

Sustainability | design, construction & operation

What is sustainability?

Sustainability means creating long-term environmental, social and economic benefits. So when building a desalination plant at Alkimos, this means building infrastructure that minimises its impact on the environment, is energy efficient, and provides positive outcomes for communities now and into the future.

The **Infrastructure Sustainability Council (ISC)** independently rates infrastructure projects in Australia and New Zealand against recognised sustainable design and construction best practice.

The Alkimos Seawater Desalination Plant is targeting an ISC Silver rating, demonstrating strong sustainability performance. It will be the first desalination plant in WA to receive sustainability certification.



Materials that make a difference

We're choosing materials that reduce environmental impact.

We have adopted a new Australian-made reinforcing steel product, produced entirely from recycled scrap, cutting carbon emissions by up to 39% compared with standard reinforcing steel.

More than half of our concrete mixes come with Environmental Product Declarations for transparency.

We've even repurposed 6,000 steel pipes from another project, avoiding waste and saving 550 tonnes of CO₂.

Up to 32 km of pipes are being reused for the grouting system in the tunnels and will be recycled again when the project is finished.

Caring for our coast

The Alkimos Seawater Desalination Plant is designed to blend into the natural dunes and landscape, protecting the beauty of our coastline.

We're committed to preserving marine and terrestrial ecosystems through strict federal and state environmental approvals, and ongoing monitoring of water quality, noise and marine life.

All marine piling activities have been carefully scheduled to avoid the whale migration season.

Trained marine fauna observers are present on the barge 24 hours a day. All operations are immediately halted if marine life is detected within exclusion zones around the works.

We protect Alkimos' unique environment while delivering secure water for WA.

Building for the future

The plant is designed to withstand climate change and natural hazards, with a lifespan of over 100 years.

We've held resilience workshops with experts and the community to ensure the plant will be prepared for any unexpected event that may occur in the future.



Circular economy

Almost none of our construction and demolition waste goes to landfill. We are targeting 100% reuse of the excavated material from construction and have already reused over one million cubic metres through recycling and reuse initiatives. **That is approximately the equivalent of filling 400 Olympic-size swimming pools, or 40,000 large dump truck loads!**

For example, material excavated from the plant site has been repurposed for use in the neighbouring future Alkimos Coastal Node development.



Cutting carbon & saving energy

We're committed to net-zero emissions for construction and operation. We've installed solar hybrid generators to reduce diesel use by about 60%, cutting around 360 tonnes of CO₂ over 3 years.

We have also adopted a highly efficient water-based cooling system that reuses cool brine water from the desalination process to remove heat, rather than relying on conventional air-conditioners. This means far less electricity is needed to keep critical buildings cool. This smarter cooling approach reduces energy use by 1,227 MWh every year, which is equivalent to avoiding around 450 tonnes of CO₂-e emissions annually during operation.

We are committed to fully offsetting all plant emissions by 2035 using renewable energy.



Creating opportunities

This project is creating jobs and promoting inclusion.

We developed a dedicated traineeship program, training 23 women in tunnel segment fabrication at our precast segment facility, achieving a 50:50 gender split and creating ongoing career pathways on the project.

The project developed an upskilling program, turning experienced workers into formally qualified staff, and bridging skill gaps internally.



We are targeting 2% Aboriginal employment, prioritising procurement from Aboriginal-owned local businesses, and all team members will complete cultural awareness training to recognise and respect Whadjuk Noongar heritage.

We're also sharing what we've learned with students at Edith Cowan University to help train the next generation of sustainability experts.

Supporting local communities

Community engagement is central to our project, that's why we created a community reference panel that has been involved in the project from the beginning.

We want to leave a positive, lasting legacy for the community, beyond the water we produce so are delivering initiatives such as tree planting at a local park, school education program on desalination and investment in marine research through our on-site Research and Development Hub.

Updates will be shared via the WC project website.

Need more information?

Please visit our website

watercorporation.com.au/asdp