# Wide Bay Water Company

**(Australia)**

## Key Figures

12.5% energy consumption reduced

20% faster commissioning

## Customer Profile

The pristine waters of the scenic Fraser coast, about 250 km (155 miles) north of Brisbane (Queensland), is a popular playground for migrating humpback whales and dolphins. The UNESCO World Heritage-listed Fraser Island is the largest coastal dune system and sand island in the world and home to a myriad of rare and protected wildlife species. And picturesque Hervey Bay, an internationally renowned holiday destination, boasts an aquatic environment teeming with marine life.

It was against this backdrop that Wide Bay Water Corporation (WBWC), the first local government-owned corporation in Queensland, was tasked to build a new state-of-the-art wastewater treatment plant (WWTP). The $33 million dollar project was undertaken to provide the additional wastewater treatment capacity required to keep pace with the area's rapid population growth.

## Customer objectives

In planning its seventh WWTP, to be its largest and most complex to date, Wide Bay Water Corporation set out to build a facility with a capacity equivalent to the water use of 10,000 homes, or 4.8 million litres per day. The facility, situated beside an 800 ML effluent lagoon at Nikenbah, also needed to be able to expand its capacity nearly three-fold in line with population growth to 14.4 ML/d. Using sophisticated new filtration technologies, the wastewater would be treated to a standard above EPA levels with the aim of recycling 90% of the treated wastewater from the plant. The quality of the treated water would be so high that it could be used as a supplementary water source for irrigation or potable water substitution in future drought situations.

Acting as the principle contractor in order to gain maximum leverage from their experience and knowledge and benefit from substantial cost savings, WBWC sought to avoid issues they had encountered previously when multiple vendors all used different equipment, consequently requiring a large number of spare parts. This time, they looked for a single supplier who would be able to deliver a fully-integrated, high-availability process automation solution cost effectively in order to ensure a lower TCO. They also wanted an installation that met the following criteria:
• robust• quick to commission• easy to maintain• quick to fault find• able to provide extensive operational data• efficient and easy to operate• a high level of redundancy

## Customer benefits

Schneider Electric's PlantStruxture solution helped WBWC achieve:
• **Reduced overall project costs**
- It was delivered for $2 million under budget.
• **Smoother, faster commissioning**
- Using Unity Application Generator (UAG) reduced engineering integration time by 20%.
- Engineering software suite reduced commissioning time by 25% as it allowed efficient configuration of the Altivar VFDs and TesysT motor starters from the control room. Over 100 motors were commissioned in only a few days.
- Each VFD & TesysT motor starter has established protocols and control blocks so they easily integrated with the plant's Quantum controllers, saving considerable engineering
integration time.

**Reduced energy consumption**
- The use of variable speed drives to control the majority of the motors greatly reduced energy consumption as the pumps and mixers can operate at their duty points. Energy consumption has been reduced by approximately 12.5% compared to a similarly sized plant.
• **Reduced operating costs**
- The high level of automation at the plant and its robustness means that only one operator is needed on site. A similar sized plant operated by WBWC requires both an operator and an assistant. The reduced manpower requirement means a savings of $50,000 per year.
- Fault detection time is greatly reduced as the entire plant can be interrogated from the control room thanks to the SCADA system.
• **Reduced technical risk**
- A reliable system utilising proven technology and architectures means less downtime and simplified maintenance.
- The confidence and security associated with Schneider Electric's world-renowned expertise and comprehensive support.
• **Improved output quality**
- The integration of the PlantStruxure solution with the state-of-the-art filtration technology enables the plant to produce effluent of a quality 130 times better than other similar plants (turbidity of less than 0.15 NTU vs 20 NTU).
• **Simplified procurement and documentation from a single provider**

## Customer testimonies(Verbatim)

"Everything we do at Wide Bay Water Corp., we do with excellence. Our Schneider Electric solution helped Nikenbah wastewater treatment plant achieved this and more."
**Tim Mahony, Manager - Electrical Engineering Services**
**Wide Bay Water Corp.**

## How did we estimate the energy savings

Energy reduction was calculated by using a comparison of similar size plant.

## Solution overview

WBWC selected Schneider Electric as its single provider for a number of key reasons:
• Schneider Electric offered proven technology with a solid local track record.
• Schneider Electric was able to provide the complete process automation solution - PlantStruxure - from a single, strong brand.
• Schneider Electric's equipment shared a common look and feel for ease of use.
• Schneider Electric's spare parts were stocked by local wholesalers, reducing the need to stockpile them.

## Products & Systems