

2012 BECC Conference: Poster Presenter Abstracts

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Examining the Effects of Display Presentation on Energy Feedback

Feedback has been shown to be a promising intervention for energy conservation and has been discussed widely in recent BECC conferences. The design of visual displays to communicate this information is an important component, but theoretical and empirical research into the most effective displays for imparting clear, interpretable information are lacking. Often left to designers, psychological research suggests that the way information is presented can significantly impact response. Furthermore, design objectives should be clearly linked to desired outcomes; visualizations to increase literacy are not necessarily structured the same as those inducing behaviour change. Therefore, a focused attention on design features that incorporates multiple outcomes is likely to leverage feedback's potential to promote end-use building efficiency. This paper presents findings from a study investigating the effects of information density and perceptual assistance in energy feedback visualisations on energy literacy, behaviour intention, and consumer preference. Survey respondents were shown graphs that differed in granularity as well as display features, and were asked questions about their comprehension, perceptions, and behavioral intentions related to the displays. Results indicate that different visualizations of the same data have significant impacts on user response; these differences are also moderated by individual level characteristics, such as gender and number of children in the home. These findings have implications for the design of a broad range of energy feedback displays, ranging from paper energy bills and utility websites to in-home displays and home area networks.