

## Investigation of household water consumption using smart metering system

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### ABSTRACT

Prolonged drought currently experienced by South-East Queensland in Australia poses great challenges to water authorities to provide potable water for the communities in a sustainable manner. Toowoomba Regional Council (TRC) is implementing several demand management programs aiming to reduce the demand on potable water supplies, however little is known about their effectiveness. In this innovative project, a sample of 10 volunteer households was installed with high resolution smart meters and data loggers. The raw data were then collected remotely and processed with the special purpose software “Trace wizard” disaggregating every water event occurring in a household into relevant end-use categories. This paper gives insight into the itemized water consumption by each appliance during the monitoring period and further evaluates the effectiveness of implemented water demand management programs. The paper concludes that the provision of rebates for water efficient devices by both the State Government and TRC is currently targeted to the areas where they are likely to save the highest amount of water. However, WaterWise education is highlighted as a significant part of demand management programs with changes in consumers’ behaviours likely to save the most water when compared to retrofitting of water efficient devices solely.

*Keywords:* Demand management; Smart meters; Water end use; WaterWise education; Water efficient devices

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