

An Exploration of Community Attitudes to Recycled Water Use – An Urban Australian Case Study

Anna Hurlimann, PhD Thesis Abstract

The use of recycled water has been promoted by policy in many parts of the world under the banner of sustainable water management. Impetus for these policies has been provided by increasing water scarcity driven by population growth and rising per capita water consumption. A major barrier to the success of recycled water use policies can be a lack of community support. A further problem is significant gaps, uncertainties and assumptions in the literature about community attitudes to recycled water use. The aim of this thesis was to bridge these gaps answering the specific research question: What are the components of community attitudes to and satisfaction with recycled water use? This was investigated through an urban Australian case study.

The gaps in literature required a theory building rather than theory testing approach to the research which was facilitated through the case study. Due to the sparse literature and few existing case studies, a broad range of parallel literatures from many disciplines were drawn upon to inform the research. The research structure of the thesis drew 56 observations from the combined literature and case studies. The observations informed the development of 5 broad Research Propositions, which translated into 60 specific Research Hypotheses that were tested with multiple methods including: conjoint analysis, contingent valuation, structural equation modelling and unobtrusive methods. The principal research tool was a panel / repeat cross sectional community survey. Three surveys of the community were undertaken, two prior to the use of recycled water commencing (both with 136 respondents), and the third post recycled water use commencing (with 162 respondents).

The case study site for the research was Mawson Lakes in South Australia, where recycled water is used for non-potable purposes, including garden watering, toilet flushing and car washing, through a dual water supply system. Construction of this Greenfields suburb began in 1997 and is expected to be completed in 2010 by which time there will be 10,000 residents. Recycled water began reticulation through the dual water supply system in April 2005; until that time potable water was delivered through the recycled water pipes.

In answer to the research question, the study found the components of community satisfaction with recycled water use were an individual's positive perception of:

- the Water Authority's communication,
- trust in the Water Authority,
- fairness in the recycled water system's implementation,
- quality of the recycled water,
- financial value of the recycled water system, and
- risk associated with recycled water use (negative relationship)

Other issues investigated in the thesis include: attitudes to recycled water attributes including salt, colour, odour and price (when used for clothes washing, garden watering and toilet flushing), risk perception, attitudes to price, willingness to pay for recycled water quality improvements, willingness to pay for non-market benefits of recycled water use, perceptions of institutions, and other related attitudes.

Results of this investigation contribute to building knowledge and understanding of community attitudes to recycled water use, and hence facilitate sustainable management of water resources.