

# DEFINING SUSTAINABILITY IN ASSET MANAGEMENT

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*When most people think of sustainability, environmental protection comes to mind. The modern definition of sustainability is far more wide-ranging however, and one frequently overlooked element of sustainability is asset management, which seeks to balance the delivery of services or outcomes and the creation of assets with the risks and costs associated with their ongoing use. An emerging trend within this field is quantifying environmental and social costs and factoring them into the life cycle cost analyses (LCCAs). By integrating those concepts with LCCAs, asset management can be a key vehicle for delivering against a water authority's sustainability objectives.*



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In 1998, UNESCO defined a sustainable water system as one that is designed and managed to contribute fully to objectives of society, now and in the future, while maintaining ecological, environmental and hydrological integrity.

While asset management is not explicitly addressed in this definition, those who work in the water industry know that these assets have a direct impact on both the extraction of water and the return of wastewater to the environment, and therefore whether a water system is sustainable.

With a strong role in public health and environmental management, and with an increasing need to do more with less, the water sector is, in many ways, obligated to take into account financial, social and environmental outputs.

One approach used to measure and communicate the sustainability credentials of a business is termed the triple bottom line (TBL). Mirroring the use of 'the bottom line', which refers to financial performance, the TBL is a framework or theory that recommends that companies adopt a broader focus than profits alone by also committing to social and environmental concerns.

A typical LCCA involves evaluating the costs incurred by an asset over its useful life, however since the goals of asset management also include meeting level of service standards and reducing risk, the solution with the lowest life cycle cost is not always the most optimal solution. In order to make LCCAs as robust as possible, environmental and social costs and benefits should be considered alongside economic, level of service and risk management goals, enabling organisations to make better decisions in the long term.

## ACHIEVING VALUE AND EFFICIENCY ACROSS THE ENTIRE ASSET LIFE CYCLE

Irrespective of any other sustainability requirements, the capital-intensive nature of the water sector requires that water authorities manage their physical assets effectively,

with the objective of maximising the value derived from an asset over the whole life cycle.

While strategic asset management often has the biggest scope for impacting sustainability objectives, because these activities are involved with long-term planning for the future and the design and acquisition of new systems and assets, it is the existing assets that actually deliver economic, social and environmental outcomes. In addition, there could be opportunities for making cumulative changes to asset operation, maintenance and risk management procedures that would have a significant impact on sustainability objectives.

Examples of sustainability across different levels of asset management include: balancing the value proposition of future options against management of current assets; appropriate use of short-term repairs to manage cost and risk; selection of replacement options with minimal disturbance and maximum benefit; achieving better service or asset life through appropriate levels of maintenance; minimising waste/use of materials; getting maintenance right the first time to minimise the number of repeat failures and improve reliability; driving out inefficiency and ensuring service provision is affordable.

The water industry is evolving with its adoption of sustainable asset management best practices such as ISO 55000 and TOTEX, but needs to continue to challenge itself by exploring new innovations and emerging trends both across Australia and the world.

Interflow helps ensure the long-term sustainability and efficiency of utility infrastructure by providing construction, maintenance and renewal services that prevent failures, minimise impacts to the community and environment, and extend the operational life of water networks. **U**