ALGAESYS

Capability Statement

algaesys.au

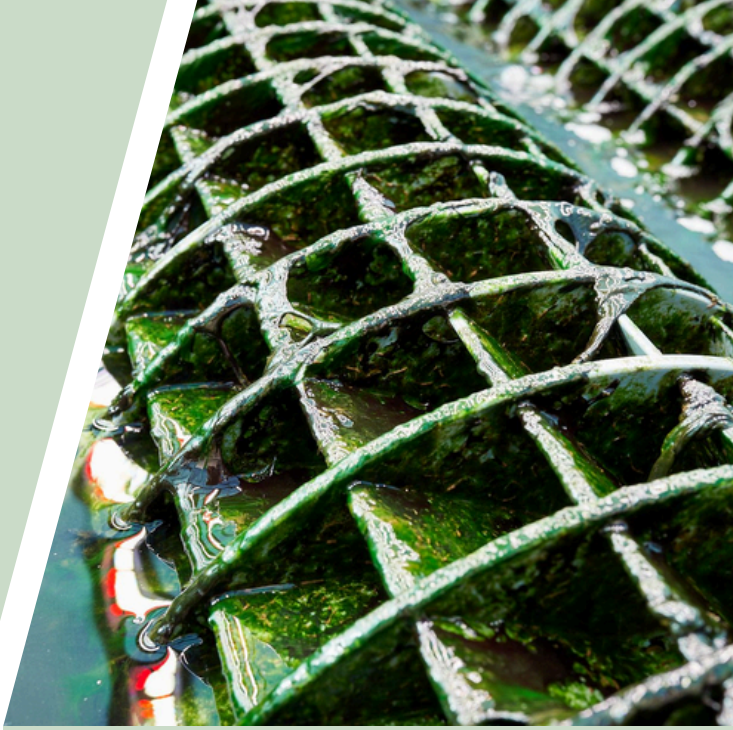
info@algaesys.au

+61 (0)8 6118 8618

Suite 44a, 460 Stirling Highway
Peppermint Grove, WA 6011

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Capability Statement



ALGAESYS's disruptive technology makes it possible for the first time to provide endemic, economical, robust, off-grid, wastewater treatment to internationally recognised reuse standards while helping fight climate change and recovering valuable resources.

What we do

Aside from POC projects (where we are prepared to take a more active role in project delivery) our normal operating model, is that we partner with engineering consultancies or clients directly, offering key components, design services, commissioning and quality control and assurance services and the licensing of our technology.

We offer on-going support, monitoring and testing services if required, for all our plants, or a training program to enable clients and partners to monitor and maintain plants.

Company Summary

Formed in Portugal in 2020, following eight years of Research and Development, Algaesys is a company dedicated to the development, production, design and implementation of sustainable wastewater treatment and resource recovery systems.

Our Australian entity, formed in 2022 is focused on expanding our reach into the region.

Core Competencies

We have chemical, civil, microbiological, process, mechanical, environmental and information technology engineers on staff capable of designing, project managing the build, commissioning and maintaining and operating our proprietary wastewater treatment and resource recovery process.

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Differentiators



Our focus and technology is aimed at both treating water to reuse levels and recovering valuable natural resources from the waste stream while using as little energy as possible.

Our system design is focused on ensuring that we meet and exceed the water reuse requirements for the intended reuse purpose based on the quality and flow of the influent, without having to dose. We are one of the few technologies capable of removing Phosphorus without dosing. The combination of our energy efficiency, lack of consumable requirements and ease of operational management result in the lowest OPEX costs of any equivalent technology.

Our ideal projects are those that involve not only the treatment of wastewater, but the re-use of the water at source and ideally a value-added re-use of the biomass produced in the process.

Where others may wish to maintain their IP in-house and strictly control who can or can't use their technology, our aim is to ensure that the technology is used as widely as possible and to that end, we are entirely open to licensing the technology, on a per-plant basis, to any competent client or engineering firm capable of building a plant.





In order to ensure project success, we complete the design process, the Quality Control (during build), the Commissioning Process and Quality Assurance, post commissioning to ensure that the plant is meeting its designed performance levels. We can then offer monitoring and maintenance if required, or training services if another party will manage the plant.

Where an engineering partner has conducted a number of installations successfully, we are happy to move from Design to QA on Design, to drop QC services and to just continue with Commissioning and QA post commissioning.

Our Projects

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Overview

Currently, the majority of plants we have designed and implemented have been done as commercial-in-confidence contract consulting engagements. Since our commercialisation in 2023, we have been working on obtaining work under our own name and can talk about the following projects.

Summit Lake, Indiana, USA

Active since 2014

The plant at Summit Lake, is a replacement for a traditional plant, designed to meet and exceed the strict effluent discharge limits imposed by the Indiana Environment Agency, due to its' location in a National Park setting. It deals with the effluent from 8 houses on-site during the week and at the weekend and during vacation periods, it copes with the load generated by up to 450 recreational vehicles and the discharge they bring with their chemical toilets. The plant is managed by the park rangers and clearly demonstrates the processes' ability to deal with flow-rate variations and toxicity changes. It has not failed to meet effluent discharge limits since commissioning.



Gingin Eco Lifestyle Village, Western Australia

Active since 2025

The plant at Gingin Eco Village provides wastewater treatment services for the developments' houses and club-house. Recently commissioned, this is our first southern hemisphere plant and has undergone verification & validation by the Department of Health and the Department of Water and Environmental Regulation (DWER). The water from the plant will be treated to Class-A standard and be re-used on-site for irrigation of an orchard and for surface dripper irrigation and sprinklers to keep the landscape and communal planting in perfect condition throughout the year.

Bolnhurst Municipal WWTP Bedford, UK

Active since March 2026

The plant provides wastewater treatment services for municipal wastewater before discharging into the surrounding wetlands. Currently in the performance testing phase, due to be completed by mid-2026, this plant was built as part of Anglian Water's @one Alliance. The objective of the project was to replace ageing assets, reducing power consumption, while providing complete wastewater treatment including elevated removal of Phosphorus to meet tightening regulatory limits.



Our Projects

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Soft drinks bottling company, Iberia

R&D Project in progress

Initial water sampling has been completed and a proposal for an R&D project (at lab scale) was developed to demonstrate the capability of the biological processing of actual wastewater from the bottling operation. The project was approved and commenced at the start of 2026. Our expectation is that by the end of Q3 we will be able to provide the client with a design proposal for an updated treatment train using our biological solution in place of the existing high-powered RO solution.



Future Prospects

While there are a number of other prospects and projects in flight in Malaysia, Thailand, New Zealand, Australia, France, Spain, UK and Polynesia, none have progressed to contractual agreement, or we are bound by confidentiality not to mention them currently.

Staff Capabilities

John Fagan
MEng in Biochemical Engineering

James Lander
BEng Chemical Engineer

Dr Mahshid Sedghi
PhD in Microbiology

Greg Turner
Civil Engineer,
MSc in Environmental Engineering

Mark Tutty
NZ CE Civil Engineer

Rhys Gustaffson
MEng in Water Treatment & Desalination

Joao Lopes
MSc in Mechanical Engineering

Maria Silva
MSc in Chemical Engineering

Sofia Bekir Fuente
BSc Environmental Engineering & Science Communication



ALGAESYS Efficacy

As we design the treatment train to meet both the influent quality and the expected or desired water re-use purpose, efficacy is actually pretty variable dependent on the need.

We add and remove secondary processes and pre-processes according to need in order to address the influent characteristics and meet the effluent requirements for each project.

That said, our default treatment train used when treating municipal waste (sewage) is what we used to develop and perfect our process train design and we have excellent data obtained during the R&D project which was conducted over an 8-month period in Kunshan, China in 2015. The following table provides an overview of the influent and effluent characteristics obtained during the project.



ALGAESYS Performance

Based on an 8-month trial with continuous monitoring

Parameter	No. of Samples	Influent Averages	Demonstration Plant (8-month average)				Final Configuration	
			Average % removal	Average	Minimum	Maximum	Average	% removal
Bio-chemical Oxygen Demand (**BOD**) mg/L	46	307	98	6.1	3	11	4	98.7
Chemical Oxygen Demand (**COD**) mg/L	48	748	98.8	9	5	22	6	99.2
Total Suspended Solids (**TSS**) mg/L	48	351	98.9	7	3	13	0.7	99.8
Ammonia (**NH_4-N**) mg/L	517	68	98.6	0.64	0 (ND)	1.2	0.1	99.9
Total Nitrogen (**TN**) mg/L [w/ ASDN]	325	74	99.4	0.6	0 (ND)	1.4	0.1	99.9
Total Phosphorus (**TP**) mg/L	516	11.7	96.7	0.4	<0.1 (ND)	1.8	0.4	96.6
Pathogens - **E-Coli** (CFU/100mL)	48			960	400	1400	800	
Power Consumption (kWh/m^3) [wastewater processed]								0.2

No Post Process (UV-disinfection) used to obtain this result. Just the combination of ALGAESYS bio-reactors with Sulphur Denite Filter.
Up to 80m3 per day of water treated on a daily basis collected from 4 separate wastewater facilities over an 8-month period.

Partners

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Existing partners are currently limited to a single partner in the UK and another in Australia. These are non-exclusive partnerships that allow the partners to guarantee that we won't engage with another firm or client that operates in the same combination of geogrpahy and industry for a period of time.

We are open to forming new partnerships with commercial engineering consultancies, industry peak bodies, governments or companies in order to license our technology and facilitate the carbon-negative processing of wastewater.

Our education and industry partnerships continue to evolve. We are currently IWA (International Water Association) and AWA (Australian Water Association) members, with staff participating on various regional boards and special interest groups for these organisations and we have recently been admitted into the AWP (Australian Water Partnership).

We are in discussions currently with a number of educational instituitions around Australia for the introduction of course material for their environmental and wastewater engineering units and to collaborate on various PhD and Masters projects for/with their students to enhance our IP and bolster our R&D activities.



Engage with us

We are simple to engage with, with an active local team busy looking for problems to solve and projects to win.

Our contact details are listed below. For realistic price-range and quoting you will need to have detailed information on the flow (volume) and composition of the influent along with the desired re-use purpose for the water or effluent requirements/standards if you are just planning on meeting an environmental discharge limit. You can provide this information here.

As our principal treatment methodology is biological, there are restictions around water temperature and availability of light that may inhibit our ability to meet your need.

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