

Leakage in Schools (LiS) Smart Metering Program

OCTOBER 2015



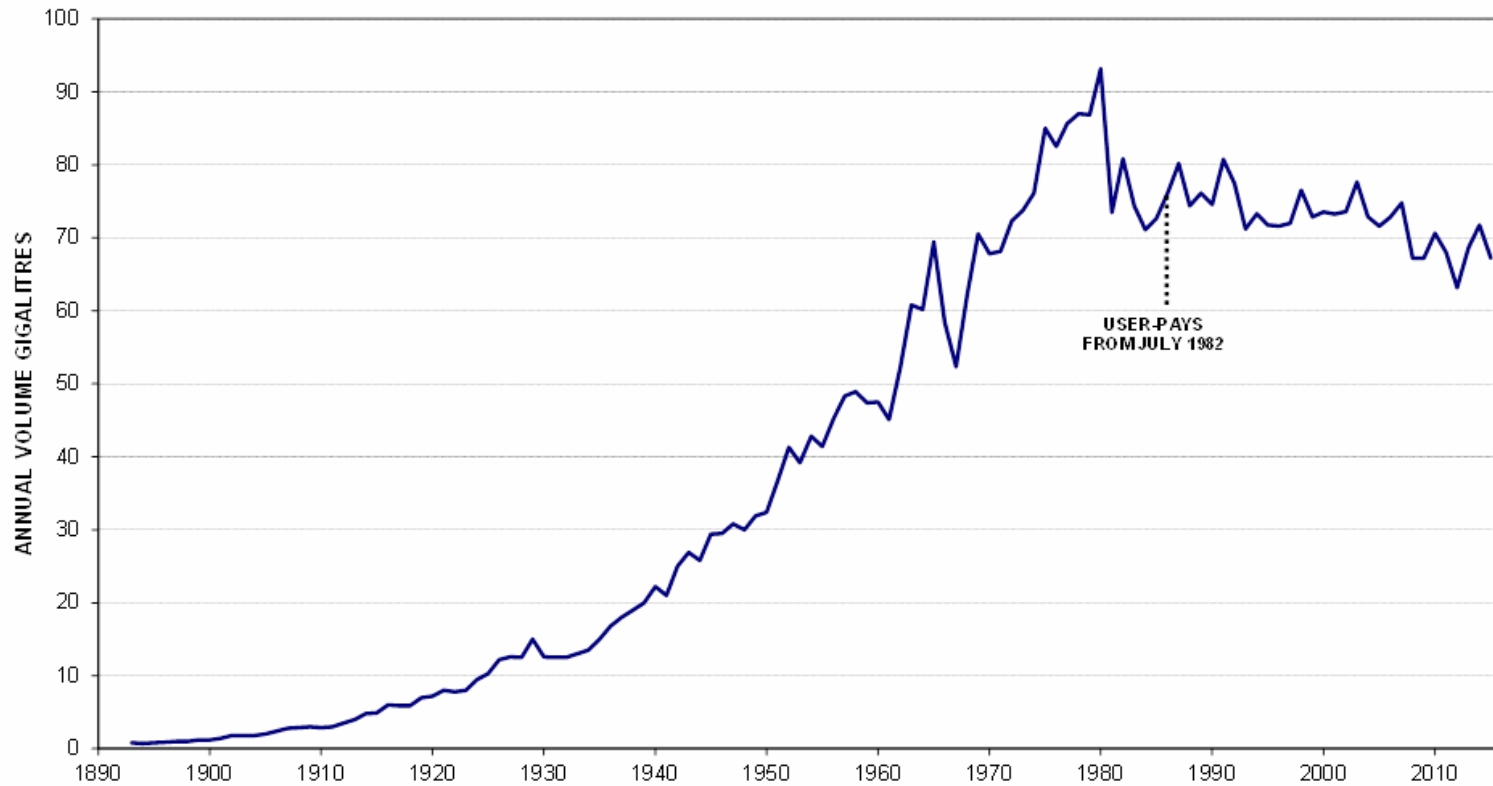
About Hunter Water

- Approximately 580,000 people served
- Deliver an average of 184 megalitres per day. (67GL per annum)
- Average consumption per residential tenement is 168 kL/annum.



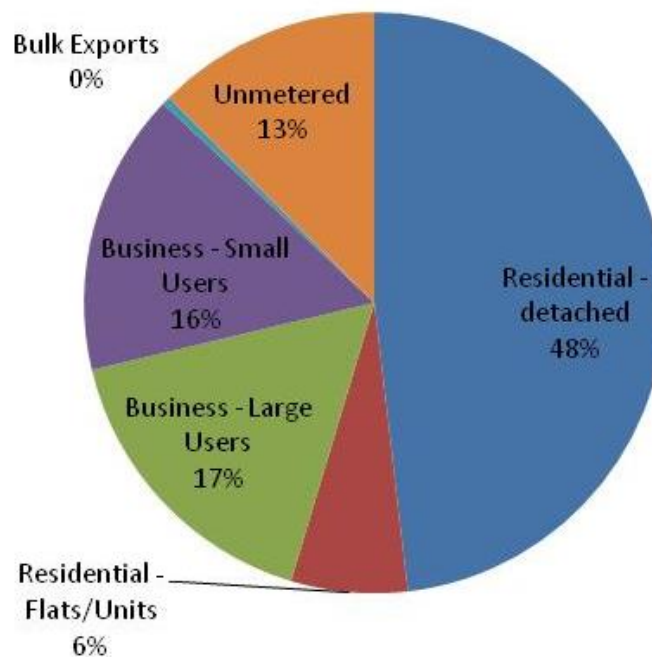
Water Use in the Lower Hunter

TOTAL SUPPLY FROM THE SOURCES
1893 TO DATE



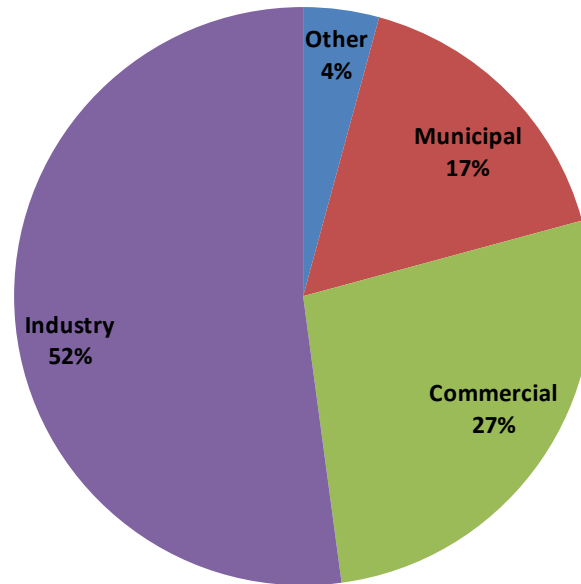
Lower Hunter Water Demand

Water Demand 2014/15



- Total Demand 67GL/annum or 184ML/day

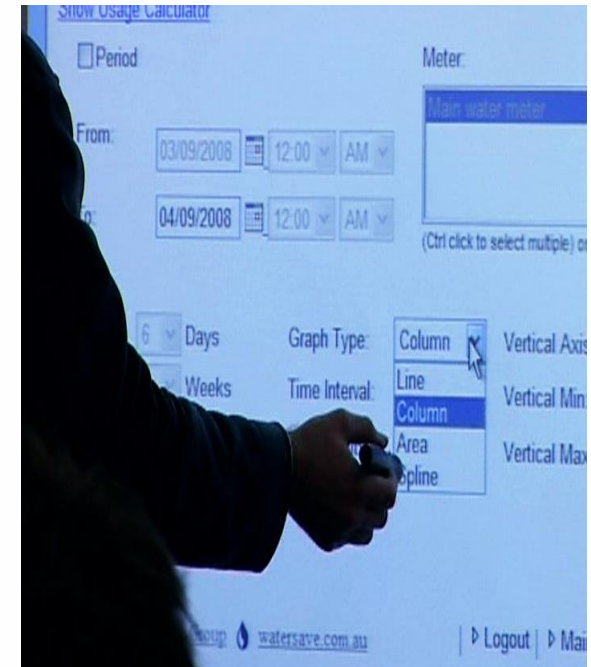
Total Non-Res Water Consumption by Sector



- Data from 2014/15 financial year
- Consumption by sector

Why focus on Schools?

- Trials undertaken in Sydney showed that leakage is the largest single use in schools and on average is 40% of total consumption.
- Detect and identify leakage within schools including size and cost

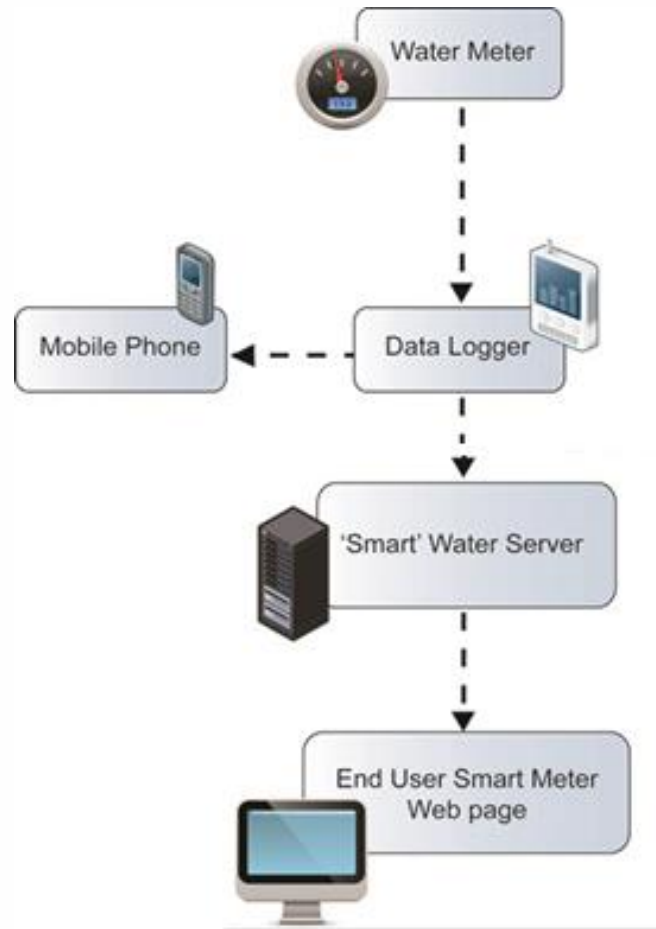


Why focus on Schools?

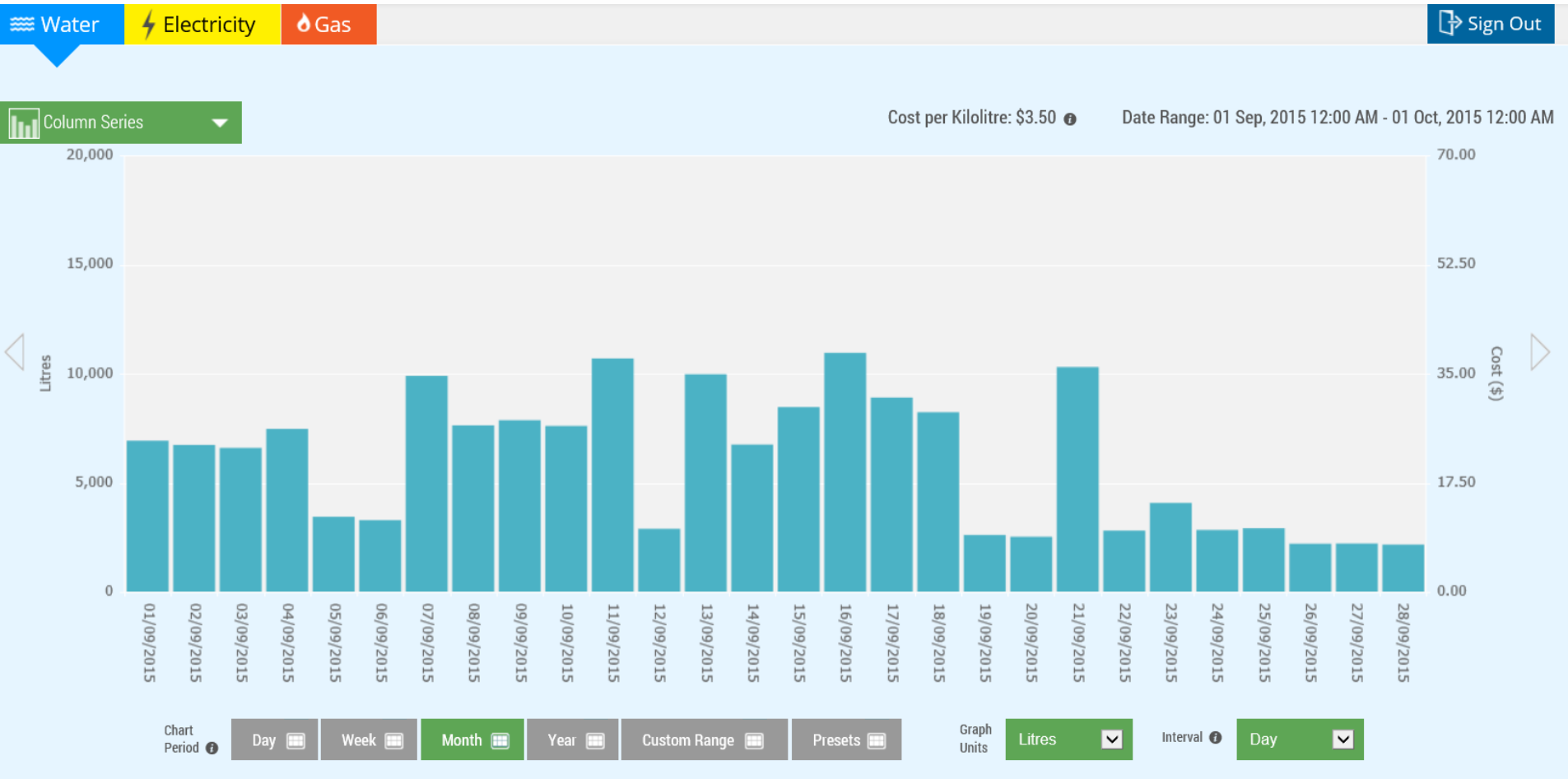
- Provides students with in depth knowledge of school water use
- Education for behaviour change - Drought/Water Efficiency messaging
- Reviewing the “size” of meters



How do Smart Metering Systems Work?



Smart Metering Platform



Smart Metering Platform



Smart Metering - Trial

Hunter Water Trial Program – 10 Schools

- 8 of 10 schools had leakage
- 50% of leakage from one school
- Leakage was due to leaking toilets, urinals, broken pipes, dripping taps and taps left on.



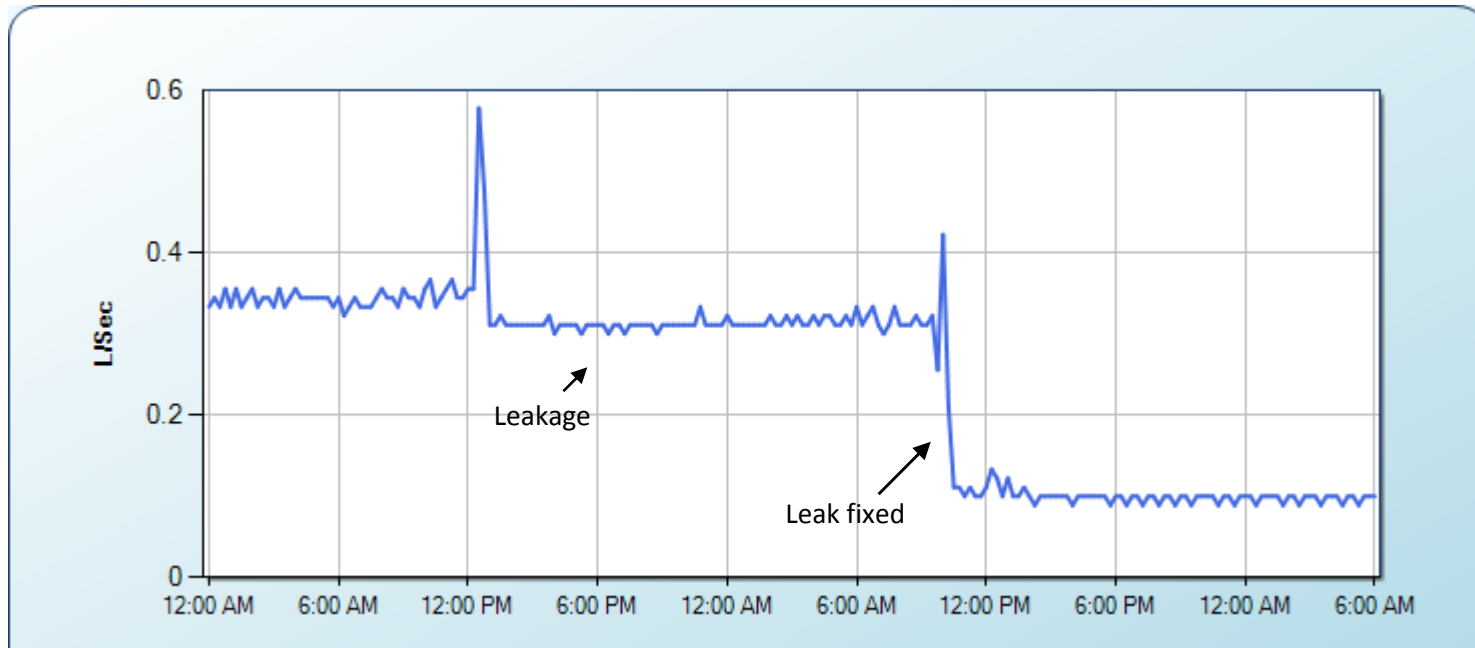
Smart Metering - Trial

Hunter Water Trial Program – 10 Schools

- During the trial, the leakage rate was significantly reduced cutting overall water consumption by 31%.
- Positive feedback from students, teachers and maintenance staff.



Smart Metering Results



Key Findings

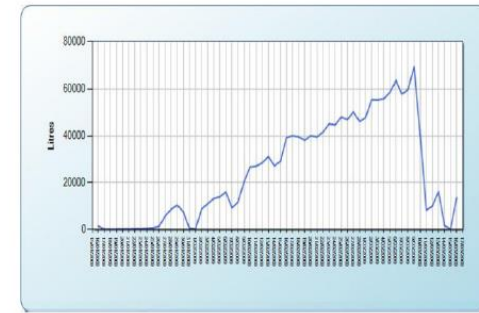
- Leakage is common, recurring and often occurs when the school is empty (Xmas holidays)
- Leakage is usually visible – but major leaks (broken pipes) can be hidden and only picked up on the water bill
- Meters are often over-sized – resulting in excessive fixed water charges and leakage not being reported
- The economics of leakage management and reducing meter sizes are generally good – often better than a 2 year payback.

Smart Metering Program 2010-15

- 40 schools and over 56 meters monitored to date.
- Savings are estimated at over 120 ML since the program began (48 Olympic sized swimming pools)
- Average cost savings of \$225,000 (exclusive of downsizing meters)



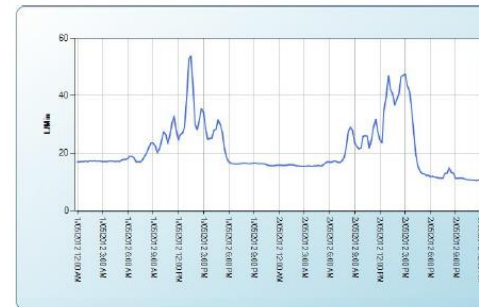
Example 1: A constant leak of approx 6-10L/min: Flushing Cistern



Example 2: 5+L/min leak building over time: Burst Mains Pipe



Example 3: 12-20L/min: Open Faucet



Example 4: sustained leak over multiple days (BASEFLOW)

Smart Metering in Schools Future

- Hunter Water strongly encourage schools to install smart metering.
- Hunter Water will work closely with the school to ensure adequate training and understanding of the smart metering system
- Hunter Water will talk to schools about drought/water efficiency
- Hunter Water are offering tours for schools of our Kooragang Island Recycled Water Scheme.

Thank You

