

Case Study

Winemaking Facility – CAL System Refurbishment



The Problem

A leading winery in a renowned Australian wine region needed urgent refurbishment of its ageing Covered Anaerobic Lagoon (CAL) system. The infrastructure had deteriorated, threatening environmental compliance, biogas capture efficiency, and overall operational reliability, all while the business needed to avoid disruptions during the critical winemaking season.

Key Issues Identified:

- **Deteriorated Cover:** Ageing geosynthetic cover reducing methane capture efficiency.
- **Underperforming Biogas System:** Limited methane recovery impacting sustainability goals.
- **Structural Concerns:** Ring beam system showing signs of weakness.
- **Need for Continuity:** Refurbishment needed to avoid interrupting peak winemaking operations.

The Solution:

Waterform Technologies delivered a full CAL system refurbishment, managed under our Solve, Support, Sustain approach. This ensured seamless delivery, compliance, and long term performance.

Refurbishment Included:

Geosynthetic Cover Replacement:

- Installed a durable, high performance cover to boost methane capture and weather resistance.

Biogas Flare System Upgrade:

- Delivered a BEF-500i flare with:
- Stainless steel combustion flare
- Siemens PLC control system with safety monitoring
- UV sensors and temperature control for efficient flame performance

Structural Reinforcement:

- Assessed and reinforced the ring beam for long term stability.

Commissioning & Safety:

- Conducted HAZOP review, safety sign off, and final compliance certification.

Waterform managed all works with minimal disruption to winery operations, coordinating closely with suppliers and stakeholders throughout the project.

The Outcome:

The upgraded CAL system now delivers measurable benefits across sustainability, compliance, and operational reliability:

- **Improved Biogas Recovery:** Greater methane capture supports energy use and reduces emissions.
- **Longer System Life:** New infrastructure increases durability and lowers maintenance costs.
- **Regulatory Confidence:** Full compliance with EPA and safety standards.
- **Zero Downtime:** Operations continued smoothly during the entire project period.

By partnering with Waterform Technologies, the winery has future proofed its wastewater treatment operations, supporting its long term commitment to sustainability and production excellence.



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