INTELLIGENT WATER METERING
Navigating the opportunities

THE NEW DIGITAL AGE OF SUSTAINABLE URBAN WATER MANAGEMENT

Intelligent water metering offers the ability to provide new information on where water is used in the home (i.e. in washing machines, for showering, outdoor irrigation, and so on). Whilst the role of the level of detail of information has been highlighted by various studies, the way in which this information affects water use behaviour is yet to be fully understood. It is yet to be tested whether a householder is influenced by knowledge of their total water use (which is simpler to track over time), or more detailed water use information; more detailed information offers greater potential to target savings, however it may only be perceived as being useful by a limited cross-section of the community that have an interest in the topic. For the first time, we develop a framework that evaluates how innovative approaches to communicating data to householders affects attitudes and water use behaviours in this new digital and diversified age of sustainable urban water management.

PROJECT OUTLINE

The project is a three and a half year collaboration between the Institute for Sustainable Futures at the University of Technology, Sydney, Mid-Coast Water in NSW, and Griffith University in Queensland. It aims to integrate theories of behaviour change to determine the mechanism by which data and new information from intelligent water metering affects householder awareness and attitudes toward water use; influences water consumption behaviours and patterns; and impacts on householder perceptions of control as well as analysing risks from intelligent water management.

INTEGRATIVE MODEL

The study will collect both empirical data via intelligent metering and qualitative data through questionnaire survey instruments and interviews to investigate how the frequency and mode of information communication affects household water use awareness, attitudes and behaviours.

Social science research often links behavioural indicators to total household demand rather than specific end-use water consumption behaviours (e.g. Gregory and Di Leo, 2003). Engineering studies monitoring such behaviours fail to link findings to perceptions and attitudes (e.g. Willis, Stewart et al., 2010). Taking a mixed-methods approach, the study triangulates findings from these diverse measurement instruments to create an integrative and evidence-based assessment on the optimal frequency and mode of communication.


ABOUT ISF
The Institute for Sustainable Futures is a research institute at the University of Technology, Sydney. It has the mission to create change towards sustainable futures by conducting independent project based research with Australian and international clients. At ISF, we work on projects across a range of research areas using a variety of approaches that foster lasting change, and build independent capacity with our collaborators by diffusing knowledge and skills. We focus on innovation and our research often extends sustainability practice and contributes to current thinking.

RESEARCH TEAM

Professor Stuart White, Director, ISF
Professor Stuart White is an internationally regarded expert in Integrated Water Resources Planning and has strong research experience in economic analysis. He will provide the vision and leadership for the project. Stuart is the Director at the Institute for Sustainable Futures.

Dr Damien Giurco, Research Director, ISF
Damien is a nationally recognised expert in intelligent metering and has research experience in how information detail affects decision making under uncertainty.

Ariane Liu, PhD Scholar, ISF
Ariane comes from a corporate change management background and brings international experience in driving efficiencies and optimising customer service.

Thomas Boyle, Research Consultant, ISF
Tom has a passion for the sustainable development of cities and regions and brings with him experience in sustainable urban water management and regional capacity building.

Candice Moy, Research Consultant, ISF
Candice is interested in the intersection of social, cultural and scientific knowledge along with nature/culture binaries, and has research experience in this field.

Professor Mary-Anne Williams, ISF/Stamford University
Mary-Anne has vast expertise in information, knowledge and behaviour change and the deployment of innovative, interactive technology and its impact on users.

Dr Rodney Stewart, Griffith University
Rodney has expertise in data collection and information management using intelligent water meters, as well as diffusion of innovation and communication.

Graeme Watkins, Strategic Operations Manager, Mid-Coast Water
Graeme has extensive practical experience with water usage, efficiency, alternate water sources, metering and customer interaction.

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