



NuWater will:

Create over 3,500 jobs during the construction phase and over 2,750 ongoing jobs for the region



Deliver over \$6 billion in economic activity and over \$3.5 billion to the Queensland economy in its first 10 years and support sustained growth in levels of economic activity into future decades



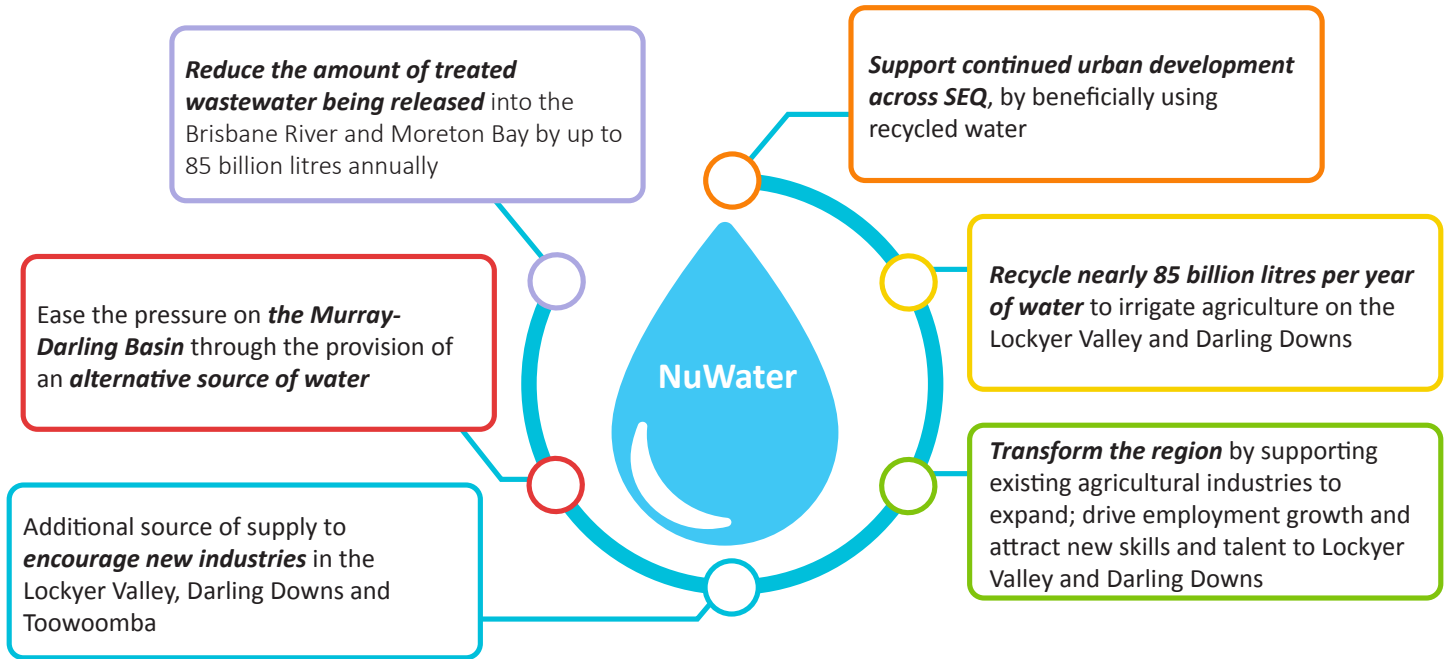
Remove over 660,000 kilograms of nutrients annually from SEQ waterways and from the Moreton Bay Marine Park



NuWater

Community Prospectus Outline

An irrigation plan to pump recycled water from South East Queensland, improve Moreton Bay water quality for all South East Queenslanders and increase agricultural production across the Lockyer Valley and Darling Downs



NuWater is a major enabling project that will transform the region

The increasing global demand for food and fibre is estimated to drive over \$1.7 trillion worth of agricultural export opportunities by 2050. NuWater is set to capitalise on this opportunity by accessing recycled water from South East Queensland (SEQ) and growing the capacity of the Lockyer Valley and Darling Downs. Increased agricultural production will take advantage of recent investments in infrastructure including Inland Rail, Wellcamp Airport and the InterlinkSQ intermodal freight terminal. In doing so it will strengthen the long term viability of these and other key community assets.

Population growth in SEQ is predicted to significantly increase the cost of treating wastewater prior to disposal into waterways and Moreton Bay. This project will reduce treated wastewater discharges through beneficial reuse, enabling more people to live and work in SEQ while protecting the unique Moreton Bay environment.



Additional project benefits include:





Strong demand for recycled water in the Lockyer Valley and Darling Downs

“Water is limiting growth opportunities in the Lockyer Valley and this project has the potential to realise sensible and mutually beneficial outcomes for the whole region”

—Lockyer Valley producer
Anthony Staatz

Substantial water demand exists in both the Lockyer Valley and Darling Downs to support increased agriculture production. Studies in both areas have identified the following opportunities which align with the NuWater Project:

- Increased flexibility around cropping decisions on the Darling Downs where producers use broad-acre commodity markets i.e. greater capacity to accommodate potential interruptions in water supply with less market driven pressures
- Broad requirement for higher quality water for irrigation use in the Lockyer Valley and emerging industrial water use opportunities
- Better use of existing capacity to take large volumes of recycled water on the Darling Downs and use on-farm systems as balancing storages to manage the ‘constant-flow’ water characteristics of the NuWater supply source
- Existing ability to store and move water about between adjacent farms on the Darling Downs
- Over 90% of farms on the Darling Downs have tail-water drains/ recycle systems to capture runoff and assist on-farm containment.

Potential changes to the availability of groundwater supplies in the Central Condamine and Lockyer, as a result of amendments to the respective Water Plans, may drive additional water demand from NuWater.

In addition, the water distribution infrastructure constructed as part of this project would provide the capacity for water allocations to be traded within the system to maximise the water’s utility and value.



Feasibility Study outcomes

“Treated wastewater could be put to good use on our farms. The opportunity for a ‘win-win-win’ result for farmers, urban water recyclers and the environment is compelling”

—Darling Downs producer
Graham Clapham

International consulting firm GHD was engaged by the NuWater consortium to investigate the feasibility of NuWater and develop a Preliminary Business Case. As part of this process, potential development options were identified (in consultation with key stakeholders) to deliver recycled water from the Brisbane region to the Lockyer Valley and Darling Downs.

All identified options delivered against the following objectives:

- Supports the expansion of irrigated agricultural production across the Lockyer Valley and Darling Downs by beneficially utilising recycled water and concurrently reducing the nutrient load on Moreton Bay
- Aligns with the Moreton, Condamine and Balonne Water Plans and does not adversely impact other water users or the environment
- A water product that is fit for purpose, integrates with Seqwater’s water supply security strategies whilst improving certainty for crop planting and management decisions.

The NuWater Project proposes to use the Western Corridor Recycled Water Scheme (WCRWS) pipelines and pump stations to transport recycled water from treatment plants across SEQ to existing storages on the Darling Downs and new storages in the Lockyer Valley. This proposal also includes the construction of enhancements to the WCRWS to achieve its full delivery capacity.

NuWater infrastructure requirements

The Project leverages existing infrastructure including treatment facilities, pump stations, pipelines and storages associated with the Western Corridor Recycled Water Scheme (WCRWS).

In addition to the opportunity to make use of SEQ's significant investment in the WCRWS, the project includes the new infrastructure required to deliver recycled water from Brisbane and Ipswich to the Lockyer Valley and Darling Downs, including:

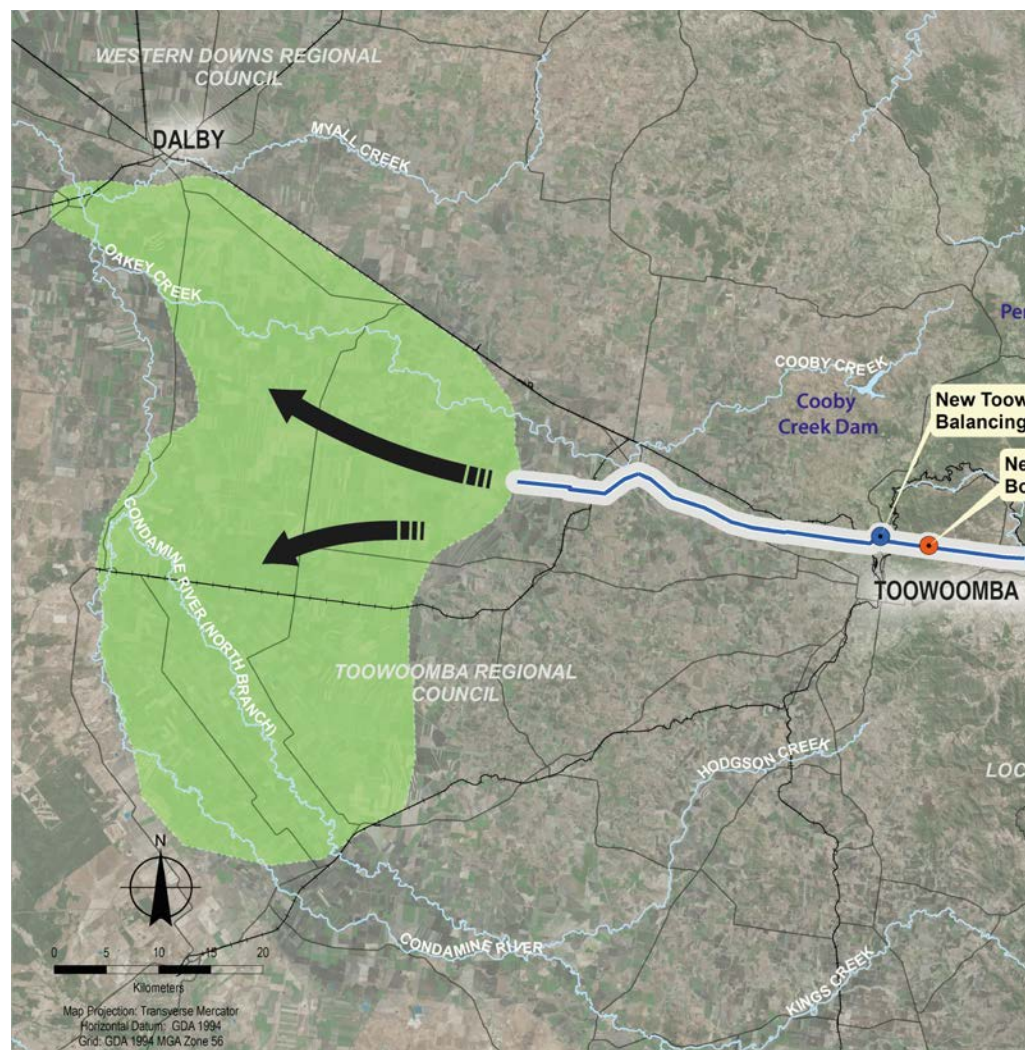
- Full re-start of WCRWS pipelines, tanks and pump stations. Advanced Water Treatment Plants (AWTPs) will be largely bypassed to reduce delivered water costs
- Construction of four new Booster Pump Stations to be located at Heathwood, Lowood, Gatton and the Toowoomba Range
- New transfer pipeline from Lowood to Gatton and on to the Darling Downs
- In the Lockyer Valley, a new Class A+ Recycled Water Treatment Plant, recycled water storages (4 gigalitres in total) and a distribution network to deliver recycled water to customers
- New Darling Downs distribution network to deliver recycled water to customers
- Power supply upgrades to meet additional energy demand.

The capital cost of this project is estimated to be between \$1.4 billion and \$2.4 billion depending on the extent of renewable energy sources included in the project.

Key project infrastructure statistics:

- Over 68 km of new delivery pipelines
- Over 215 km of new distribution pipelines
- Over 4,000 ML of new recycled water storages
- Four new major booster pump stations
- New Class A+ treatment plant/s in the Lockyer Valley
- 160 MW* of new solar cell power supplies

* Depending on extent of renewable energy included

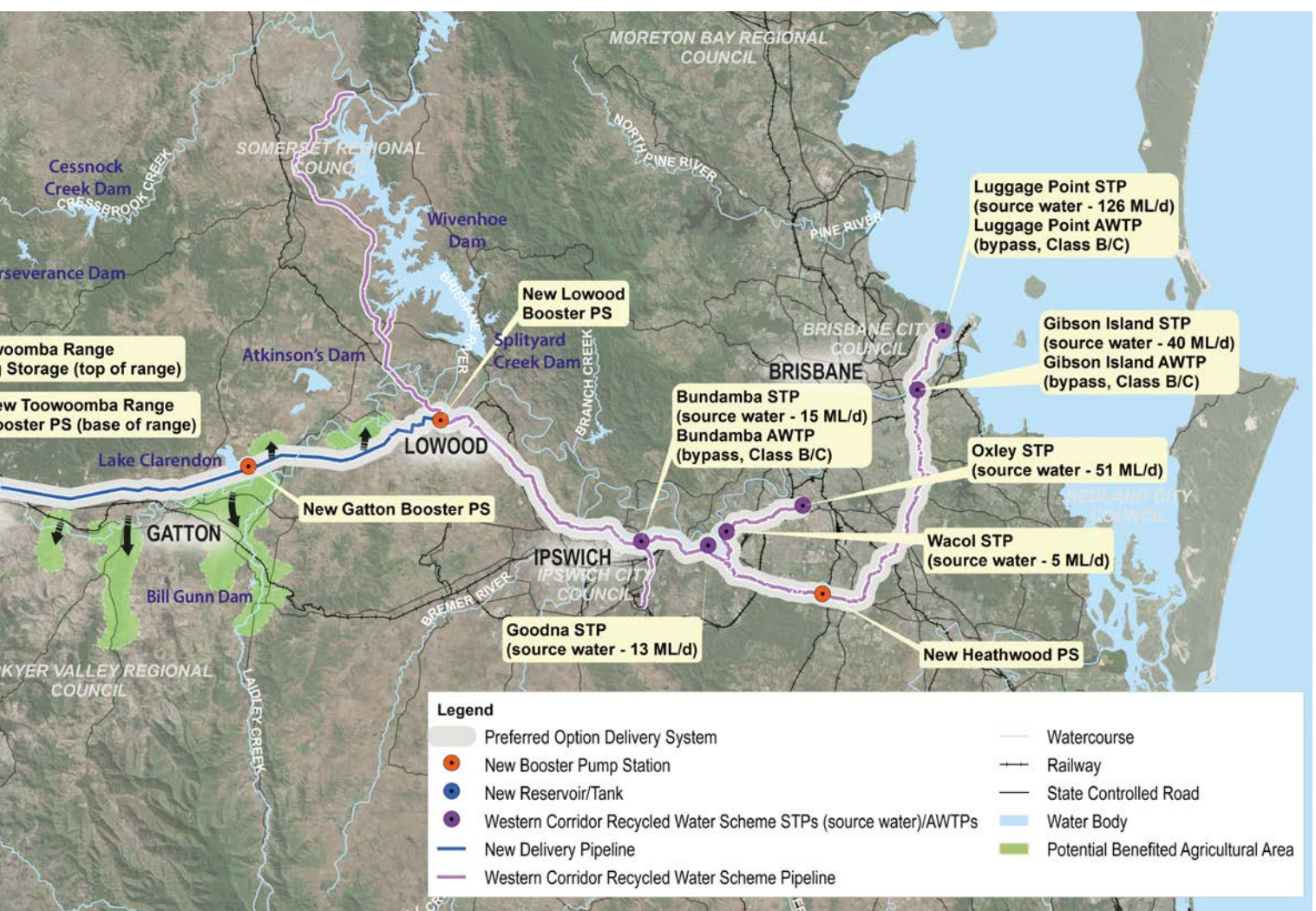




New and emerging power supply technologies will improve the cost structure and reframe the opportunity over time.

A wide range of potential power supply options was considered to meet the energy requirements of the project, with a strong focus on renewable energy sources (including battery storage). Improved renewable energy technology is considered likely to further reduce the future energy cost either directly for the project or for the energy market in general. This could include:

- Further development of existing renewable energy technologies (such as the rapid improvements in battery storage materials and technology improving the viability/feasibility of renewables with intermittent generation characteristics such as solar PV, wind and hydro)
- New technologies yet to be established or approved in Australia or as yet unknown.



The project will be a key enabler to unlocking and harvesting the benefits from future innovations and opportunities in South-East Queensland and on the Darling Downs

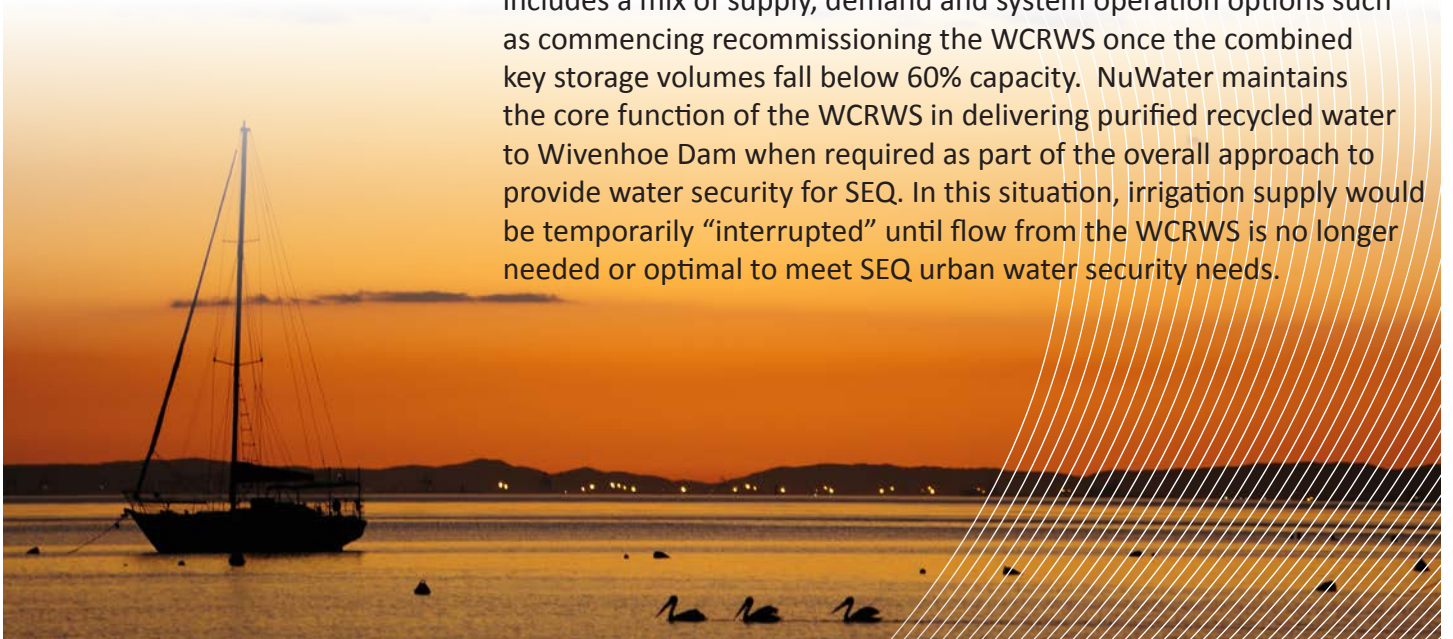
South East Queensland and the Darling Downs are well positioned to meet the increasing demand for high value fresh produce, chilled meat products and other goods to Asia and beyond. The NuWater project will be a key enabler for local producers to capitalise on these opportunities well into the future. In addition, the expected future benefits from the project will be further enhanced by:

- Continuous improvements in farming practices (such as automated/remote/unmanned equipment, improved crop varieties and genetic modification and enhanced monitoring and data analysis) which will lead to significant further increases in agricultural production and return on investment in water infrastructure and water entitlements
- Advances in renewable and integrated energy technologies (as mentioned above) which will enable the production of lower cost energy, or a significant reduction in future energy costs
- Improved conjunctive management and regulation of surface water and groundwater supplies and sources
- The emergence of additional source recycled wastewater opportunities from growing population hubs such as Ripley Valley
- Ever-increasing community demand for cleaner waterways along with increasing costs of removing nutrients from Moreton Bay
- The ongoing growth of new industries creating increased demand for water, including intensive horticulture and agriculture, new resource developments and dairy operations.



The existing Western Corridor Recycled Water Scheme (WCRWS) presents an opportunity to provide multiple services including securing SEQ's future water supply.

Seqwater is responsible for securing SEQ's water supply, which includes a mix of supply, demand and system operation options such as commencing recommissioning the WCRWS once the combined key storage volumes fall below 60% capacity. NuWater maintains the core function of the WCRWS in delivering purified recycled water to Wivenhoe Dam when required as part of the overall approach to provide water security for SEQ. In this situation, irrigation supply would be temporarily "interrupted" until flow from the WCRWS is no longer needed or optimal to meet SEQ urban water security needs.



NuWater aligns with community and government programs and objectives in both securing SEQ's water supply and delivering enhanced water quality outcomes.

NuWater complements government programs including:

- *The Resilient Rivers Initiative*, which aims to improve the health of SEQ waterways
- *The Healthy Country Program*, which aims to improve water quality parameters in Moreton Bay.



Supporting productivity growth will encourage private investment in on-farm works and new developments, as well as enhance community resilience.

Local government areas that will be involved during the construction phase of the project will include the Brisbane City Council, Somerset Regional Council, Lockyer Valley Regional Council, Toowoomba Regional Council and Western Downs Regional Council. The project beneficiaries during the operational phase will be located in the Lockyer Valley Regional Council, Toowoomba Regional Council and Western Downs Regional Council areas.

The communities in these regions will benefit directly from NuWater through economic stimulus, jobs growth, alignment with community sustainability objectives, improved environmental outcomes and local economic resilience.



NuWater Project next steps

Working collaboratively within the regulatory and legislative frameworks is critical to obtain the necessary Local, State and Commonwealth Government approvals to advance NuWater. This will also present the opportunity for broader industry and regulatory authorities to engage with research institutions and develop quality verification/ validation processes as part of future stages of project. Next stages of the project will include:

- Obtaining government support to advance the project
- Working to identify a preferred delivery vehicle to take the project forward
- Development of a detailed business case that:
 - Includes detailed demand assessment, preliminary design, costings and performance specifications
 - Determines whether it warrants construction
 - Seeks private sector and government commitment to invest in the Project
 - Would underpin any application for government funding.
- Focus on current and future opportunities to enhance business case outcomes, including new and emerging technologies, value engineering, changes in water and environmental regulation, new industries and farming practice improvements.
- Formalisation of necessary legal and regulatory arrangements, including:
 - Accessing treated wastewater produced from QUU facilities
 - Accessing Seqwater infrastructure, particularly the WCRWS, and any associated conditions of use of this infrastructure
 - Confirming specific project requirements and limitations with regulatory authorities charged with administering approvals for recycled water schemes and specifically the WCRWS
 - Obtaining land access for the project's infrastructure footprint
 - Obtaining expressions of interest and ultimately commitment from potential irrigation customers to take water.



Who we are

The Queensland Farmers' Federation (QFF) advanced the development of a preliminary business case for the project on behalf of the NuWater consortium, which includes:

- QFF
- Cotton Australia
- Growcom
- Queensland Chicken Meat Council (QCMC)
- Lockyer Valley Growers
- Toowoomba and Surat Basin Enterprise (TSBE)
- Central Downs Irrigators Limited (CDIL)
- Agforce
- Lockyer Valley Regional Council
- Queensland Urban Utilities (QUU)
- Seqwater

Toowoomba Regional Council and Western Downs Regional Council also strongly supported the development of the preliminary business case.

The development of the Preliminary Business Case has been overseen by a Project Management Committee derived from the NuWater consortium members with assistance from Badu Advisory Pty Ltd.





ENQUIRIES

Investment and media enquiries in relation to NuWater should be directed to:
Queensland Farmers' Federation

PH: (07) 3837 4720

FAX: (07) 3236 4100

Email: qfarmers@qff.org.au

FURTHER INFORMATION

An electronic copy of this brochure as well as the preliminary business case that has been prepared for the NuWater project is available at:

Website: www.qff.org.au/projects/nuwater

The NuWater study was supported by funding from the Australian Government's National Water Infrastructure Development Fund, an initiative of the Northern Australia and Agricultural Competitiveness White Papers.