SCHOOL SMART WATER METER PROGRAM 2010

Scoresby Secondary College Case Study

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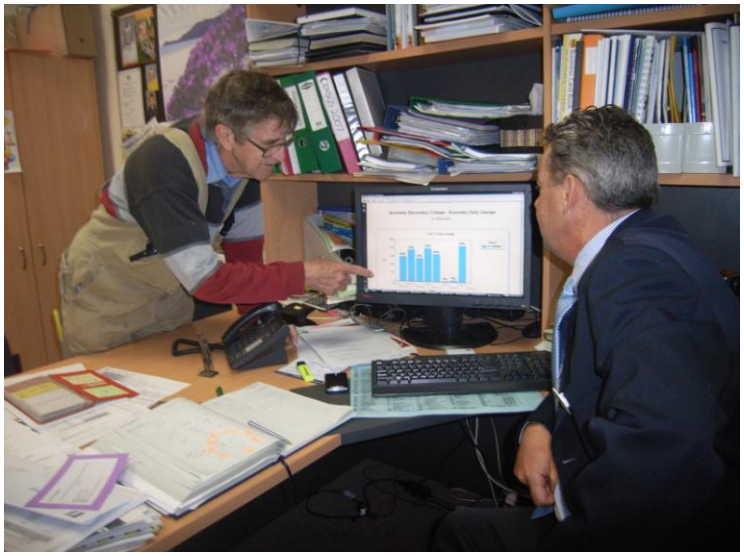
SOUTH EAST WATER

Scoresby Secondary College

The Story- our schools smart water meter as a maintenance tool



For the past 3 years, we have had the Smart water meter read out e-mailed to Assistant Principal (Peter Ridgway) at 9.00am every day. This information is checked and passed on to the maintenance man (Collin) at the daily morning briefing. Now that we have the understanding of how the Utility Services website works, we also analyse further information from this source.

This data has resulted in many huge water saving initiatives around the school. We have added pressure flow valves to all taps in the college and have ensured cleaning staff always turn off the toilet taps over night. It has lead to student groups identifying the leaking taps and an increased vigilance on water maintenance.

The college discovered a major underground leak in June this year due to the data displayed on the smart water meters. Once this issue was fixed, the data still displayed figures congruent with another leak. With further investigation this was found to be a major leak on one of our boilers. Fixing the leak saved huge quantities of water and money. The monitoring of the leak alert application between 12:00 and 4:00 has allowed us to monitor and prevent leaks very efficiently.

The meter has allowed the college to measure that our installation of water tank has halved our mains water consumption. This equates to a saving of 40KL of water on an average school day! The water tank supplied one block of toilets and allows the watering of our indigenous gardening scheme that has seen 6000 new indigenous plants flourish. The improved gardens have also resulted in an enormous shift in College Pride.
We are also able to monitor our out of hours water use to ensure that weekend and evening community user groups are not wasting water. And the initiative has allowed for numerous newsletter articles informing our community of our water saving measures.

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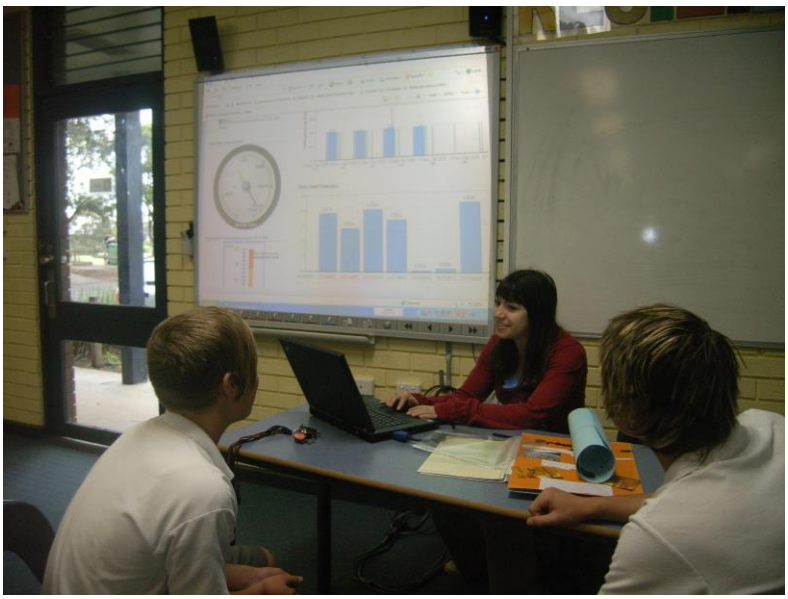
The Story- our schools smart water meter as a curriculum tool



Scoresby Secondary College has worked hard over the past year to improve our students' knowledge and practical skills with all environmental based issue. As water is a founding issue that can be linked to all environmental studies, we have found this topic particularly important to pursue.

At year 10 students can choose an Environmental Science elective (run by Alison McGregor), that has included use of the smart water meter, and at year 8 the Enrichment/Enhanced elective (run by Natalie Nejad) has done a range of South East Water activities and has explored the findings of the smart water meters thoroughly.

In year 8 Enrichment, the class started the semester with the task of 'enhancing the schools environment' and 'making a difference to students' attitudes.' I hinted that I would like a water theme, and we had a groups:

- research, cost and make a frog bog- to invite a diverse range of aquatic life to our school and provide a home for frogs that had to leave the quarry/construction site next door
- complete a water audit of the school, including identifying leaking taps, general estimations of water usage and water quality testing
- drain stencilling of all drains with animals to remind students that their litter that goes into storm water drains, ends up in rivers and oceans

I then directed their learning for a short time by talking specifically about water usage. I did this by showing the class the web site and explaining in detail our water usage, what the programme can be used for and how our results affect the individual, the school, the community and the Earth.
The student then chose from a list of follow up activities ranging from:

- Comparing results of how much water we use to the graph usage vs predicted future usage and tuning these figures into visual amounts and creating a poster for the school to see our water usage
- Proposing a list of implementations the school could follow to minimise water usage. Determine a method to follow the success of the implementations
- Solve the mystery of the midnight water thief (as we have a semi –regularly occurring 20L/min water spike at odd times of the night) by determining what water usage could need that amount of water and what could be happening at these times.
- Or their own ideas approved by the teacher.

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Overall the smart water meters data was a huge asset to the school in enabling teachers to engage students' interest in water usage. This was done through the students' ability to see real results and make a difference to the school.

Some mathematics classes have also used the graphs on the website of our water usage when teaching graphs and co-ordinates. These teachers have not used this graph as a way to implement water into their curriculum, but thought it was data more relevant to the students and something real that would make sense to them.
Feedback indicates all maths classes who saw the smart water meter results were interested in t he graph and it sparked discussion about water, energy and resource usage. Future lessons fed from this and students were engaged in drawing graphs on usage of different resources.

Future plans for the smart water meter at Scoresby Secondary College

1. To continue our monitoring of the smart water meter data, to alert us to any leaks and encourage us to always save water. We hope to get the students more involved in monitoring the data and working with school maintenance. This will be done through students on daily environment duty analysing the graphs and reporting any problematic taps.

2. To find the funds for another water tank to reduce our mains water consumption to close to zero. We already have days when our water consumption is so low that it registers as zero on the meter. We hope that this trend continues, and if we see any unusual activity, we know to take appropriate action.

3. The use of smart water meter has been so successful that we have been inspired to apply for a Federal Grant to in install solar panels and have a similar monitoring system for electricity consumption. If we are able to implement this monitoring scheme as successfully as we have water, we will be well on our way to becoming a more sustainable school.

4. I encourage South East Water to visit our College to see the "on the ground" proof of all of our water saving initiatives. Our wonderful school is best judged by making a visit. We are very proud of our achievements.

5. To run a professional development tutorial on how to use the Utility Services web site.

6. To give teachers time during this PD to work in learning area groups and come up with some activities on how this resource can be used in all curriculum areas. My ideas already include huge projects for the geography/SOSE curriculum about what these graphs would look like if we had the land, social pressures or populations of other countries. A timeline for History, with water usage over the Australian (or another countries) timeline- both in school and industry etc.

7. To continue to note any water related activities that teachers run within the school and monitor any difference that this makes on our usage.

8. To have the daily environmental monitors include a water report to their list of duties. This will include: noting any leaking or damaged taps and toilets. And rating the previous days water use against the average to determine if the school had efficient, average or poor water use.

9. To continue to make the Staff Environmental Action team meetings open to any willing participants and enticing them with yummy cake. It is at these meeting that we discuss the behind the scenes maintenance, staff and students attitudes and actions, curriculum implementations and anything else environmental.