

Pacific Ethanol, inc.

NYSE: PEIX

Analyst: Benjamin Linaud

Sector: Energy

BUY

Price Target: \$17.21

Key Statistics as of 4/31/2015

Market Price:	\$11.96
Industry:	Renewable Energy
Market Cap:	\$ 305.1 M
52-Week Range:	\$7.55-23.969
Beta:	2.51

Thesis Points:

- Change in commodity prices should lead to a higher stock price
- New technologies allow costs reduction
- Increase in revenue due to Madera plant
- Merger with Aventine

Company Description:

Pacific Ethanol, Inc. produces and markets low-carbon renewable fuels in the Western United States. It sells ethanol primarily to gasoline refining and distribution companies. The company also provides ethanol transportation, storage, and delivery services through third-party service providers. In addition, it markets ethanol co-products, including wet distiller grains and syrup to dairy operators and animal feed distributors; and corn oil to poultry and biodiesel customers. The company serves integrated oil companies and gasoline marketers primarily in California, Arizona, Nevada, Utah, Oregon, Colorado, Idaho, and Washington. Pacific Ethanol, Inc. was founded in 2003 and is headquartered in Sacramento, California.



Thesis

Pacific Ethanol inc. lost almost half of its value in less than seven months and is now undervalued. The stock has been oversold because of low oil prices as it is a substitute for ethanol. A possible increase in oil prices would increase PEIX's return to investors making the company a possible long term investment opportunity. An increase in ethanol prices (lowest price in 5 year) will increase the company's revenue. PEIX has been investing in new technologies allowing costs reduction; margins should increase, therefore increasing the value of the company. PEIX successfully restarted Malta plant and should increase their revenue more than expected. A Merger with Aventine will diversify PEIX geography, technology and product platforms.

PEIX vs Competitors

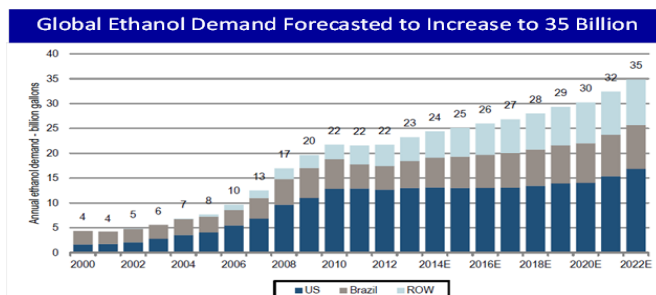
The largest ethanol producers in the United States are Archer Daniels Midland Company and Valero Energy Corporation, collectively with over 20% of the total installed capacity of ethanol in the United States. Overall, the company estimates that there are over 200 ethanol facilities in the United States with a total installed operating capacity of approximately 15 billion gallon.

PEIX main competitors are American Resources (REX) and Green Plains, inc (GPPE). PEIX is doing better than its industry average over the last few years. PEIX has some competitive advantages: They have developed extensive business relationships with major and independent un-branded gasoline suppliers who collectively control the majority of all gasoline sales in California and other Western states. In addition, the company has developed extensive business relationships with ethanol and grain suppliers throughout the Western and Midwestern United States. PEIX has also a better ethanol distribution network. They have developed an ethanol distribution network for delivery of ethanol by truck to virtually every significant fuel terminal as well as to numerous smaller fuel terminals throughout California and other Western states. In addition, They have strategic locations as they operate the Pacific Ethanol Plants in markets where local characteristics create an opportunity to capture a significant production and shipping cost advantage over competing ethanol production facilities. This allows the company to reduce considerably transportation costs. So PEIX is expected to substantially outperform its industry.

Even if the industry margins have been dramatically impacted by low ethanol prices, PEIX's EBITDA margin have nearly triple in the last quarter. EBITDA margin was 9.4% at the end of 2014. ROE is 14.25% for PEIX higher than a negative 8.22% for the average industry. Operating margins are 8.25%, higher than a negative 23.33% for its average industry. This shows the company ability to perform better than its peers in difficult periods. TIE for the average industry is 13.54x. PEIX has a negative net debt of \$21.4 million. The company has been able to reduce its overall debt balances, eliminating all debt at the parent company and all but \$17 million of its plan debt. This significantly reduced the company costs of borrowing and enhanced liquidity. Overall, PEIX did better than its industry average over the last few years in term of debt management, liquidity and profitability.

Industry Overview

Demand for ethanol is increasing through the years as it has a positive impact on the US economy and on the environment. The ethanol industry produced approximately 14.3 billion gallons in 2014, thereby reducing the U.S. reliance on foreign oil. As a consequence, it helps the U.S. balance of trade and helps the U.S. to move towards energy independence. There are several national benefits; government payments to corn growers have fallen from almost \$9 billion in 2006 to less than \$2 billion in 2013, a decrease of 78%. Ethanol production generates higher tax so more revenues for the U.S. The production added over \$53 billion to the U.S. GDP and increased household income by almost \$27 billion. Also, farm states are less impacted by challenged economic environments. Ethanol estimated to have supported over 379,000 jobs from agriculture to manufacturing to the service sector. On a life cycle basis, corn-based ethanol reduces greenhouse gas emissions (GHGs) by almost 34% compared to gasoline; 14.3 billion gallons of ethanol reduced GHG



emissions by 39.6 million metric tons.

As a consequence, ethanol demands has been increasing and in expecting to do so. The previous graph shows that by 2018, Ethanol demand should increase from 24 billion gallons in 2014 to 28 billion gallons in 2018, a 17% increase. By 2022, the demand for ethanol should increase at a 5% annual rate.

Stock Price Catalyst

The increase in ethanol demand should lead to a higher ethanol price, meaning a substantial increase in revenue for PEIX. In addition, PEIX competitors decided to cut ethanol production for an undetermined period. There is already an excess ethanol production. The low ethanol price makes the production too costly for its competitors, reducing their margins. A lower production increase ethanol prices. As a result, a higher demand and lower supply should increase ethanol price which is at a 5 year low (graph below), increasing PEIX's revenues



faster than expected. Also, by reducing its costs, the company will be able to increase its margins and create value to the company.



The graph above shows that oil prices and PEIX stock price are highly positively correlated. Indeed, oil is a substitute for ethanol. PEIX has been oversold because of the free fall in oil prices. However, the company performances are not impacted by the oil price. Despite a decrease in commodity prices, the firm has been able to triple its EBITDA in the last year. A sustained fuel price increase (which is at its lowest level since 2009) would cause the market to reverse its sentiment and become bullish on the corn ethanol industry.

Finally, corn prices are at their lowest level since 2010. PEIX will be able to generate revenue from distiller grains coming from ethanol production thanks to a merger with Aventine. These revenues could help the company to have roughly 30% of their production costs to come back. Therefore, a higher corn price would allow increased revenue from distiller grains, meaning a lower cost of production.

With these three commodity prices at 4-5 years low, PEIX has been able to increase its revenues, decrease its costs, and triple its EBITDA margin in a challenging market. An increase in commodity prices should increase the company's margins even faster.

Higher margins

PEIX's investments in technology (providing a better efficiency in Ethanol production) allow the company to increase its return on investments and return on invested capital faster than its competitors. PEIX already invested \$16 million of capital in the operating plants to improve plant efficiencies and increase yields. Many projects are already completed and allowed the company reducing its costs of production and increasing revenue at the same time. Revenue increased by 21.9% from 2013 to 2014. Costs of revenue as a percentage of net sales decreased from 102% in 2012 to 90.2% in 2014.

Future investments are expected to generate even more profits. Some of PEIX projects are still underway and should able the company to increase margins in the future. PEIX technology allows generating new opportunities at each of PEIX facilities, positioning the plants to be even more competitive. Corn oil separation technology at the remaining two plants is expected to be completed by the end of the first quarter for Madera and at the beginning of the second quarter for Boardman.

PEIX is about to install a 3.5 megawatt cogeneration system with gradual oxidizer at the company's stocking plant. The cogeneration system will displace purchased electricity by converting waste gas from ethanol production and natural gas into electricity and steam. With this technology the plant will have among the lowest air emissions in the ethanol industry and will reduce PEIX's energy costs by \$3 to \$4 million per year. Thanks to its technology PEIX already has been awarded a \$3 million grant from the California Energy Commission to develop grain sorghum as a long term feedstock alternative for its California plants.

Madera Plant

Facility Name	Facility Location	Estimated Annual Capacity (gallons)
Magic Valley	Burley, ID	60,000,000
Columbia	Boardman, OR	40,000,000
Stockton	Stockton, CA	60,000,000
Madera	Madera, CA	40,000,000

In the second quarter of 2014, the company successfully restarted its Madera plants to full capacity. The plant has an estimated capacity of 40,000 gallons annually, representing 20% of the company total production capacity. This already allowed PEIX to substantially increase its revenue. The plant is now operating at full capacity and should continue to bring more revenue to the company. In addition, The company plans to install corn oil separation technology for Madera (as discuss before) which will allow it to generate more revenue than expected.

Merger with Aventine

Pacific Ethanol Inc., is about to merge with Aventine on the second quarter of 2015. This is a Midwest-based ethanol production company with an operating capacity of 315 million gallons per year. This will allow to expand PEIX's production and marketing positions in the ethanol industry. It would diversify our geography, technology and product platforms. It will more than double our annual production capacity to 515 million gallons of marketing volume to over 800 million gallons and establish the combined company as the fifth largest producer and marketer of ethanol in the United States.

Through PEIX merger with Aventine, the company will add dry distiller's grains, distillers yeast, corn gluten meal, corn gluten feed and corn germ. Many of these new co-products are higher value products. This will expand and diversify products for the company increasing considerably their revenue. Also, this merger will allow PEIX to acquire ethanol production assets in the Midwest in regions where its marketing business is already active, reducing need for marketing expenses.

The merger should reduce costs thanks to economics of scale, and increase revenue more than expected (as exposed before), increasing margins and the value of the company.

Conclusion

The stock price should increase in the future following the trend of oil prices and ethanol prices. Margins are underestimated as PEIX new technologies should allow the company to decrease costs more than expected. Madera Plant is now operating at full capacity and will beneficiate from the corn oil separation technology in future months, increasing faster revenue from the plant. The future merger with Aventine will diversify PEIX geography, technology and product platforms, and should allow it to perform better than its peers. The stock is considered undervalued. The recommendation is a buy with a target price of \$17.21

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Pacific Ethanol, Inc.		PEIX	Analyst Benjamin Lunaud	Current Price \$11.96	Intrinsic Value \$14.91	Target Value \$17.21	Divident Yield 0%	Target Return 1-y Return: 43.9%	BULLISH				
General Info		Peers	Market Cap.	Management									
Sector	Energy	Renewable Energy Group, Inc	\$409.48	Professional	Title	Comp. FY2012	Comp. FY2013	Comp. FY2014					
Industry	Oil, Gas and Consumables Fuels	REX American Resources Corporation	\$499.44	Koehler, Neil	Chief Executive Officer, President :	\$424,375	\$1,393,885	\$1,352,948					
Last Guidance	Mar-04-2015	Green Plains Inc.	\$1,180.21	McGregor, Bryon	Chief Financial Officer	\$269,370	\$588,916	\$631,319					
Next earnings date	5/11/2015			Kandris, Michael	Chief Operating Officer and Direct	\$275,135	\$565,197	\$630,969					
Market Data				Wright, Christopher	Vice President, Secretary and Gener	\$269,370	\$609,489	\$656,674					
Enterprise value	\$277.97			Sneed, James	Vice President of Ethanol Supply &	\$0	\$823,778	\$480,437					
Market Capitalization	\$2,131.12			Koehler, Paul	Vice President of Corporate Develo	\$0	\$0	\$0					
Daily volume	0.65			Historical Median Performance									
Shares outstanding	24.66			PEIX		Peers		Industry		All U.S. firms			
Diluted shares outstanding	22.67			Growth	26.0%	22.5%	11.8%	7.4%					
% shares held by institutions	98.42%			ROIC	1.5%	2.0%	14.1%	14.3%					
% shares held by insiders	8.38%			NOPLAT Margin	1.5%	3.0%	2.6%	10.4%					
Short interest	16.32%			Revenue/ Invested Capital	1.03	0.68	5.42	1.37					
Days to cover short interest	3.65			Excess Cash/ Rev.	2.4%	13.1%	13.5%	12.9%					
52 week high	\$23.97			Total Cash / Rev.	5.4%	13.1%	12.3%	15.2%					
52-week low	\$7.51			Unlevered Beta	0.79	1.30	0.91	0.95					
5y Beta	3.24			TEV/REV	0.4x	0.6x	1.8x	2.5x					
6-month volatility	77.59%			TEV/EBITDA	36.5x	26.8x	13.6x	13.1x					
				PE (normalized and diluted EPS)	85.7x	10.3x	21.0x	23.5x					
				P/BV	1.2x	0.9x	2.0x	2.2x					
				Non-GAAP Adjustments in estimates computations									
				Operating Leases Capitalization	100%	Straightline	10 years						
				R&D Exp. Capitalization	0%	N/A	N/A						
				Expl./Drilling Exp. Capitalization	0%	N/A	N/A						
				SG&A Capitalization	0%	N/A	N/A						
				Forecast									
				Period	Rev. Growth	Adj. Op. Cost/Rev	Invested Capital	NOPLAT Margin	ROIC	WACC			
				LTM	21.9%	90.3%	\$215.90	5%	27.5%	10.1%			
				NTM	-12.9%	90.8%	\$221.29	5%	22.3%	10.6%			
				NTM+1	17.3%	91.2%	\$247.86	5%	24.4%	10.7%			
				NTM+2	15.9%	91.7%	\$275.12	5%	24.0%	10.8%			
				NTM+3	14.1%	92.2%	\$302.27	4%	23.4%	10.9%			
				NTM+4	12.3%	92.6%	\$328.66	4%	22.5%	11.0%			
				NTM+5	10.5%	93.1%	\$353.59	4%	21.4%	11.0%			
				NTM+6	8.7%	93.5%	\$376.40	4%	20.2%	11.1%			
				NTM+7	6.9%	94.0%	\$396.55	3%	18.7%	11.2%			
				NTM+8	5.2%	94.5%	\$413.87	3%	17.1%	11.3%			
				Continuing Period	3.4%	94.9%	\$450.41	7%	10.0%	11.4%			
				Valuation						Pricing Model			
				Period	Invested Capital x (ROIC-WACC)	Total Debt	Other non-interest bearing claims	Shares Outstanding	DCF (Weight = 100%)	Relative (Weight = 0%) Distress (Weight = 0%)	Weighted Average Price Per Share		
				LTM	\$0.00	\$40.67	-\$30.79	24.66	\$15.45	\$71.40	\$15.00	\$15.45	
				NTM	\$25.19	\$40.67	-\$67.41	24.66	\$17.66	\$61.79	\$17.31	\$17.66	
				NTM+1	\$30.21	\$40.67	-\$93.95	24.66	\$19.16	\$72.08	\$19.04	\$19.16	
				NTM+2	\$32.72	\$40.67	-\$113.48	24.66	\$20.36	\$82.44	\$20.23	\$20.36	
				NTM+3	\$34.36	\$40.67	-\$139.43	24.66	\$21.58	\$92.81	\$21.48	\$21.58	
				NTM+4	\$34.90	\$40.67	-\$169.65	24.66	\$22.82	\$99.22	\$22.70	\$22.82	
				NTM+5	\$34.15	\$40.67	-\$203.42	24.66	\$23.86	\$103.93	\$23.83	\$23.86	
				NTM+6	\$31.95	\$40.67	-\$240.13	24.66	\$24.88	\$106.59	\$24.86	\$24.88	
				NTM+7	\$28.22	\$40.67	-\$278.52	24.66	\$25.82	\$106.95	\$25.77	\$25.82	
				NTM+8	\$22.94	\$40.67	-\$318.87	24.66	\$26.44	\$104.89	\$26.54	\$26.44	
				Continuing Value	-\$82.64								
				Monte Carlo Simulation Assumptions						Monte Carlo Simulation Results			
				Base	Stdev	Min	Max	Distribution	Intrinsic Value		1y-Target		
				Revenue Variation	0	N/A	N/A	Normal	Mean est.	\$15.45	\$17.66		
				Op. Costs Variation	0	N/A	N/A	Normal	σ(e)	\$0.18	\$0.15		
				Country Risk Premium	6%	N/A	7%	Triangular	3 σ(e) adjusted price	\$14.91	\$17.21		
				Long term Growth	4%	N/A	26%	Triangular	Current Price	\$11.96			
										Analysts' median est.		\$17.88	