

ATTACHMENT 1

Water utilities implementing their own demand response solution

A number of water utilities in Victoria who have been exposed to electricity price volatility have implemented their own demand response solutions to either reduce their electricity costs, or take advantage of the benefits offered by some electricity distributors through their network support initiatives. The case studies below are from South East Water, Yarra Valley Water and North-East Water and provide examples of progressive organisations implementing their own demand response solution.

SOUTH EAST WATER

BACKGROUND / WHAT HAS BEEN DONE	<ul style="list-style-type: none">• Eleven (11) sites exposed to spot market pool prices• Utilise current infrastructure of back-up generators and the current automated system as the basis of demand response• Demand response system has ability to shed 3.2MW to grid• SCADA commands assets to switch from main power generators to diesel generators at a certain spot market pool price
WHY HAS IT BEEN DONE	<ul style="list-style-type: none">• Reduce exposure to high spot market pool prices• Are being paid by local electricity distributor to help them meet their critical peak demand period for five (5) days throughout the December to March period
LESSONS LEARNED	<ul style="list-style-type: none">• Not as cost-effective if the infrastructure isn't already in place• Produced savings, but will generate more if managed in house

YARRA VALLEY WATER

BACKGROUND / WHAT HAS BEEN DONE	<ul style="list-style-type: none">• Six (6) largest sites are exposed to spot market pool prices• Generators used at nineteen (19) sites for demand response• Demand response system integrated with current operations
WHY HAS IT BEEN DONE	<ul style="list-style-type: none">• Avoid high Pool Prices• Avoid network CPD charges• Being paid by the local electricity distributor to assist in network stability
LESSONS LEARNED	<ul style="list-style-type: none">• 'Business as usual' delivers higher costs• Pool Prices will typically deliver lower costs• Managing own risk leads to lower electricity costs• Appropriate technology is maturing, thus becoming cheaper

NORTH EAST WATER

BACKGROUND / WHAT HAS BEEN DONE	<ul style="list-style-type: none"> • Taking Yackandandah water treatment plant off grid, and trialling battery storage • Community project using energy extracted from home solar panels to help run the Wodonga WasteWater Treatment Plant
WHY HAS IT BEEN DONE	<ul style="list-style-type: none"> • Adaptation, invest locally for local resilience to high energy costs • Climate mitigation, acting locally to help contribute to global resilience to atmosphere • Cost minimisation, reduce electricity costs
LESSONS LEARNED	<ul style="list-style-type: none"> • Battery technologies continue to evolve and may have a role in demand response • The installation of solar arrays is a viable way to become self-sufficient and potentially export excess energy to the grid