


Winery Water Use

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TREASURY
WINE ESTATES

Topics

- Valuing water
- Our Approach
- Improvement Initiatives
- Moving Forward



Valuing Water


1998 – Instructions to cellarhand

‘A wet winery is a happy winery, just jump on a hose until knockoff.’

.....so I did

.....for 30 minutes



.....next to a mate doing the same thing



Valuing Water - Wastage

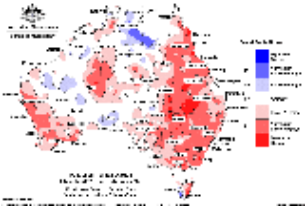

Other examples of wastage included:

- Excessive water used for cleaning operations
- Water wastage on product transfers
- Evaporative ‘skin cooling’ systems on fermenters
- Little emphasis on rainwater capture and re-use
- Disposal mentality for wastewater


Valuing Water

- Wineries in that very region are now having to deepen bores as the water table drops
- We operate in drought affected regions
- Some sites are having to truck in water to facilitate production

Valuing Water

- A change in thinking has certainly occurred
- Our approach has needed to change also
- We can’t just say *‘Water is important’* ...and leave it at that
- A company the size of ours needs a systematic approach



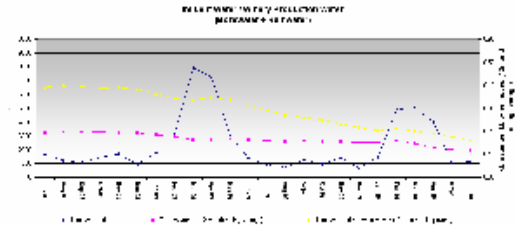
Topics

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Our Approach

- For nearly ten years we have been measuring and reporting our water consumption
- However, we have not necessarily had the process level data to fully understand site water usage

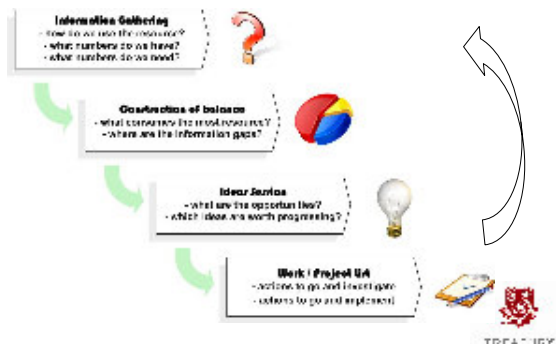


Our Approach

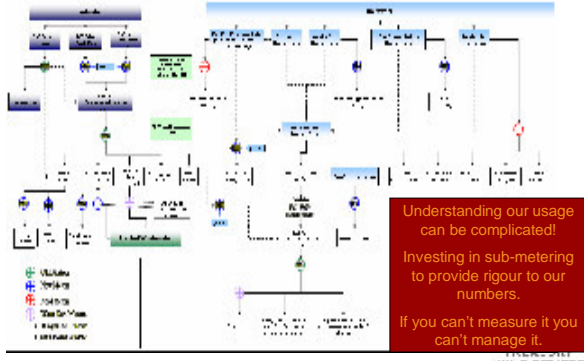
- Now running a Resource Efficiency Program (commenced 07-08)
- Based firmly on the idea that we need to understand our resource consumption by process.



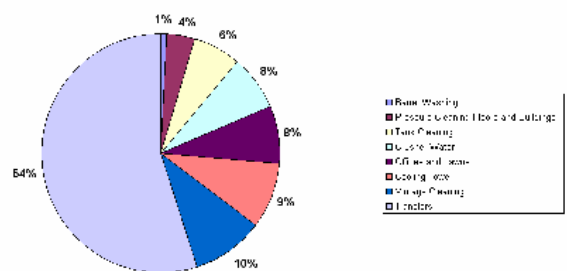
Our Approach



Our Approach – Water Balances



Our Approach – Water Balances



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WINE PRODUCTION

Improvement Initiatives

Initiatives have fallen into distinct categories

Alternative Water Sources / Water Recycling

- Rainwater used on cooling towers and for winery production
- Stormwater & Treated Wastewater used on gardens / vineyards
- Treated wastewater on WWTP solids separation



Technology

- more efficient barrel washing heads
- pigging systems between winery and packaging centres



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Improvement Initiatives

Initiatives have fallen into distinct categories

Re-use

- Push through water re-use eg. Wolf glass crusher
- Cleaning chemical water re-use (Ryecroft, Wynns)



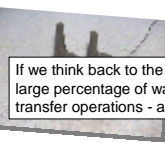
Behavioural

- Communication!! 2 way radios used on wine transfer operations
- Dry sweeping, fruit capture
- Trigger nozzles on hoses



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Improvement Initiatives



If we think back to the water balance, a large percentage of water usage was in transfer operations - a good focus area



	1 person	2 people	Potential saving
Line Validation	3500 L	2300 L	1200 L
Line Clean	3500 L	2300 L	1200 L
Line Push	3500 L	2300 L	1200 L
Total	10500 L	6900 L	3600 L

In the operation above the saving is 34%. Average water saving by using a radio was 47%.



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Improvement Initiatives – Water

Pricing

- One hurdle we face is the price of water
- Re-use of water at crusher
 - Cost \$82 K
 - Water Saving 5 ML year
 - \$9,400 @ \$1.88 kL (current)
 - Simple Payback
 - 8.72 years (not including waste treatment savings)
- Water projects at current water pricing will require special consideration



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Moving Forward

- Recognise we are still at the early part of our journey understanding water use
- More of the same:
 - Investigate our processes
 - Refine our balances
 - Understand our numbers and establish targets
 - Target the big uses
 - Communicate and engage our people (EIT teams)



Thanks!

