

## Pacific Ethanol (PEIX)

Date: January 13, 2014

### Pacific Ethanol (PEIX)

Stock Price: \$3.93

Diluted Shares: 16MM (includes effects for post quarter convertible conversion; there are 8MM warrants outstanding at an avg exercise of approx. \$7; currently non-dilutive)

Market Cap: \$63MM

Working Capital Surplus: \$44.2MM

Debt: \$107MM (due June 30, 2016)

EV: \$126MM

*\*Note: this write-up was done on 20-Dec-13.*

Why would anyone want to invest in a once-bankrupt, cyclical and hated business like ethanol production with a stock chart that looks like the one above?

Because after this year's bumper crop, corn prices look like this (corn is the biggest input cost for ethanol producers):



## BUSINESS

Pacific Ethanol is in the business of taking corn and turning it into ethanol. In order to convert corn into ethanol the processing plant uses natural gas, chemicals and enzymes. So the four direct input costs are corn (corn being by far the largest cost), natural gas (2<sup>nd</sup> biggest cost), chemicals and enzymes. The outputs you get from the production process are ethanol, wet distillers grain and corn oil.

Here's some quick math:

- Each gallon of ethanol requires roughly 0.35 bushels of corn. With corn priced at \$4.25 per bushel ([roughly where it is today](#)) plus the corn basis (diff b/w cash and futures) that would mean the cost of corn in each gallon of ethanol produced is \$2.00 (this is inclusive of transport costs of the corn to PEIX facilities).
- It takes [0.03 mcf of gas to produce a gallon of ethanol](#). With natural gas at [\\$4.40 / mcf](#), the cost for natural gas is \$0.13 per gallon of ethanol.
- Chemicals and enzymes are less than gas.
- So the total incremental cost to produce 1 gallon of ethanol is approx. \$2.25 / gallon.
- Add in transportation cost to get the corn from the plant to the customers (typically \$0.10 per gallon) and the **total variable cost to produce 1 gallon of ethanol is approx. \$2.35 / gallon.**
  
- At current prices, PEIX sells its ethanol for approx. \$2.50 / gallon (historically, PEIX gets ~\$0.25 over the [Platts spot price](#)).
- It also produces wet distillers grain (~9 lbs of wet per gallon – that is, 6lbs of dry with 33% moisture content) and corn oil (0.15 lbs per gallon) as co-products, worth another \$0.60 / gallon or so.
- So in total, **PEIX gets roughly \$3.10 / gallon in revenue.**
  
- With a production capacity of 144MM (that is 160MM gallons of capacity / year x 90% for availability), at these prices **PEIX is making \$108MM / year in cash margin.**
- From there, you have to take out fixed plant costs (\$0.10 - \$0.15 / gallon, or \$18MM / year) and overhead costs (\$10MM / year) as well as financing costs (\$13MM / year). I'm ignoring depreciation because these plants are all fairly new (all are 2x cash earnings).

PEIX is unhedged on the cost side and largely unhedged on the revenue side (they don't hedge corn input costs and only hedge ~10% of their ethanol production as the market for West Coast ethanol is fairly shallow). This makes it vulnerable to volatile commodity prices, but can be a boon if you get the timing right (and I believe this is the time PEIX will be making large profits).

## **ASSETS & ASSET VALUE**

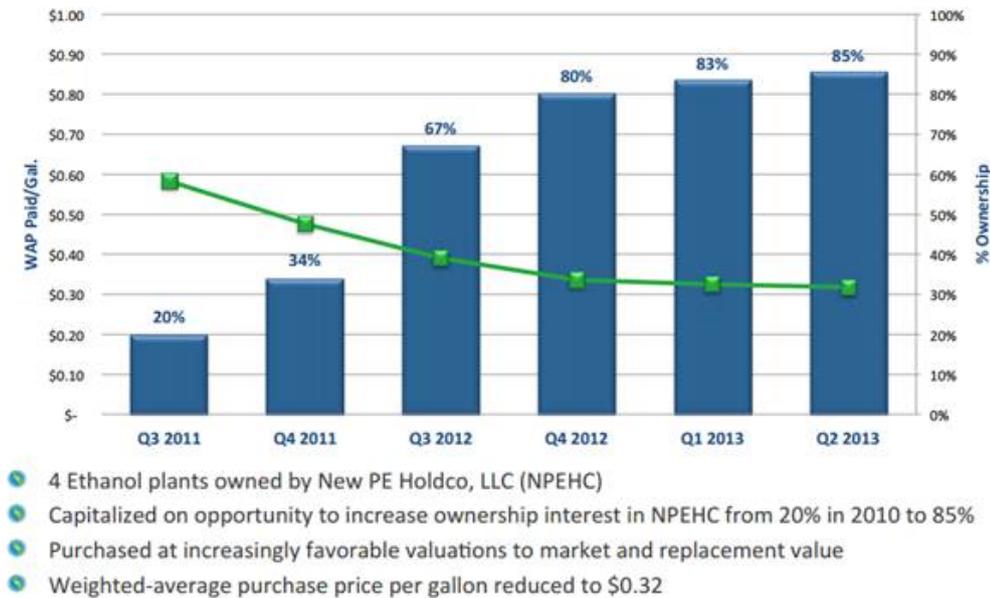
The company operates four ethanol production facilities, three of which are currently active (160MM gallons of capacity) and one of which is idle (40MM gallons of capacity).

- Boardman, Oregon (40MM gallons)
- Burley, Idaho (60MM gallons)
- Stockton, California (60MM gallons)
- Madera, California (40MM gallons / currently idle) - CEO Neil Koehler has indicated that it would cost \$7MM to get this plant up and running.

PEIX shareholders own [91% of the facilities](#), not 100% (bondholders assumed ownership in the 2009 bankruptcy and PEIX has been repurchasing its equity interest from the bondholders since the recap).

### Increasing Ownership Interest

Pacific Ethanol, Inc.



PEIX has spent \$0.32 per gallon buying back its interest. Add the lenders debt on top of that and the all-in cost to PEIX is roughly \$1 per gallon – consider this the acquisition cost for their processing facilities. The company says the replacement cost of these plants is \$2.25 per gallon, or \$450MM. PEIX currently owns 91% of this value (or \$410MM).

Here's the math:

Assuming it takes \$10MM to get Madera into production (~50% more than expected), the asset value to PEIX shareholders is \$400MM. Take out the debt (\$107MM) and add in the working capital (\$44MM) and you are left with an equity value of \$337MM – versus today's equity value of \$63MM.

[In mid-Dec](#), Murphy USA sold its Hankinson ethanol plant in North Dakota – which has a 110MM gallon / year capacity – for \$170MM. That price would imply a value of \$1.55 per gallon or an unencumbered asset value of \$209MM to PEIX shareholders (\$1.55 / gallon x 200MM gallons x 91% - \$10MM - \$107MM + \$44MM) – versus the market value of \$63MM.

Whether the value per gallon is \$1.55 or \$2.25 or somewhere in between, there appears to be a significant margin of safety here.

### **OTHER INVESTMENT POINTS**

- PEIX has approx. \$100MM in usable NOLs, so investors get the benefit of a decent-sized tax shield.

- The company is unfollowed; no analysts cover it.
- It has a strong position in the Western US, located near their fuel and feed customers. This offers timing, transportation and logistical advantages versus its Midwest competitors (shipping bushels of corn west – what PEIX does – is cheaper than shipping gallons of ethanol west – what competitors do). In most commodities, the lowest cost producer wins and these guys are pretty well positioned.
- PEIX produces the lowest carbon ethanol in the US, which allows them to charge a premium for their product.
- PEIX has spent the past few years cleaning up its balance sheet (from \$300MM in debt to a bit over \$100MM) and removing liquidity concerns (debt maturities recently pushed 2.5 years out).
- After a huge boom, the industry is rationalizing and the market for the product is growing (US can [export ethanol](#); it's a global market).
- On 16-Dec-13, the CEO said: "[The company is currently benefitting from the best operating margins of the year...](#)"

## US ETHANOL MARKET

Ethanol is a growing industry, not only in the US but internationally as well. In the US, ethanol production mandates from the EPA are 13.8BN gallons for 2013 and 14.4BN for 2014 (look at the column labeled "Cornstarch").

### Ethanol Production Mandates

Per the Renewable Fuels Standards of the National Energy and Security ACT of 2007 and updated in 2010 Ethanol Production from corn ethanol will rise to 15 billion gallons by 2015 (already at 12.5 billion gallons) and stay at that level as cellulosic ethanol production levels rise. Ethanol from cellulosic feedstocks is to be at 16 billion gallons a year by 2022

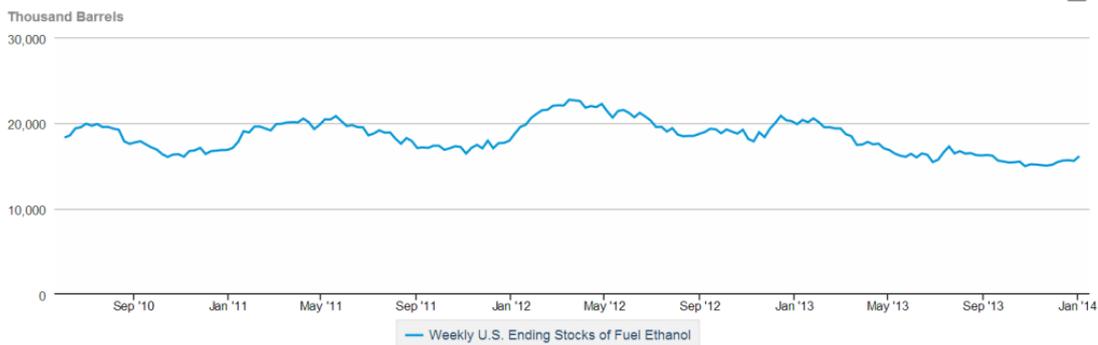
Year	CornStarch	Cellulosic
2008	9	
2009	10.5	
2010	12	0.01
2011	12.6	0.25
2012	13.2	0.5
2013	13.8	1
2014	14.4	1.75
2015	15	3
2016	15	4.25
2017	15	5.5
2018	15	7
2019	15	8.5
2020	15	10.5
2021	15	13.5
2022	15	16

I like to think of the EPA mandate as a floor for demand; the reality is the industry sells more than the EPA mandates – you might be surprised to read this, but ethanol is the lowest cost transportation fuel in the market. And demand is increasing globally (source: 3Q13 conference call).

The current US ethanol production capabilities are [13.7BN gallons](#). With demand exceeding

supply, ethanol inventory levels are being drawn down – now at the lowest levels in 3 years.

Weekly U.S. Ending Stocks of Fuel Ethanol



With stocks being drawn down, things look pretty good for ethanol prices in the near term.

A quick note on the EPA – a few days ago the EPA came out with their proposal for 2014 standards which brought the ethanol mandate down to 13BN gallons (from 14.4BN). It's now open for public comment with a final ruling expected soon. You can read some of the conflicting opinions / interests here (farmers / ethanol producers want more than 10% ethanol in every gallon of gas sold in the US; oil companies want less): <http://agrinews-pubs.com/Content/Default/Illinois-News/Article/EPA-proposes-lower-RFS-volumes-for-2014/-3/78/8875>.

## **CONCLUSION**

This is a trade, not an investment. And it doesn't come without risk – ethanol is a cyclical industry where costs and commodity prices can change quickly, so sizing and timing are critical. I believe the timing is right for this trade but I wouldn't recommend a large position given the nature of the business.

I see the stock chart of GPRE as a prologue.

You can see these details in [my model here](#).

## **Sources**

Mike Kramer, Treasurer / IR: 916.403.2738; [mkramer@pacificethanol.net](mailto:mkramer@pacificethanol.net)

Company presentation: [http://www.pacificethanol.net/site/\\_documents/investors/PEIXLDMicroConferencePresentation.pdf](http://www.pacificethanol.net/site/_documents/investors/PEIXLDMicroConferencePresentation.pdf)

Factsheet: [http://www.pacificethanol.net/site/\\_documents/investors/PEIX\\_Fact\\_Sheet\\_December.pdf](http://www.pacificethanol.net/site/_documents/investors/PEIX_Fact_Sheet_December.pdf)

Presentation: <http://wsw.com/webcast/ldmicro5/PEIX/>

S-1: [http://www.pacificethanol.net/site/\\_documents/investors/PEIX\\_Form\\_S-1\\_as\\_filed\\_June\\_2013.pdf](http://www.pacificethanol.net/site/_documents/investors/PEIX_Form_S-1_as_filed_June_2013.pdf)

Renewable fuel standards overview: <http://www.fas.org/sgp/crs/misc/R40155.pdf>

3Q13 earnings: [http://www.sec.gov/Archives/edgar/data/778164/000101968713004209/paceth\\_10q-093013.htm](http://www.sec.gov/Archives/edgar/data/778164/000101968713004209/paceth_10q-093013.htm)

3Q13 call: [link](#)