Zacks Small-Cap Research

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Ian Gilson, PhD, MBA, CFA
www.zacks.com

111 North Canal Street, Chicago, IL 60606

OriginOil Inc. (OOIL-OTC)

OOILD: Harvest pretreatment improves algae growth rate.

Current Recommendation	**Outperform**
Prior Recommendation	N/A
Date of Last Change	08/22/2011
Current Price (10/28/11)	$2.16
Six- Month Target Price	**$6.00**

OUTLOOK

OriginOil is moving from a proof of concept to a full scale plant for production of oil from algae using the company's unique separation processes.

The company's strategy is to be a supplier of technology to the growers of algae so that the oil separation process is less expensive and the cost of oil from algae becomes economically feasible.

The company's goals for the next three years are the successful operation of the 300 GPM continuous harvesting system and industry validation of the SSE process.

SUMMARY DATA

52-Week High	**$5.50**
52-Week Low	**$1.70**
One-Year Return (%)	**N/A**
Beta	**0.0**
Average Daily Volume (sh)	**23,774**
Shares Outstanding (mil)	**8.4**
Market Capitalization ($mil)	**$18.1**
Short Interest Ratio (days)	**N/A**
Institutional Ownership (%)	**N/A**
Insider Ownership (%)	**N/A**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**N/A**
Earnings Per Share (%)	**N/A**
Dividend (%)	**$0.0**
P/E using TTM EPS	**N/M**
P/E using 2011 Estimate	**N/M**
P/E using 2012 Estimate	**N/M**

Risk Level	**N/A**
Type of Stock	**N/A**
Industry	**Alternative Energy**

ZACKS ESTIMATES

Revenue
(in millions of $)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2010	**$0.0 A**	**$0.0 A**	**$0.0 A**	**$0.0 A**	**$0.0 A**
2011	**$0.1 A**	**$0.0 A**	**$0.5 E**	**$0.3 E**	**$0.9 E**
2012	**$0.2 E**	**$0.4 E**	**$0.4 E**	**$0.6 E**	**$1.6 E**
2013	**$0.5 E**	**$1.0 E**	**$1.2 E**	**$1.5 E**	**$4.2 E**

Earnings per Share
(EPS is operating earnings before non recurring items)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2010	**-$0.13A**	**-$0.15A**	**-$0.24A**	**-$0.30A**	**-$0.80A**
2011	**-$0.13A**	**-$0.14A**	**-$0.07E**	**-$0.11E**	**-$0.44E**
2012	**-$0.10E**	**-$0.08E**	**-$0.08E**	**-$0.05E**	**-$0.30E**
2013	**-$0.08E**	**-$0.02E**	**$0.00E**	**$0.04E**	**-$0.05E**

Zacks Projected EPS Growth Rate - Next 5 Years %	**N/M**
Consensus growth rate %	**N/A**

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RECENT NEWS

Harvest pretreatment speeds up growth of algae:

OriginOil has discovered that the growth of algae can be stimulated by treating the culture with low power electromagnetic fields using a solar cell to generate the power. More growth means more oil. The company has postulated that the electromagnetic fields increases the uptake of CO_2 and other nutrients. The process needs to be validated at a full scale plant.

OriginOil is not an algae producer:

Some comments suggest that OriginOil is an algae producer. This in not correct. The company is a capital equipment supplier to the industry. It does not produce, store or sell algae or oil from algae.

OriginOil has announced that the first SSE Production System has been shipped.

The first Single Step Extraction production system (announced in January 2011) has passed its acceptance tests and is being shipped to Australia by sea and should be installed and working at MBD Energy's facility in December 2011.

The value of the purchase order was $150,00, of which $75,000 was received and booked as revenue and $37,500 is due now since the unit has shipped and the final payment of $37,500 will be due on installation. The transaction will be recognized in 2011. There are other services that will generate some revenue in 2011 and 2012.

The system should produce about 22 pounds of biomass, which is close to 10 gallons of algae oil, each day from close to 161,000 gallons of treated water. This unit will be used to prove out large scale production facilities.

OriginOil has developed an improved process for recovering oil from mixtures.

The usual method for extracting oils from oil/water mixtures is to use an immiscible solvent such as hexane which is oil soluble and non-polar. However, some oil remains with the water especially if the oil has organic acid or hydroxyl groups. OriginOil has identified a naturally occurring product that has both polar and non-polar characteristics. In the case of bio-oil from algae it also enhances the extraction of oil from the biomass by as much as 15%. The use of this algal metabolite could be incorporated into OriginOil's Single Step Extraction (ESS) system without any problems.

Crude oil is often found together with water. Also steam flooding and using water to increase the pressure in an oil field are common techniques that involve the recovery billions of gallons of oil. The use of alginates in enhanced oil recovery is well known so another algae product should be accepted without too many problems.

The separation of the oil from the water could be a major source of licensing revenue for OriginOil.

Algae World Australia conference

Delegates to the recent Algae World Australia conference toured the James Cook University technology test site operated by MBD Energy and, after the conference ended, visited the demonstration site for the flue gas capture and large scale use of the OriginOil's oil extraction technology. The conference was well attended by the press including a major Chinese language magazine. Two videos were released by OriginOil at the conference.

Order increase from MBD Energy, Ltd.

On August 12, 2011 OriginOil announced an increase in the order from MBD Energy Ltd, first announced on May 23, 2011. The total value of the order is $850,000. MBD paid OriginOil $297,500 on August 5, 2011 pursuant to a purchase order placed on July 29, 2011. The second payment of $425,000 (50% of the total) will be due within 5 days of the availability of the system and a successful inspection and power test. The final 15% will be due after completion of installation and performance acceptance.

The new system is expected to process the daily harvest of 300 gallons per minute of algae culture. The algae will grow using the flue gas from the Tarong, Queensland, power station.

This order follows the placement of an order for a mobile system in the 1st quarter of 2011. The total order was for $150,000, of which MVD paid a $75,000 deposit. This follows the test system order reported on June 1, 2010.

These two orders reflect the transition of OriginOil from the proof of concept through the demonstration of the feasibility of the process. The next step is the scale-up of the process in a pilot plant and then to a full scale production plant.

Aug 11 30:1 reverse split:

On August 11, 2011 the company executed a 30:1 reverse stock split, reducing the shares outstanding to 6.9 million. The stock closed at $4.00 on August 11, 2011.

Developed real time control network to control continuous algae harvesting:

OriginOil announced on August 4, 2011 the development of a real time control system to adjust algae harvest settings for the Single Step Extraction process, the downstream concentration and separation processes. The network will be installed at the MBD plant test site.

OriginOil has applied for a patent on the system, which will be the company's 16th patent application.

OriginOil Selects PACE for roll-out of Single Step Extraction Systems:

On July 27, 2011 OriginOil announced the selection of Pacific Advanced Civil Engineering (PACE) of Fountain Valley CA, to fast-track the engineering of the Single Step Extraction system at Tarong,

Queensland and to engineer commercial modular systems at other sites in response to customer demand.

OriginOil secures Financing:

OriginOil completed into its first round of Institutional financing on July 11, 2011. It was announced on July 7, 2011 that Rodman & Renshaw, LLC acted as the exclusive placement agent for $1.0 million of convertible notes with certain institutional investors.

KEY POINTS

- The cost of extracting oil from algae can be dramatically reduced using OriginOil's technology.
- Algae produce bio fuels that are viable replacements for petroleum based fuels
- Growing algae does not require the use of arable land or consume scarce foodstuffs such as corn.
- The use of Algae to produce oil consumes carbon dioxide and can clean effluent streams.
- Burning oil from algae produces no sulphur dioxide or heavy metals.
- The oil produced is compatible with the current petroleum infrastructure.

OVERVIEW

Over 1.25 trillion gallons of petroleum, worth nearly $3 trillion, was consumed world-wide in 2010. The United States is a net importer of crude oil, much of it from countries that have unstable governments that are not friendly to the US. Many countries are looking for alternative fuels and ways for making fuels that are not based on crude oil. As an example the EU has invested in biodiesel production with a target of 10% of all road transportation fuel use based on bio-diesel by 2020 (EU policy as part of Climate Change and Energy Package). In 2009 over 9 million tonnes (2204.6 pounds per metric tonne) of biodiesel was produced, which was less than half of biodiesel production capacity. Germany, France and Spain were the leaders in biofuel consumption. Much of the biofuel was produced from seed oils from non edible plants.

There are other ways of producing a burnable oil. One is the pyrolysis of cellulosic biomass, usually waste wood and bark, corn fiber, bagasse (sugar cane after most of the sugar has been removed) and wastepaper. The problem is that there is a limited supply of available waste and much of it can be burnt directly at the point of production.

What is needed is a product that produces oil, grows quickly under adverse conditions and can be easily harvested. Algae fits these conditions. In fact using algae to produce a biofuel (replacing jet fuel, diesel and gasoline) may be the best, if not the only, method of replacing a significant amount of the petroleum used in the automobile and transportation industry. The US Dept. of Energy has estimated that all of the petroleum fuel used in the US could be replaced by algae based oils using 0.42% of the US landmass, which is less than 15% of the area used for growing corn in 2000.

Industry sources estimate that the world biofuels market based on algae will grow at a 12% CAGR from 2010 to 2017 and will generate $105 billion in annual revenue by 2018.

There are over 60 different strains of micro algae, including the cyanobacteria (blue-green) algae. Many types of algae can grow anywhere where light and oxygen is available. Such as swimming pools, flower vases, ponds, in salt water and brackish water. There is the notorious Crimson Tide and several that grow only in the cold Antarctica waters. Only about 10% of known algae produce oil. These oils are Omega-3 lipids, long chain unsaturated fatty acids. Some strains contain 10% oils by dry weight and others are reputed to contain 80% oil.

They all grow fast, as much 30 times faster as the next best crop. They will grow in the smokestack gas of a power station, the effluent from a sewage treatment plant, on arid land, in deserts, saline conditions, in fact almost anywhere.

It's simple: **Micro**-**algae** can produce 150-200 times more bio-lipid oil than any other feedstock or terrestrial plant (or seed) on a per-acre per-year basis.

THE COMPANY

OriginOil is currently developing technologies to help companies produce oils from algae that can replace petroleum products in various applications such as diesel, gasoline and jet fuel; plastics and solvents; cosmetics and drugs. Algae, unlike other bio-fuel feedstock such as corn and sugarcane, do not destroy vital farmlands and rainforests, disrupt global food supplies or create new environmental problems.

The Company has developed a number of processes in controlling algae growth and oil extraction, with an emphasis on dewatering and oil extraction at high speeds. On March 28, 2011, the Company stated its intention to provide other technologies and integration services to its early stage marquee customers.

The Company’s business model is based on licensing this technology to distributors, manufacturers, and engineering service firms, similar to the business model of Universal Oil Products (formed in 1914 and now known as UOP/Honeywell. UOP developed the cracking process that is the foundation of the petroleum refining industry). OriginOil is not in the business of producing and marketing oil based on algae, nor of developing sales distribution networks or engaging in volume manufacturing. This has the advantage of not needing a lot of capital for infrastructure and equipment. The company can develop licensing annuities and partnerships rather than compete with algae producers.

INDUSTRY BACKGROUND

Algae can be grown in open ponds, transparent plastic or glass tubes or closed bio-reactors. The advantages and disadvantages of each method are well known.

In all cases the algae is suspended in water saturated with CO_2, fed with nitrogen, phosphorous and phosphate as well as the essential trace elements needed for growth but in all cases the product is a algae/water mixture that may contain a 1,000 to 1 ratio of water to algae. And water is hard to remove.

So, OriginOil does not separate the algae from the water. The acidity of the water algae mix is adjusted with CO_2 and other inputs, and is treated with an electromagnetic field as it passes into an extraction tank. The electromagnetic field causes the algae to flocculate (bunch up), breaks up the algae cell walls and releases the oil, which rises to the top of a gravity clarifier (which looks like a triangular coffee filter), the biomass drops to the bottom as it is no longer buoyed by the oil and the water remains in the middle. The oil is separated at the top, the water is recycled back to the bioreactor and the biomass removed from the bottom of the clarifier. Earlier this year, the company worked with its pilot customer MBD Energy to implement a Dissolved Air Flotation (DAF) system from process partner World Water Works, to accomplish the same concentration step. The biomass can be used as a soil modifier, an ethanol feedstock used instead of corn, a plant and fish food or a source of proteins.

INDUSTRY OUTLOOK

There are many companies in the algae extraction business, most are small, some are well established in non-fuel applications of algae and are moving towards lipid extraction and some are major technology companies like UOP/Honeywell and United Technologies. As a provider of some unique technology OriginOil could work with nearly all of them.

INDUSTRY POSITION

Currently, there are approximately 50 companies that are attempting to culture micro-algae for bio-lipids. Only a few of are marginally successful.

OriginOil competes with classic chemical, membrane and centrifuge-based harvesting systems such as provided by SRS Energy and others. OriginOil estimates that its system have much lower capital and operating costs than any of these approaches. The company estimates that the operating expenses for its system is $0.006/kg. with a capital expenditure of $0.006/kg, to achieve what the company defines as Algae Crude, a pump able oily biomass at 10% solids (Source). OriginOil has identified other companies, such as Open Algae, that make claims for next-generation harvesting, but none are in market at this time so their claims cannot be verified.

RISKS

- Customers may be slow to adopt new technology from a company with limited operating history.
- The company will need to expand and it will need to hire people, This may require addition capital from external financing.

INSIDER TRADING AND OWNERSHIP

Insiders own 21.6% of the current shares outstanding.
Trading data is not available.

VALUATION

OriginOil is an early stage development company in an exciting industry. The company is in the process of building its client base but this will take time. It is difficult to value an early stage technology company but our assumptions are that the company will build relationships and a backlog of business over the three year and beyond and this will be recognized by investors.

Our price target is $6.00 a share

COMPARISON TABLE	Ticker	Price	Mkt	ROE	P/E	P/E	P/B	P/S	EV/Sales	EV/EBITDA	PEG	Inst.
		10/31/11	Cap	(%)	L4Q	N4Q	LQ	L4Q	L4Q	L4Q		Ownership
			(in million)									
OriginOil, Inc.	**OOIL**	**$2.16**	**$18**	**NM**	**NM**	**NM**	**36.55**	**94.25**	**-0.1**	**0.37**	**NA**	**N/A**
Archer Daniels Midland Co.	ADM	$28.94	$19,560	12.06	9.24	8.54	1.09	0.25	0.37	8.26	0.89	71.4%
BioFuel Energy Corp.	BIOF	$0.51	$52	NM	NM	NM	0.44	0.07	0.38	9.79	N/M	11.0%
Bunge Ltd.	BG	$61.77	$9,110	8.40	9.05	8.95	0.72	0.18	0.30	8.21	0.96	70.1%
Cereplast Inc.	CERP	$2.31	$36	NM	NA	NM	2.46	1.80	2.01	N/M	NA	24.0%
Codexis Inc.	CDXS	$4.61	$166	NM	NM	NM	1.70	1.59	1.18	N/M	NA	30.0%
Corn Products International Inc.	CPO	$48.50	$3,720	16.14	11.73	9.80	1.67	0.70	0.97	0.97	1.08	79.6%
Cyanotech Inc.	CYAN	$5.20	$28	17.16	15.29	N/A	2.31	1.42	1.30	12.20	N/A	17.6%
FutureFuel	FF	$11.30	$467	10.68	16.33	N/A	1.79	1.95	1.36	7.43	N/A	N/A
Solazyme	SZYM	$10.17	$607	N/A	N/A	N/A	2.48	15.31	9.59	N/A	N/A	N/A
Viral Genetics Inc.	VRAL			No Other Data available								
(Source: Yahoo Finance & Zacks Small-Cap Research)												
Mean				12.89	12.33	9.10	5.12	11.75	1.74	6.75	0.98	
Median				12.06	11.73	8.95	1.75	1.51	1.08	8.21	0.96	

PROJECTED INCOME STATEMENT & BALANCE SHEET

OriginOil																
Consolidated Statements of Operations																
(Dollars in millions except per share data)																
Fiscal Year Dec 31.	**2009**	**1Q10**	**2Q10**	**3Q10**	**4Q10**	**2010**	**1Q11**	**2Q11**	**3Q11**	**4Q11**	**2011**	**1Q12**	**2Q12**	**3Q12**	**4Q12**	**2012**
	Act.					Act.		Act.	Est.		Est.					Est.
Net sales	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.05**	**$0.05**	**$0.10**	**$0.05**	**$0.50**	**$0.25**	**$0.90**	**$0.20**	**$0.40**	**$0.40**	**$0.60**	**$1.60**
% Change																
Cost Goods	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
G & A	4.07	0.50	0.61	1.14	1.56	3.81	0.72	0.77	0.80	0.80	3.09	0.80	0.80	0.80	0.80	3.20
In process R&D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
R&D	0.79	0.16	0.19	0.19	0.12	0.66	0.19	0.20	0.20	0.20	0.79	0.20	0.20	0.20	0.20	0.80
Depr. & Amort.	0.06	0.01	0.02	0.02	0.00	0.05	0.00	0.00	0.00	0.00	0.01	0.03	0.03	0.03	0.03	0.12
Op Income GAAP	(4.92)	(0.67)	(0.82)	(1.35)	(1.64)	(4.48)	(0.81)	(0.93)	(0.50)	(0.75)	(2.99)	(0.83)	(0.63)	(0.63)	(0.43)	(2.52)
Interest Expenses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest Income	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Non Op Income	0.00	0.00	0.00	0.00	0.00	0.00	(0.00)	0.00	0.00	0.00	(0.00)	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	(0.00)	(0.00)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Calc.Pretax	(4.91)	(0.67)	(0.82)	(1.35)	(1.64)	(4.48)	(0.81)	(0.93)	(0.50)	(0.75)	(2.99)	(0.83)	(0.63)	(0.63)	(0.43)	(2.52)
Taxes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(0.48)	(0.13)	(0.10)	(0.10)	(0.07)	(0.40)
Tax Rate	(0.02)	(0.12)	0.00	0.00	0.00	(0.02)	(0.10)	0.00	0.00	0.00	16.00	16.00	16.00	16.00	16.00	16.00
Other Income	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pro-forma adj.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Income	(4.92)	(0.67)	(0.82)	(1.35)	(1.64)	(4.48)	(0.81)	(0.93)	(0.50)	(0.75)	(3.00)	(0.70)	(0.53)	(0.53)	(0.36)	(2.12)
Costs and expenses are on a pro-forma basis																
Net For Common	(4.92)	(0.67)	(0.82)	(1.35)	(1.64)	(4.48)	(0.81)	(0.93)	(0.50)	(0.75)	(3.00)	(0.70)	(0.53)	(0.53)	(0.36)	(2.12)
Shares Used, millions	5.03	5.33	5.39	5.63	5.57	5.57	6.37	6.79	6.85	6.90	6.75	7.00	7.00	7.00	7.00	7.00
Earnings Per Share																
EPS	**($0.98)**	**($0.13)**	**($0.15)**	**($0.24)**	**($0.30)**	**($0.80)**	**($0.13)**	**($0.14)**	**($0.07)**	**($0.11)**	**($0.44)**	**($0.10)**	**($0.08)**	**($0.08)**	**($0.05)**	**($0.30)**
Pro Forma EPS	**$0.00**	**($0.13)**	**($0.15)**	**($0.24)**	**($0.30)**	**($0.80)**	**($0.13)**	**($0.14)**	**($0.07)**	**($0.11)**	**($0.44)**	**($0.10)**	**($0.08)**	**($0.08)**	**($0.05)**	**($0.30)**

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OriginOil					
Consolidated Balance Sheet (in $ millions)					
Fiscal Year Dec 31.					
	2009 A	**4Q10**		**1Q11**	**2Q11**
ASSETS					
Cash & Equiv.	0.36	0.24		0.55	0.25
A/R	0.00	0.00		0.00	0.00
Inventories	0.00	0.00		0.00	0.00
Other	0.03	0.10		0.12	0.09
Total current assets	0.39	0.34		0.67	0.34
Gross Plant	0.15	0.15		0.15	0.15
Acc. Deprn	0.07	0.12		0.12	0.12
Investments	0.00	0.00		0.00	0.00
Intangibles	0.05	0.09		0.09	0.11
Other	0.01	0.01		0.01	0.03
All Assets	0.53	0.47		0.80	0.50
LIABILITIES AND NET WORTH					
Debt Due 1 Yr	0.00	0.00		0.00	0.00
Notes Payable	0.00	0.00		0.00	0.00
A/P	0.00	0.06		0.02	0.03
Taxes	0.00	0.00		0.00	0.00
Other	0.00	0.06		0.11	0.08
Total current liabilities	0.00	0.11		0.13	0.11
Conv. Debt	0.00	0.00		0.00	0.00
L.T.Debt	0.00	0.00		0.00	0.00
Other LT	0.00	0.00		0.00	0.00
Def. Taxes & ITC	0.00	0.00		0.00	0.00
Other	0.05	0.00		0.00	0.00
All Liabilities	0.06	0.11		0.13	0.11
Pref.Stock	0.00	0.00		0.00	0.00
Common Stock	0.02	0.02		0.02	0.00
Surplus	7.16	11.51		12.82	13.43
Retained Earnings	-6.87	-11.35		-12.16	-13.09
Other	0.16	0.19		0.00	0.06
Treasury Stock	0.00	0.00		0.00	0.00
Net Worth	0.47	0.36		0.68	0.40
Total liabilities & stockholders' equity	0.53	0.47		0.80	0.50

OriginOil
Condensed Consolidated Statements of Cash Flows
Fiscal Year Dec 31.

	2009	2010
Cash flow from operations:		
Net (Loss) Income	-4.92	-4.48
Depreciation & amortization	0.06	0.05
Amortization of goodwill		
Stock issued for services		
Stock based compensation	2.21	1.28
Impairment of machinery		
In-process R&D		
Other	-0.02	0.42
Net cash provided by (used in) operating activities	**($2.67)**	**($2.73)**
Cash flow from investments:		
Purchase of PP&E		
Proceeds from disposal of PP&E		
Other	(0.03)	(0.04)
Net cash provided by (used in) investing activities	**($0.03)**	**($0.04)**
Cash flow from financing activities:		
Proceeds from issuance of common stock	2.32	2.45
Proceeds (payment) on lines of credit, net		
Proceeds from debt - related parties		
Proceeds from debt		
Payment on debt - related parties		
Payment on debt		
Other	0.16	0.21
Net cash provided by (used in) financing activities	**$2.48**	**$2.66**
Increase (decrease) in cash and equivalents	($0.21)	($0.12)
Cash & equivalents at beginning of period	$0.58	$0.37
Cash & equivalents at end of period	$0.37	$0.25

HISTORICAL ZACKS RECOMMENDATIONS



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