

Encore Tissue take a bow for saving water!

Water Recycling Case Study

Business Resource Efficiency 

Project Overview

PARTNER

Encore Tissue

OBJECTIVE

To cut drinking water use by 50%, improve the quality and reduce the volume of trade waste discharged to the sewerage system

HOW THE SAVINGS WERE ACHIEVED

Filtering wastewater from the tissue making process, making it suitable for reuse in the paper machine

TECHNOLOGY UTILISED

Kadant Petax Fine Filtration System

WATER SAVINGS

166 million litres per year

TRADE WASTE REDUCTION AND IMPROVEMENTS

143 million litres (approximately 50%) per year

OTHER BENEFITS OR SAVINGS

The quality of trade waste discharge has improved through the removal of paper fibres which, in some instances, are reused in the papermaking process

TOTAL PROJECT COST

\$800,000

PROJECT FUNDING

\$181,268 from City West Water

PROJECT PAYBACK

2 years without City West Water funding
 1.6 years with City West Water funding*

PROJECT COMPLETED

March 2010

*Note: City West Water aligns with EPA Victoria EREP regulations of a minimum 3 year payback period. However, due to an increase in production, water and trade waste reductions have exceeded expectations from the original business case, meaning the payback period has been reduced.

ENCORE T I S S U E

Encore Tissue is a family owned Australian business operating in Melbourne since 1998. In 2003, a tissue machine was commissioned at the Laverton North site, where both recycled and virgin tissue grades are manufactured and converted into finished products.

The tissue making process uses either recycled fibre or virgin pulp which is mixed with water to create a slurry. The pulp passes through several screens, where contaminants are removed and then further diluted with recycled water, before being formed into a tissue paper sheet.

After drying, the tissue sheet is reeled into rolls of tissue paper. In the converting plant, these rolls are unwound and the sheet is embossed, perforated and rewound on a core into toilet rolls or kitchen towel rolls. Finally, the rolls are assembled, wrapped and stacked onto pallets before the finished

product is delivered to supermarkets nationwide.

The tissue papermaking process requires large quantities of water to produce an evenly formed sheet of paper. Although the resulting wastewater from this process was of a relatively good quality, process water used by the tissue machine must be free of solids, to ensure that fine cleaning sprays on the paper machine do not become blocked. The fine solids present in the wastewater therefore made it unsuitable for this application.



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Encore Tissue discovered a solution to this problem in the form of the Kadant Petax Fine Filtration System, which provides economical, single-stage mechanical filtration of wastewater containing high levels of solids, using a series of submerged rotary disks. Filtrate passes through the disk filter media and is directed into a collection tank for reuse. Solids are collected on the outside of the filter and are removed using a 3-stage cleaning process: scraping, backwashing

and high-pressure cleaning. Solids, including paper fibres, can be reused in the process in some instances.

The reclaimed water was systematically reintroduced into the manufacturing process. Most functions that previously used drinking water, including high-pressure showers on the fabric and felt sections, where the cleanliness of water is critical, now use recycled water. Water usage is monitored daily and analysed on a monthly basis.

As well as contributing to community and industry efforts to improve water efficiency, Encore Tissue has future-proofed itself from imminent rises in water prices, which will help the business to remain competitive.

For ideas on different ways your business could improve its overall resource efficiency, go to citywestwater.com.au/business or speak to your City West Water Business Resource Efficiency consultant.



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