



Penrice Soda

CEDA 2010 Water Review

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Outline

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- Summary





About Penrice

- Australian owned publicly listed company trading on the Australian Stock Exchange (ASX:PSH) since 2005
- Established by ICI Plc in 1936 supplying soda ash to manufacture glass. IPO in 2005
- Chemicals business, Osborne – soda ash for glass, detergents, other industries in Australia and bicarbonate of soda for food, pharmaceuticals and stockfeed in Australia, mainly exports
- Quarry & Mineral business, Angaston – limestone for industry, civil & construction
- Revenues in excess of A\$150m and employs 305 people in South Australia. Exports sales of chemicals to 27 countries





Penrice water usage

- Potable water is integral in the chemical making process - used mainly to generate steam for the chemical process (60%), lime slaking, process water
- Steam is introduced into a live distiller/s therefore much of the water is currently not recycled
- In 2001 Penrice used over 1.6 gigalitres pa of potable water in the process (the equivalent of 660 Olympic sized swimming pools)
- Penrice was the second biggest user of mains water in South Australia

TOP 10 USERS

| | | |
|----|--------------------------------------|--------|
| 1 | OneSteel Whyalla | 21 GL |
| 2 | Penrice Soda Products | 7.5 GL |
| 3 | Zinifex | 7.2 GL |
| 4 | T&R Pastoral | 3.6 GL |
| 5 | Flinders Power | 3.6 GL |
| 6 | Holden | 2.8 GL |
| 7 | Inghams Enterprises | 2.4 GL |
| 8 | Adelaide Brighton Cement | 2 GL |
| 9 | Flinders Medical Centre | 1.9 GL |
| 10 | Company exempted from identification | |

Source: Adelaide Advertiser 2007: figures quoted are for 5 years of use July 2001 to June 2006



Penrice water sustainability

- In 2005 Penrice considered options to reduce reliance on mains water, recognising growing risks from increasing water scarcity and price
- A reverse osmosis desalination plant was installed in 2006 (2nd largest in SA) - chosen to recover saline water from a deep aquifer (known as T2)
- All of the water used for steam generation was replaced by this source resulting in a 60% reduction in potable water usage to 0.5 gegalitres pa, returning this water for human consumption and delivering costs savings
- In 2008, worsening water security and likelihood of more prices increases, Penrice applied for an expansion to the T2 system – this was not approved by DWLBC – moratorium on bores in Adelaide Plains





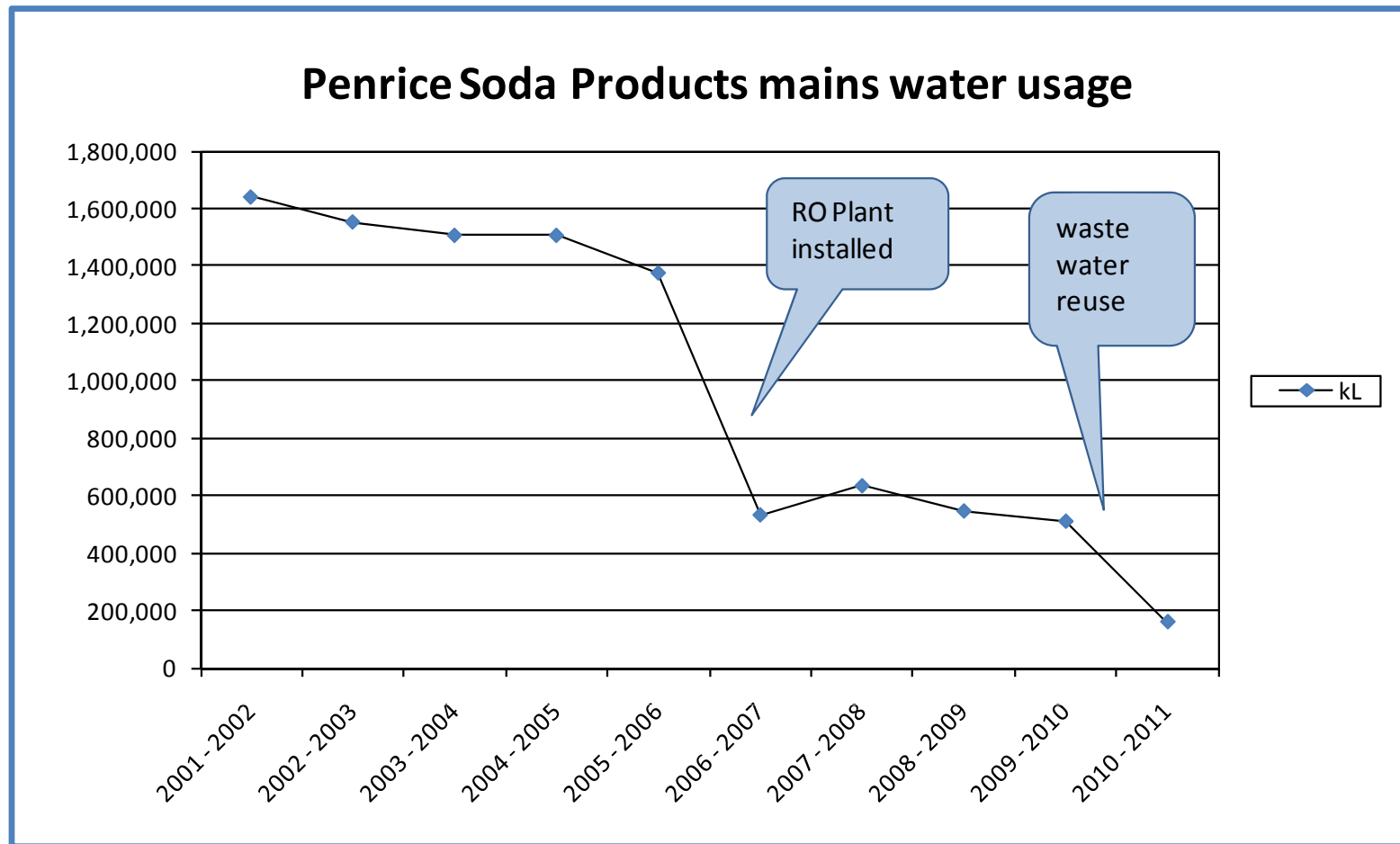
Penrice water sustainability

- In 2009, water sustainability review done and priority shifted to self reliance rather than relying on rainfall and the government
- Recycling and reuse of waste water, mainly within the lime slaking process
- In 2010, project initiated including further expansion of the desalination plant excellent environmental and commercial benefits
- Penrice reduces potable water usage a further 30% to 0.2 gigalitres pa
- Down the league table from 2nd to 30th position in the state!
- To be installed and operational by 1 July 2010





Potable water usage





Summary

- Penrice has reduced its mains water consumption by 90% over the last 5 years, delivering significant cost savings and good environmental social outcomes for SA
- Water sustainability requires rigorous self examination, innovation and recognition that we can't rely on rain or government handouts
- Lesson for industry is...

what is good for the environment is good for business!

