Population Attitudes to Sensor Controlled Home Energy (APATSCHE)

Greta Barnicoat & Mike Danson

Some relevant research findings:

Darby and McKenna (2012) suggest that uptake would be facilitated through simple, clear tariffs; data privacy and security; good feedback systems for both consumers and suppliers; and better customer education.

They also note that levels of acceptable automation will be dependent on user attitudes, views on usefulness as well as technological requirements.

APATSCHÉ Workstream 1

A qualitative study of the use of smart monitors and energy practices in an older population

•2 Stage Depth Interviews of residents of Dumfries & Galloway Housing Partnership [Group 1]

Stage 1 - 19 Interviews [2 sub-gps broadband/ no broadband at home]

Topics Covered:

Awareness of Energy Use and Understanding of Costs of Appliances – very little awareness and knowledge

Strategies for heating – majority fuel rationing by turning off heating when in during day even in winter/ more clothes etc.

Behaviour and Practices around energy

Knowledge of Smart / Tariffs / Trust of Supplier – poor awareness and knowledge of ‘smart grid, smart metering or smart monitor; Confusion or no knowledge on what tariff they are on; all on monthly direct debit for energy which they feel is manageable although they have worries if this would increase; trust the supplier although –

Insufficient trust to give responsibility for all heating over to supplier.

Attitudes to Direct Load Control – ‘Big Brother’; loss of independence concerning; this is ‘My Home’

Concerns that their supplier wouldn’t know their personal needs for warmth on a day-to-day basis – highly variable behaviour and practice across households and for each resident on a day-to-day basis [health] – not seen as useful

Analysis complete

Added in New Group – off-grid, rural, broadband (5 households / Pitlochry area)

Following Feedback Session

Stage 2 – 16 interviews

Topics Covered

Understanding of Feedback from engineers/ slide show and personal feedback – output - given two weeks before interview.

Use of Smart Monitor in the House – explanation given two weeks before interview. Many had never touched nor looked at the monitor. Little interest as they feel there is very little they can cut back on unless they have to, if the prices rise.

Ability to change behaviour around energy use – very little ability to change; small use of ‘heavy’ electrical appliances. Many older people stay in during the evening, especially in the winter, for security, health and safety reasons. They would be disadvantaged if the price of energy increased for evening time periods as they currently have no options to change this routine. Would they be ‘forced’ to go to bed earlier if this were the case?

Time of Use Tariff / Dynamic Pricing – difficult to move very much activity into likely cheap ‘off-peak’ times although willing to do so where possible; difficulty using a monitor / tablet/ smart phone, to see price changes; new appliances may be needed for timing – associated costs therefore not a solution.

If very dynamic – not ‘simple tariff’ ...

Internet and Smart Phone/ Tablet Use – almost non-existent in Group 1

Control levels – Dynamic Pricing; Volume/ Load Capping;
Direct Load Control – ‘can we not keep things the way they are?’

History and Home – what they mean/ impacts – very different past home-life when compared to today; many habits and acceptance of lower temperatures brought forward from past, when they were young and mobile – not healthy for today...

Some Key Findings:

- Poor awareness and knowledge of Smart Metering, Smart Grid and Smart monitoring
- All interviewees are very aware of the cost of energy in their lives and try to save where they feel that they can. They are not consuming large amounts of energy.
- Group 1 - Older social housing residents – generally attitudes are that they do not want to change from the current way of using and buying energy. Control seen as a loss of independence.
- Group 1 – very little knowledge of technology [no smart phone, little to no engagement with installed monitor], even in the group who have broadband installed in their home. This would make it difficult for them to react to TOU Tariff arrangements and therefore they may be disadvantaged. To gain any advantage they would also need to have storage abilities/ capital cost

Conclusions – some thoughts:

- Market segmentation needed as the message of 'reducing energy consumption' is given to all - those over and under-consuming...this is not a message to give to fuel poor older people
- Understanding required of the needs [and wish] for education and training in relevant and useful technology to reduce level of 'smart' disadvantage in this population. - Good feedback requirement
- Consideration of the associated monetary costs to older and low income consumers, for moving to a smart system - home and mobile technology products; training etc.

Finally...

Who's choice will it be to have their home fully automated/controlled for heating and/or appliances ? What would the difficulties be if external control wasn't accepted?