

# Algae.Tec Ltd (AEB.ASX)

# **Technology Validation**

**Overview:** Algae.Tec Ltd ("Algae.Tec", "the Company") is an Australian technology company focused on the manufacture of algae-based products. Algae generate energy and nutrient rich oils more efficiently than any other known natural or engineered process. Algae.Tec's production technology, the 'Algae.Tec system', is the world's most land efficient algae manufacturing technique.



Catalysts: After operating a demonstration facility during the past year to showcase its technology, the Algae.Tec system has received independent validation. Accelerated commercialisation into high value nutraceutical markets is planned by expanding the Company's existing Nowra operation. Economics appear attractive, with cash flow forecast from 2015, generating an Internal Rate of Return (IRR) of 90 per cent.

**Hurdles:** Whilst the Algae.Tec system's modular design reduces expansion risks there is no guarantee that production yield's achieved in validation tests will be replicated in a commercial setting. The Company remains reliant on external capital to fund operations and development projects. Market opportunities for transportation fuels require further appraisal.

**Investment View:** As commercialisation of algae based transport fuels remains an industry wide challenge, we favour Algae.Tec's strategic shift towards nutraceutical markets. Independent validation of its technology offers a major catalyst after the same milestone drove a six-fold valuation gain for US-based Solazyme. The Nowra expansion supports Algae.Tec's growth, and with our \$0.40/share valuation representing a 233 per cent premium to recent trade, we reinstitute coverage with a 'speculative buy' recommendation.

#### **Algae.Tec Valuation Summary**

Method	Application	Valuation	Per Share
Case Study - Solazyme	Pre Money	\$75m - \$150m	\$0.27 - \$0.54
Discounted Cash Flow	Post Money	\$178.5m	\$0.40
Average			\$0.40

17 Dec 2013 Last Price: \$0.12

# **Spec Buy**

Valuation: \$0.40

Analyst: Imran Valibhoy

#### **Corporate Summary**

Shares on Issue 278.5m

Other Securities 11.2m Options (75c, 2014)

49.5m Options (75c, Jan 2016)

1m Options (\$1, Oct 2015)

Net Debt \$1.3m

Market Cap \$34m

#### **Asset Overview**

Title Algae.Tec System

Rights Global

Status Commercial Trials

Market Size \$800m

Patent Expiry N/A

#### Management

Exec Chairman Mr Roger Stroud

Managing Director Mr Peter Hatful

Technical Director Mr Earl McConchie

COO Mr Colin McGregor

#### Shareholders

Directors 72%
Top 20 86%

Share Price \$





### Company Overview

Algae.Tec Limited ("Algae.Tec", "the Company") is an Australian technology company focused on the manufacture of algae-based products. Its primary asset is Intellectual Property (IP) surrounding the Algae.Tec system ("the technology"), which allows for sustainable production of algae-based products in a controlled, commercial setting.

The Company aims to manufacture algae product for nutraceutical and biofuel markets. A demonstration facility to showcase the Algae. Tec system was commissioned in August 2012 at Nowra, New South Wales. Independent validation of the technology's biomass production yield was secured in December 2013.

Algae.Tec was founded in 2007 and listed on the Australian Securities Exchange in January 2011 after raising \$5million at 20c/share. It was the best performing Initial Public Offering in Australia during 2011. The Company's shares (American Depository Receipts) are also listed on the US OTCQX market (ALGXY), and Frankfurt Stock Exchange (GZA). Issued capital currently stands at \$14.92million, or 5.3c/share.

## Asset Overview - Algae.Tec System

Algae.Tec has exclusive, royalty free rights to IP surrounding the Algae.Tec System – a process designed to manufacture algae-based products in a controlled, commercial setting.

The Company secured an exclusive, royalty free global license to the Algae. Tec system in April 2010 from Teco. Bio LLC. The license applies to industrial applications of the technology for an indefinite period. Licensing of the technology saw Teco. Bio LLC acquire a dominant shareholding in Algae. Tec, which currently stands at 72 per cent. Executive Chairman, Roger Stroud and Technical Director, Earl McConchie, together control 100 per cent of Teco. Bio LLC.

Since listing, Algae. Tec has advanced the technology from a concept phase through to commercial trials. After successfully operating a demonstration facility at Nowra, NSW for the past 12 months, the technology has received independent validation by the Sydney Environmental and Soil Laboratory Pty Ltd (SESL).

Accredited by the National Association of Testing Authorities, and ISO benchmark 9001:2008, SESL's validation program confirmed the Algae. Tec system's biomass production yield and its capacity to deliver significantly greater output per unit of land than any other known algae production technology.



Figure 1: Algae.Tec is focused on sustainable, controlled production of algae products. Source: Algae.Tec.

# Algae.Tec technology has been independently validated



Figure 2: Algae.Tec's technology was recently independently validated at its Nowra demonstration plant. Source: Algae.Tec



#### **Background**

Algae are simple plants that can range from the microscopic (microalgae), to large seaweeds (macroalgae), such as giant kelp more than one hundred feet in length. Individual species number in the tens of thousands. Having evolved over billions of years, these organisms generate energy and nutrient rich oils more efficiently than any other known natural or engineered process.

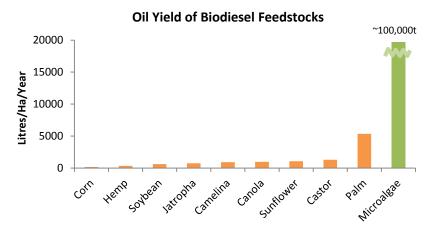


Figure 4: Algae generate energy and nutrient rich oils more efficiently than any other known natural or engineered process. Source: Jin Liu, Junchao Huang and Feng Chen (2011). Microalgae as Feedstocks for Biodiesel Production, Biodiesel - Feedstocks and Processing Technologies, Dr. Margarita Stoytcheva (Ed.), InTech

Ten species of microalgae are commercially produced at present for use as health extracts, food supplements and cosmetics. Supply is fragmented, with hallmarks of a 'cottage industry', however market value of existing world production has been estimated at US\$800million<sup>1</sup>.

A much broader, presently untapped market opportunity exists in the transportation fuels industry. Investigation of the potential to convert algae into biofuels has witnessed an investment boom during the past decade. Private investment since 2000 is estimated to exceed US\$2billion whilst US Government agencies have committed in the order of US\$300million<sup>2</sup>.

These research and development efforts have seen algae-based fuels power passenger aircraft flights, navy vessels, and vehicles on a demonstration basis. However further investment is required to deliver technology capable of supporting commercial production.

- Egardt, J., Lie, O., Aulie, J., Myhre, P., 2013. Project Blue Bio. University of Gothenburg, Chalmers University of Technology, Norwegian University of Life Sciences. USD/EUR Exchange Rate of 0.75 applied.
- Bracmort, K, 2013. Algae's Potential as a Transportation Biofuel Report for Congress. Specialist in Agricultural Conservation and Natural Resources Policy. Washington: Congressional Research Service.



Figure 3: Algae generate energy and nutrient rich oils more efficiently than any other known natural or engineered process Source: American Society of Mechanical Engineers

### Existing \$800million 'cottage' industry

\$2billion private investment since 2000 to develop industrial production technologies and expand applications



Figure 5: Ten species of microalgae are commercially produced at present for use as health extracts, food supplements and cosmetics. Sources: Synergy Natural, Echlorial



#### **Features and Benefits**

Independent validation of the Algae. Tec system has confirmed its capacity to deliver significantly greater output per unit of land than other known algae production techniques. The validation program encompassed Chlorella, a variety of algae currently utilised in the production of health and cosmetic products.

Validation readies the Algae.Tec system for deployment in nutraceutical markets, and there remains ongoing potential as a platform to manufacture biofuels.

Advantages over existing production techniques and technologies under development include location flexibility, land requirements, quality control, and input demands.

#### Algae.Tec System Key Advantages

Site Selection	Fewer restrictions – suitable for arid or industrial settings
Land Intensity	Higher output per unit of land than all other technologies
Quality Control	Closed setting monitors inputs & reduces contamination
Inputs	Using photosynthetic algae avoids competition with food crops

Table 1: The Algae.Tec system delivers more output per unit of land than any other known algae production method. Its advantages over competing technologies are summarised above. Source: Algae.Tec, wise-owl.

Existing cultivation practices and most new technologies under development utilise open ponds to grow algae. This requires a large land area with available water supply. The Algae.Tec system has a 'closed' design, incorporating stackable modules within a controlled warehouse setting.

Reducing land requirements, the design also allows for greater site flexibility as cultivation can occur at industrialised zones as well as marginal land. The Algae.Tec system's closed setting also provides greater quality control over open pond systems. Key variables such as light and temperature can be monitored to produce a more consistent product with lower risk of contamination.

Other 'closed' algae production methods have recently been developed for commercial use. However as the algae species involved require sugar as opposed to light and carbon dioxide for growth, challenges surrounding input pricing and supply may emerge.

Unsustainable competition for cropping land between the biofuel and food industries originally sparked the investment boom into algae as an alternative feedstock. As the Algae.Tec system's primary inputs include light and carbon dioxide, the technology is uniquely positioned to deliver a sustainable closed manufacturing solution.

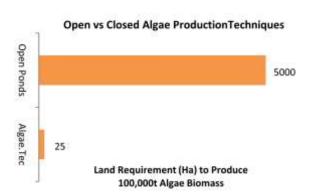


Figure 6: The Algae.Tec system's closed nature requires significantly less land than common 'open pond' systems. Source: wise-owl.com, Algae.Tec

# Algae.Tec system delivers more output per unit of land than any other known production technology



Figure 7: An 'open pond' algae production facility in Hawaii. Source: Cyanotech



#### **Commercialisation Strategy**

After developing the Algae. Tec system from a concept stage through commercial trials, the Company proposes to develop its demonstration facility in Nowra, NSW into a commercial scale manufacturing plant.

Configured to produce feedstock for nutraceutical markets, the plant's initial capacity will be 2,000 metric tonnes per annum (mta) of algae product, expanding to 10,000 mta within five years. The proposal is supported by a supply agreement with Nutrition Care Pharmaceuticals Pty Ltd, an Australian based manufacturer of nutritional and herbal medicines. The expanded Nowra facility is scheduled for operation from 2014-15.

For subsequent growth, the Company intends to develop additional sites, a strategy supported by a development agreement with Macquarie Generation. Owned by the NSW State Government, Macquarie Generation operates two power plants in the Hunter Valley region and is Australia's largest coal based electricity producer.

Macquarie Generation has executed an agreement with Algae. Tec to develop an algae manufacturing facility adjoining its Bayswater power plant, utilising carbon emissions from the site as a feedstock ("Mac Gen Project"). Bayswater consumes 7.5 million tonnes coal pa, and offers the capacity to support a 100,000 tonne pa algae plant.

Algae. Tec envisions the staged development of a 20,000 tpa plant, expanding towards 100,000 tpa over time. The Company is presently engaged in the permitting and feasibility process.

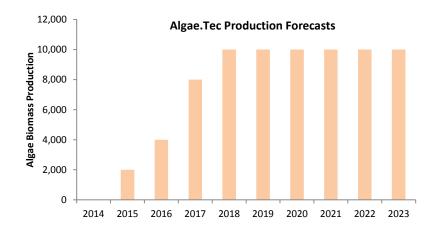


Figure 10: Algae.Tec aims to commercialise its technology by initially expanding its Nowra demonstration plant ("Nowra Project"). Source: wise-owl.



Figure 8: Algae.Tec has entered a supply agreement with Nutrition Care Pty Ltd. Source: Nutrition Care

# Nowra expansion delivers near term cash flow

# Mac Gen Project to drive long term growth



Figure 9: Algae.Tec's technology is scheduled to be implemented alongside Macquarie Generation's Bayswater Power Plant Sources: Algae.Tec, ABC.



#### **Economics**

The existing global market for commercially produced microalgae products has been estimated at US\$800million<sup>1</sup>. Demand is dominated by the health extract, food supplement and cosmetic industries. We understand this market is presently constrained by the availability of consistent supply. The potential market for algae-based biofuels is excluded from these figures.

Algae.Tec's proposal to expand its Nowra demonstration facility into a 10,000tpa plant is expected to require initial capital investment of \$17million, and produce algae product at a cost below \$7,500 per tonne. Subsequent growth capital is expected to total \$66.5million, funded through a combination of cash flow, R&D offsets, and equity.

Expected outputs include Chlorella, Beta Carotene, Spirulina, and Omega 3 Oil, which attract current market prices ranging from \$8,000 to \$90,000 per tonne. Chlorella used for the recent validation program attracts prices of \$16,000/t, and is the benchmark used in our subsequent analysis.

Under this base case output scenario, the expanded Nowra plant is expected to generate peak revenues of \$160million pa and EBITDA of \$80million pa. Before corporate costs, interest, and tax, we estimate the project would generate a payback period of less than 18 months and an internal rate of return (IRR) of 90 per cent.

Due to its greenfield nature, the Mac Gen Project is scheduled to require a larger initial capital investment, in the order of \$100million, and is subject to further feasibility studies. We have excluded the Mac Gen Project from our financial appraisal of Algae. Tec but estimate that it could generate a payback period of 2-3 years and an unlevered, pre tax, project IRR in the order of 50 per cent.

#### **Algae.Tec Project Parameters**

Project	Nowra Expansion	Macquarie Generation
Capacity	10,000tpa	6,000tpa, expanding to 100,000tpa
Initial Capex	\$17,000,000	\$100,000,000
Growth Capex	\$66,500,000	N/A
Financing	Equity	Debt
Payback	<18 months	36 months
IRR₁	90 per cent	50 per cent
Key Risk	Technology Scale Up	Financing, Off take

Table 2: The Nowra Expansion and Mac Gen Project offer attractive base case economics. Initial capital costs are higher for the Mac Gen Project due to its greenfield nature. Source: wise-owl.

#### Unlevered, pre corporate costs, interest, and tax

### Nowra Expansion offers Base Case IRR of 90 per cent



Figure 10: Algae.Tec General Manager, Project Operations, Colin McGregor showcasing demonstration plant output at a recent site visit. Source: wise-owl



#### Financial Performance

As its technology is still in the process of being commercialised, Algae. Tec is reliant on external capital to advance development. To date, the Company has funded activities through equity, hybrid equity, Government Research and Development Rebates, and loans.

Issued capital currently stands at \$14.92million, or 5.3c/share. Interest bearing liabilities total \$1.35million, incorporating a \$0.35million secured loan from Macquarie Bank, \$0.75million second ranking convertible notes, and a \$0.25m unsecured facility.

The convertible notes mature in October 2014, carry an interest rate of 7.5 per cent and a conversion price of 22c/share. The Macquarie Bank loan is secured against Algae. Tec's entitlements under the Federal Government's AusIndustry R&D Tax Incentive Program.

For approved R&D expenditure, Algae.Tec is eligible to receive reimbursement amounting to 45 cents in the Dollar, after the spending has occurred. Algae.Tec has received Government approval for a \$12.15million cash refund on incurred and budgeted development expenditure for the financial years 2012 to 2015.

The Macquarie Bank loan has delivered approved rebates in advance, although expenditure additional to the initial budget of \$27million will also be eligible for further funding grants.

#### **Equity Raising**

To further commercialise its technology, Algae. Tec is preparing to raise up to \$30million via an equity issue. Its most recent equity raising was completed in June 2013, incorporating a placement and share purchase plan, raising \$1.72million at 22c/share.

Proceeds from the current round are scheduled to fund the Nowra plant expansion, feasibility studies over the Mac Gen Project, strategic acquisitions, and further Research and Development.

Item	Description	Budget
Nowra Expansion	Capital Cost	\$21million
Mac Gen Project	Permitting & Feasibility	\$1million
Acquisitions	Complimentary IP	\$1million
Research & Development	Yield Enhancement	\$1million
Working Capital	Admin & Overheads	\$6million

Table 3: Budgeted use of proceeds for 2013 equity raising. Source: Algae.Tec, wise-owl.

~\$15million capital investment to date advancing Algae.Tec system from concept to commercial trials

Equity raising to fund Nowra Expansion & Mac Gen feasibility



#### Valuation

Algae.Tec's investment appeal rests in the near term commercialisation of its technology for nutraceutical markets and potential future applications for transportation fuels.

We have appraised its potential worth utilising Discounted Cash Flow and Case Study methodologies. The Discounted Cash Flow arrives at a valuation of \$178.5million after incorporating future financings, which equates to 40c/share. Our Case Study approach yielded a valuation between \$150million and \$75million for Algae.Tec on a 'pre money' basis, which equates to a range between 54c and 27c/share. Using an average of these techniques, we value Algae.Tec at \$0.40/share.

#### **Algae.Tec Valuation Summary**

Method	Application	Valuation	Per Share
Case Study - Solazyme	Pre Money	\$75m - \$150m	\$0.27 - \$0.54
Discounted Cash Flow	Post Money	\$178.5m	\$0.40
Average			\$0.40

Table 2: Our two appraisal methods suggest Algae.Tec is worth \$0.40/share Source: wise-owl

#### Case Study - Solazyme Inc

A peer based valuation of Algae. Tec is constrained by the very few listed companies focused on algae production and associated technologies. After reviewing the universe of public and privately held competitors for Algae. Tec, we have focused our analysis on NASDAQ listed Solazyme Inc ("Solazyme").

We believe Solazyme offers the most relevant benchmark for Algae. Tec due to similarities in technologies, target market, and initial funding profiles.

Technology	Algae.Tec	Solazyme
Closed System	$\checkmark$	✓
Validation	$\checkmark$	✓
Photosynthetic Inputs	✓	×
Commercial Production	Pending	✓

Table 5: The Algae.Tec's technology offers similarities to Solazyme but its input requirements provide a key advantage. Solarzyme's technology requires sugar/cellulostic based feedstock, whereas the Algae.Tec system only requires traditional photosynthetic inputs — light and carbon dioxide. Source: Algae.Tec, wise-owl.

DCF Valuation \$178.5million

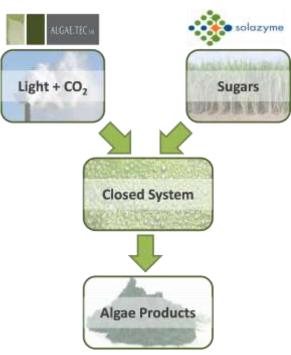


Figure 11: The Algae.Tec system's closed nature has similarities to Solazyme's technology, although significant differences exist in their input requirements. Source: wise-owl



The closed nature of Solazyme's technology is similar to Algae. Tec. Its ability to deliver controlled, industrial scale production for nutraceutical markets has attracted investment from consumer goods manufacturer, Unilever, and agribusiness, Bunge Ltd.

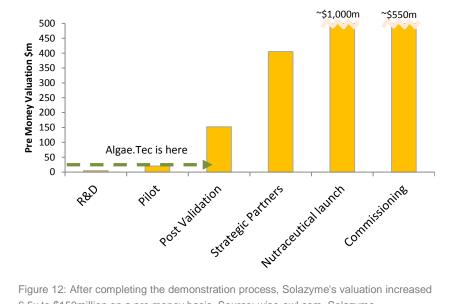
Differences between Solazyme's technology and the Algae.Tec system rest in their input requirements and level of development. Solazyme's closed process utilises algae that feed off sugar, whilst Algae. Tec uses photosynthetic specimens which require light and carbon dioxide as their primary inputs.

Solazyme's technology is at a more advanced stage of commercialisation. Sales into nutraceutical markets commenced during 2011, and manufacturing capacity in the order of 200,000tpa is currently being established at two large plants in Brazil and the US.

With its market capitalisation exceeding US\$500million, Solazyme's development pathway highlights significant growth potential for Algae.Tec.

Solazyme's validation process delivered significant growth, and a \$150million valuation, 'pre money'

#### Solazyme Inc - Development Path

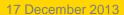


After commencing sales, Solazyme has a current market cap exceeding\$500million

Figure 12: After completing the demonstration process, Solazyme's valuation increased 6.5x to \$150million on a pre money basis. Source: wise-owl.com, Solazyme

Solazyme concluded its demonstration program during 2007 at a similar cost to what Algae. Tec has now achieved (~\$20million). The process was privately funded, with Solazyme attracting a pre money valuation of U\$\$20million prior to its successful demonstration program.

Validation of its technology delivered a significant wave of value growth. Solazyme's next financing round, concluded in February 2009, attracted a pre money valuation in the order of US\$152million more than six times greater than its previous 2007 fund raising program.





High profile commercial partnerships and strategic investment followed the validation process. Solazyme listed on the NASDAQ in mid 2011 after raising US\$227million. Its current market value is more than 25 times greater than that witnessed pre validation.

To follow Solazyme's development path, Algae. Tec must navigate substantial commercial challenges. However in our view, this Case Study illustrates significant value growth potential which validation is poised to deliver. For benchmarking purposes, the Solazyme case study suggests that a valuation up to \$150 million may be possible for Algae. Tec post validation. After incorporating movements in the market price of Solazyme securities since its last financing round, we have adopted a valuation range of \$75 million - \$150 million, pre money, for Algae. Tec using the Case Study method, which equates to a range of \$0.54 to \$0.27/share.

Solazyme's current market cap is over 25 times greater than its valuation pre validation

#### **Discounted Cash Flow**

We have projected Algae. Tec's activities over a 15 year period ending 2028, incorporating the Nowra expansion. Algae. Tec expects to have 1,000tpa installed capacity during 2014 expanding to 10,000tpa by 2018. To mitigate scheduling risks, we have modelled cash flow commencing from 2015.

We have assumed the Nowra expansion is equity financed, and that capital investments are eligible for the Federal Government's AusIndustry R&D Tax Incentive Program. Utilsing a 15 per cent discount rate, we appraise the Nowra Project to be worth \$178.5million, which equates to \$0.40/share. Our discounted cash flow appraisal is very sensitive to the Algae.Tec system's production vield.

We have utilised a base case output scenario confirmed in recent validation tests, but acknowledge there remains significant upside from process enhancements already identified by the Company's technical team.

Discounted Cash Flow valuation \$178.5million, 'post money'



#### Investment View

The need for further R&D to commercialise algae based transport fuels is common across the algae technology industry. We therefore favour Algae. Tec's strategic shift towards nutraceutical markets, for which we view recent technology validation as a major value driver.

From a similar capital base, Solazyme witnessed a more than six-fold rise in its valuation following a successful validation phase. Algae.Tec's commercialisation plan offers comparable growth potential, with both the Nowra Expansion and Mac Gen Project supported by attractive base case economics.

Replicating the Algae.Tec system's 'demonstration phase' performance in a commercial setting is now the Company's primary challenge.

The technology's modular design mitigates some expansion risks, which in our view, balance favourably against our \$0.40/share valuation of the Company. Representing a 233 per cent premium to recent trade, we re-institute coverage with a 'speculative buy' recommendation.



Figure 13: The wise-owl research team inspects demonstration plant output alongside Algae.Tec General Manager, Project Operations, Colin McGregor, at a recent site visit. Source: wise-owl



#### Risks

#### **Technical Risks**

Whilst production yield's from the Algae.Tec system have been independently validated at the Company's demonstration facility, there is no guarantee the performance will be replicated in a commercial setting. Our valuation is very sensitive to production yields.

#### **Market Risks**

Algae.Tec's supply agreement with Nutrition Care Pty Ltd reflects indicative market demand but is non binding with regards to price and volume. There is no guarantee that Algae.Tec will be able to sell its production at the price and volumes specified in our analysis.

#### **Funding Risks**

Algae.Tec is reliant on external capital for operating and development activities. There is no guarantee the Company will successfully attract further financing. There is also a risk that future fund raising initiatives generate greater dilution than forecast in our analysis, which would negatively impact our valuation. Our appraisal is very sensitive to ongoing participation in the Federal Government's AusIndustry R&D Tax Incentive Program. Whilst the Company has received approval for expenditures totalling \$27million, eligibility of subsequent capital investment is not guaranteed.

#### **Liquidity Risks**

The Company's largest investor controls 72 per cent of shares outstanding. This can impair the ability to buy and sell shares, and increase transaction costs.

#### **Intellectual Property Risks**

Technology surrounding the Algae. Tec system is not subject to patent protection, which could impair the Company's ability to develop and maintain a competitive advantage.

#### Scheduling Risks

Delays in project execution, expansion and financing could impair Algae. Tec's valuation to present equity holders. Our Discounted Cash Flow valuation is sensitive to production forecasts, which anticipates commercial receipts from Nowra by 2015.



#### The Bulls & The Bears



#### The Bulls Say

- Algae.Tec has successfully advanced its algae manufacturing technology from the concept stage and is now ready to develop commercial production facilities
- Independent validation of the Algae. Tec system has been achieved with a capital base similar to Solazyme Inc, which witnessed a more than six fold valuation gain upon this milestone
- Algae.Tec's commercialisation program is poised to deliver cash flow from 2015 and Internal Rates of Return of 90 per cent
- Our base case valuation represents a significant premium to Algae. Tec's current market capitalisation



#### The Bears Say

- The Algae.Tec systems modular design does not guarantee that performance validated in demonstration tests will be replicated in a commercial facility
- Project economics have been appraised based on a non binding supply agreement with Nutrition Care Pty Ltd. There is no guarantee that indicated price or volumes for Algae. Tec production will be achieved
- Technology surrounding the Algae. Tec system is not subject to patent protection, which could impair the Company's ability to develop and maintain a competitive advantage.
- The Company requires a significant capital injection in order to deliver its commercialisation plan, and equity returns are very sensitive to ongoing participation in the Federal Government's AusIndustry R&D Tax Incentive Program



### Management

#### Roger Stroud - Executive Chairman

Roger has over 35 years experience in a variety of industries. He spent over 10 years in finance in a number of areas including credit, money market, and investment banking for CitiNational (Citibank/National Mutual) merchant bank. Following the above, he floated a mining company, with a head office based in Sydney, and undertook the role of managing Director for 8 years. In the late 1990s, Roger began the process of building businesses in the renewable fuel sector, primarily biodiesel. This included floating two separate biodiesel companies. Roger is a founding director and controlling shareholder of Teco.Bio LLC, and is based in Perth, WA. Roger has received a BSc from Sydney University, majoring in Chemistry and Geology, and a BA (Economics) from Macquarie University. He is currently chairman of the "Centre for Research into Energy for Sustainable Transport", a collaborative research initiative between Curtin and Murdoch Universities.

#### Peter Hatful - Managing Director

Peter has over 30 years experience in a range of senior executive positions with Australian and international companies. He has an extensive skill-set in the areas of business optimisation, capital raising, and company restructuring. He was recently Managing Director of a leading integrated metal recycling and contracting company, CMA Corporation Ltd. Peter is currently a director of Teco Pty Ltd, Kresta Holdings Ltd, Barminco Pty Ltd, and is also based in Perth, WA. Peter graduated as a Chartered Accountant in the United Kingdom, where he worked for Coopers and Lybrand (now PriceWaterhouseCoopers), and subsequently moved to Africa, where he spent 8 years in Malawi, where he was CFO of the Malawi operation of international trading group, Guthrie Limited.

#### Colin McGregor - Chief Operations Officer

Colin has over 25 years experience managing and directing projects and operations in a variety of industries. His background is engineering and project management, working over 15 years in a number of roles at Qantas airways including aviation fuel. He has also held the roles of Director of the Project Management Unit for the Defence Materiel Organisation plus Chief Operating Officer for a high technology manufacturing firm in Sydney. Colin is a certified Master Project Director and directed the winning project for the Australian Institute of Project Management Achievement Awards at both the state and national levels. Colin has received a Master of Business Administration (MBA), Bachelor of Engineering BE (Manufacturing) and Bachelor of Manufacturing Management (BMM).



# Appendix - Discounted Cash Flow Summary

Algae.Tec Ltd	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Operating Summary Installed Capacity	2000	4000	8000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Price	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000
Revenue	-	32,000,000	64,000,000	128,000,000	160,000,000	160,000,000	160,000,000	160,000,000	160,000,000	160,000,000
Operating Costs		15,330,000	28,810,000	57,440,000	73,460,000	73,460,000	73,460,000	73,460,000	73,460,000	73,460,000
Capex	16,383,328	32,770,000	33,750,000	-	-	-	-	-	-	-
Cash Flow	(16,383,328)	(16,100,000)	1,440,000	70,560,000	86,540,000	86,540,000	86,540,000	86,540,000	86,540,000	86,540,000
Corporate Summary										
Acquisitions	1,000,000	-	-	-	-	-	-			
R&D	1,000,000	1,050,000	1,102,500	1,157,625	1,215,506	1,276,282	1,340,096	1,407,100	1,477,455	1,551,328
Admin	4,000,000	4,200,000	4,410,000	4,630,500	4,862,025	5,105,126	5,360,383	5,628,402	5,909,822	6,205,313
Total Corporate	(6,000,000)	(5,250,000)	(5,512,500)	(5,788,125)	(6,077,531)	(6,381,408)	(6,700,478)	(7,035,502)	(7,387,277)	(7,756,641)
Net Cash Flow										
Revenue	-	32,000,000	64,000,000	128,000,000	160,000,000	160,000,000	160,000,000	160,000,000	160,000,000	160,000,000
Operating Costs	-	15,330,000	28,810,000	57,440,000	73,460,000	73,460,000	73,460,000	73,460,000	73,460,000	73,460,000
Corporate Costs	(6,000,000)	(5,250,000)	(5,512,500)	(5,788,125)	(6,077,531)	(6,381,408)	(6,700,478)	(7,035,502)	(7,387,277)	(7,756,641)
Capital Costs	16,383,328	32,770,000	33,750,000	-	-	-	-	-	-	-
Finance Charges	-	-	-	-	-	-	-	-	-	-
Tax	-	3,426,000	6,416,150	16,944,463	21,651,641	21,560,478	21,464,757	21,364,250	21,258,717	21,147,908
R&D Offsets	6,649,123	11,498,800	11,849,850	393,593	413,272	433,936	455,633	478,414	502,335	527,452
Net Cash Flow	(15,734,205)	(13,277,200)	1,361,200	48,221,005	59,224,100	59,032,050	58,830,398	58,618,663	58,396,341	58,162,903

Summary	
Net Cash Flow	652,000,000
WACC	15%
DCF	178,500,000
Current Shares	278,500,000
New Shares	161,000,000
Total Shares	444,000,000
Valuation	\$0.40/share

#### **Notes**

- 1. We have modeled a 15 year operation extending to 2028. The above summary illustrates forecasts to 2023, after which key variables are held constant
- 2. All capital spending is assumed to be eligible for R&D offsets, for which \$27million is currently approved
- 3. Production and Capacity forecasts are for Nowra expansion only





# Glossary

Buy Increasing value of established business operations is likely to

yield share price appreciation

**Spec Buy** Increasing value of a new or developing business operation is

likely to yield share price appreciation.

**Hold** There exists an even balance of risks

**Sell** There is elevated risk of share price depreciation.

**Stop** Our recommended, pre determined sell price, to be executed

if the share price fails to appreciate

**Concept** An early stage of technological development characterised by

design, controlled tests and prototyping

Commercial

**Trials** 

ial An intermediate stage of technological development characterised by testing with end users and prospective

customers

Sales An advanced stage of technological development where

regulatory approvals have been secured and a commercial

rollout has commenced

# **Archives**

Technology

Algae.Tec Ltd (AEB.ASX)

Aug-10

Pre-IPO Report



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