



Partnering and innovating to create shared value for future generations

Queensland Urban Utilities



Queensland Urban Utilities' (QUU) customers, shareholders and the community expect that essential services will continue to be sustainable, affordable, reliable, and resilient for future generations. QUU aspires to be a Utility of the Future – an organisation that thinks about the future and acts accordingly. This is the primary driver for innovation.

To accelerate the development of next-generation sustainable solutions, QUU has established an Innovation Precinct, which extends the reach of the existing Innovation Program by engaging and partnering with universities and industry, providing career pathways, and enabling community engagement.

Implementation

In the last twelve months QUU has delivered 53 Projects—13 Technology trials targeting efficiencies, 18 Pilot Investigations into water quality and wastewater practices, 12 University partnering projects exploring new products and technologies and 10 industry partnering projects enabling process optimisation. The utility hosts \$5 million in research across the university projects at the innovation centre with in excess of 30 partners. QUU observes significant leverage on investment with \$15 of partnered investment for every \$1 of QUU research and development investment.

The Innovation, Research & Development (IRD) Program gives employees permission to create, collaborate, adapt, respond to change, to fail safely and to share lessons. The principle is that culture is vital to successful innovation, in particular, leadership, corporate strategy and a capable and motivated workforce. It also makes it economically feasible to ask 'what-if' questions and generate preliminary answers.

The Innovation Precinct has enabled QUU to engage in diverse projects to support sewage-related infrastructure and treatment technologies, and to inform future investment and operations. Information and learning from projects has been disseminated widely, to benefit the industry and community. Every dollar invested in innovation supports the objectives of the partnerships. The Precinct catalyses the reach of innovation, attracting community, partners and investment.

Co-locating the Innovation Precinct at a sewage treatment plant and partnering with other Utilities and Research and Development agencies gives QUU the ability to create value beyond their own capability and capacity. Instead of transferring small test samples back to laboratories for analysis, staff can plug and play technologies in-situ with access to live sewage flows.

The focus of the current research is in energy and resource recovery. Two key projects housed at the Innovation Precinct are:

- **Electrodialysis** – this identified as a blue sky method for the recovery of trace nutrients from wastewater. In this project, the potentially low-cost treatment will be investigated for the removal of a difficult-to-treat colour compound from the water. This will enable improved and lower-cost disinfection of the water, and recovery of the contaminant as a valuable bio product.
- **UGold** – a patented microbial fuel cell technology. The technology can be used for high-value fertiliser recovery from source-separated urine. A purpose-built toilet block enables staff and visitors to make donations for experimental purposes.

The Precinct facilitates efficient investigations and delivery of multiple activities in partnership with industry bodies and research organisations. QUU also leverage opportunities to enhance outcomes.

Benefit / Outcome

- Enhanced global partnerships.
- Innovation in waste reduction and resource recoveries.
- Cost reduction (current projects are expected to achieve \$15 million in cost reduction, revenue resilience, customer benefits, new knowledge and intellectual property).
- Improved organisational culture (71 per cent feel encouraged to have new ideas and better ways of working and 66 per cent have the opportunity to have ideas adopted and put into use).

Further References

For more information please go to QUU's website (urbanutilities.com.au/about-us/innovation).