



CASE STUDY

Bush's Victoria water saving investigative study

1. Company profile

Bush's Victoria is a pet food manufacturer. The company's water management team is committed to ongoing water management and as such was keen to develop water management plans and actions for improved water efficiency of the company's Pyramid Hill site in North Central Victoria.

Bush's Victoria was involved in the Victorian Government's water management action plan (waterMAP) program. As part of the program users of > 10 ML of drinking water per year are required to:

- Assess their current water use
- Identify inefficiencies and opportunities for water savings
- Prepare an action plan to implement water conservation activities
- Annually report on implementation of water conservation activities

2. waterMAP Assist

The Australian Industry Group (Ai Group) is committed to working with member companies to encourage continuous improvement, resource efficiency, use of recycled water where possible, and reduced usage of drinking water. Ai Group's waterMAP Assist program has provided resources and funding to member companies to assist them implement initiatives contained in waterMAPs and deliver water savings in industry.

3. Project overview

Ai Group's waterMAP Assist program provided funding to enable Bush's Victoria to conduct an investigative study to:

- Determine water use on-site through data gathering and analysis
- Identify water efficiency opportunities, including equipment and process changes, leak repairs and opportunities for investments which can reuse or recycle water
- Highlight the water and cost saving benefits of implementing these opportunities
- Identify constraints or barriers to these improvement opportunities

4. Water use

Figure 1 displays the major areas of water use at Bush's Victoria. Key areas of water use are:

- Production line wash down
- Product water
- Cooling Tower
- Retort steriliser

Improvements in water efficiency have already been achieved in the area of retort and product water. New retort sterilizers were installed with the capacity to reuse water from one cook cycle to the next. A water reduction of approximately 25%

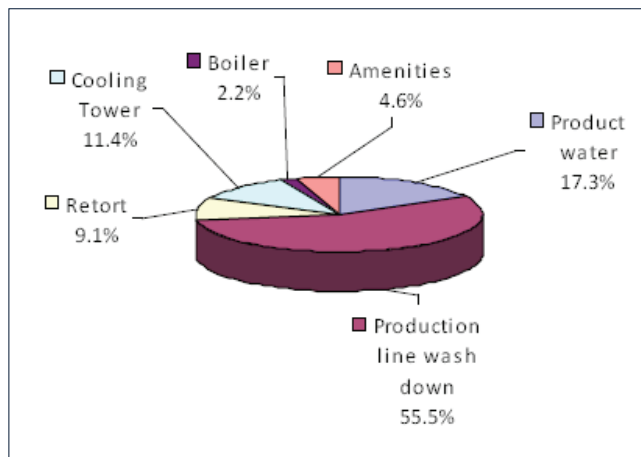


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has also been achieved in the production line wash down area by the introduction of trigger jets on hand held hoses and new cleaning procedures. Other improvements made in retort and product water include heat recovery from stage 1 cooling process to heat water for use in product and wash down and the recycling of retort water in the cooling towers.

FIGURE 1 WATER USE BREAKDOWN



5. Key findings

The investigative study identified inefficiencies in the operation of the site's cooling tower as the key water saving opportunity for Bush's Victoria. The study identified the following options:

- Upgrading the existing cooling tower to other possible heat rejection systems i.e. the installations of Muller 3C coolers. These coolers have the potential to reduce water consumption by 80%
- Harvesting and collecting rainwater from the roof of the main building for use in the cooling tower. This option

was not feasible given the low level of rainfall and the high capital costs associated with the need for a water filtration system

- Improved management of the existing cooling tower including:
 - Sub-metering of make up, bleed and drain lines
 - Monitoring of procedures and fixing all leakages
 - Checking that the ball float valve is set correctly
 - Periodic maintenance of bleed solenoid valve and conductivity probe

Potentially increasing water recycling within the cooling tower by increasing its cycles of concentration

The study also recommended the installation of visual tools such as charts and graphs, as well as posters and stickers, to encourage and engage with employees to enhance water efficient behaviour within the workplace. In addition, the installation of sub metering of each major water use area will help detect water leaks and monitor impacts of operational changes.

6. Project benefits

The project identified a range of additional water savings opportunities for Bush's Victoria including potential savings of up to 3.37 ML per year. Unfortunately following the completion of the investigative study, the company underwent a restructure which resulted in the closure of Bush's Victoria Pyramid Hill facility and transfer of its operations interstate.

Further information

Merv Tasker
Production
Bush's Petfoods
mtasker@bushs.com.au

Australian Industry Group
Tel: 1300 733 752
Email: sustainablebusiness@aigroup.asn.au
Website www.aigroup.com.au

Ai Group's waterMAP Assist program, supported by the Department of Sustainability and Environment (DSE) has enabled Ai Group to work with large industrial water users to identify and implement water savings.