Siena Market Line
3rd week of February 2016

PLUG POWER, Inc.

NASDAQ:PLUG

Analyst: Michael Post
Sector: Energy

BUY

Price Target: $2.40

Key Statistics as of 2/17/2016

Market Price:	$1.79
Industry:	Renewable Energy (Equipment)
Market Cap:	$339M
52-Week Range:	$1.30-3.38
Beta:	1.2

Thesis Points:

- Plug Power is a leader in the hydrogen energy materials market with dominant market share including multiple fortune 500 customers
- Plug Power products are proven to save customers money, increase efficiency, and decease carbon footprint
- Plug Power has established a clear path to profitability by the end of 2016.

Company Description:

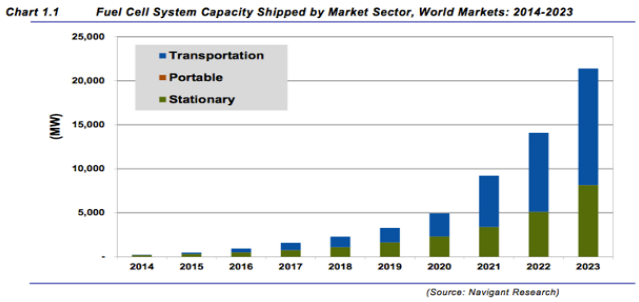
Plug Power Inc. was founded in 1997 and is headquartered in Latham, New York. It began as a R&D company with only a lot of potential and high expectations. 17 years later Plug Power is now an alternative energy technology provider that engages in the design, development, manufacture, and commercialization of fuel cell systems for the industrial off-road markets worldwide. It focuses on proton exchange membrane (PEM) fuel cell and fuel processing technologies, and fuel cell/battery hybrid technologies. Plug Power Inc. commercialized in 2014 and since then has matured into a full service company that builds infrastructure, sells fuel cells, and provides continuous service for after installation needs such as refueling and maintenance. They reached 100 million for revenue in 2015 and project 50% revenue growth in 2016.

Thesis

Plug Power is currently the leader in off-road industrial alternative energy technology and is still exponentially expanding its market share. Through cultivating current customers, contracting new companies, and expanding into other new markets, Plug Power foresees revenue growing upwards of 50% for the next few years. Recently acquired customers in the past 2 years include Walmart, Home Depot, Nike, FedEx, Kroger, Uline, AT&T, Sprint, Verizon, and many others. At this point, Plug Power is now expanding their product line for all of these companies, and solidifying long-term multisite contracts for future business. Their rapid growth can be attributed to their highly effective products. Through field comparison tests Plug Power products are proven to save customers money, increase efficiency, and decease carbon footprint. Once seen in action, customers have not hesitated to say yes to Plug Power products and this trend will continue as more companies witness the value that these products add. It is important to also note that Plug Power only commercialized 2 years ago. At first, operating costs vastly surpassed revenue and Plug Power was far from achieving profitability. However, in less than 2 years Plug Power has established more efficient processes for their installation and servicing operations and is now only slightly below break even. With a clear line of site towards continuing improved margins in years to come, Plug Power is proving they will become profitable as they gain more experience and continue to grow.

Industry Outlook

The renewable energy hydrogen industry has doubled for over 3 consecutive years according to energy.gov and reached over 2.2 billion in 2014. The U.S. Department of Energy predicts this upward trend will continue for over a decade and beyond the year of 2030.



There are a few major factors contributing to the rapid growth of this industry. State incentives, such as tax credits, drove large fuel cell deployments in mainly western states but many other states in the Northeast area now support fuel cell spending in their future budget plans as well. Major corporations deployed fuel cells at retail, corporate, and warehouse facilities, many in multiple locations. Municipalities installed fuel cells at facilities that provide critical city and county services, such as administrative centers, jails, and wastewater treatment plants. Internationally, Japan and South Korea continued their strong support of fuel cell technology as well. Customer sales surpassed 115,000 units in Japan in 2014, and Korean utilities continued to construct larger and larger multi-megawatt (MW) fuel cell power parks to generate grid power. The bigger plan for the hydrogen industry future however is automobiles. Hydrogen refueling stations have become a priority in California and millions of dollars will be provided annually until a base of 100 refueling stations exist in their state alone. Expect other states to follow this effort and slowly witness the infrastructure of gas and oil be replaced by hydrogen within the century.

Business Model

Plug Power has a very extensive business model that allows customers to switch infrastructures to hydrogen-powered machinery very easily. They install refueling stations and hydrogen tanks, manufacture and deliver fuel cells or install fuel cells to already operating machinery, train personal for their customers to properly use and refuel their products, provide ongoing monitoring and service maintenance, and provide hydrogen fuel for storage tanks on a periodic as needed basis. This all inclusive business model makes Plug Power very attractive to potential buyers because customers will receive a complete package that will immediately improve their operations and save them money while simultaneously remaining eco-friendly.

People

Plug Power is led by CEO Andrew March, and accompanied by CFO Paul Middleton and COO Keith Schmid. Andy Marsh became Chief Executive Officer and President of Plug Power in April 8, 2008. Before this, Marsh Co-Founded Valere Power Inc. in 2001 and served as its President and Chief Executive Officer until June 2007. A misleading social misunderstanding is that Andrew March is a liar because he proclaimed Plug Power would achieve profitability in 2015 and they did not. A more appropriate label for Andrew however would be overly optimistic. After commercializing in 2014 and foreseeing the upcoming demand for Plug Power, he believed that 50% revenue growth would lead to profitability. Unfortunately, he and CFO Paul Middleton underestimated operating costs due to the lack of operational experience that Plug Power had and forced a bad perception upon them selves. Despite this short fall, Andrew and his team have met all other expectations for 2015 and announced that they now have a better understanding of their operations and can better forecast more accurate future financials.

Product Differentiation

Plug Power's product line includes GenKey, a turn-key solution for transitioning material handling vehicles to fuel cell power; GenDrive, which is a hydrogen fueled PEM fuel cell system that provides power to material handling vehicles; GenFuel, a hydrogen fueling delivery system; GenCare, which is an ongoing maintenance program for GenDrive fuel cells and GenFuel products; and ReliOn, a stationary fuel cell solution that provides scalable and modular PEM fuel cell power to support the backup and grid-support power requirements of the telecommunications, transportation, and utility sectors. The company sells its products to businesses and government agencies and differs itself from competition by providing that all inclusive service model previously mentioned before. With proven reliability and productivity, along side their extensive service, Plug Power's products seem to be superior to competition and delivered in the most user friendly system imaginable.

Corporate Responsibility

Plug Power prides itself on providing an efficient and effective alternative energy that produces no emissions and therefore improves the environment on a daily basis. On their company website they state multiple times that improving the future of the environment starts today and begins with small changes. They even conduct research to measure how much cleaner their products are to the ones their replacing in addition to the cost savings. This lets customers know that they are making an effort to reduce the carbon footprint of their company and become more socially responsible. Plug Power is enabling companies to be more socially responsible and they want people to know that this is their mission.

Financials

As of Q3, 2015, Plug Power posted record revenue for the quarter of 31.4 million, which represented about a 58% increase year over year from 2014. Revenue could be broken down to 1,221 GenDrive units and seven hydrogen installation sites compared to 835 GenDrive units and three hydrogen installations in the third quarter of 2014. There were approximately $60 million in orders in the third quarter of 2015 and ended the quarter with approximately $234 million in backlog. Plug posted a loss of -.06 per share and cash burn of 13 million as a result of increased R&D, SG&A, and service costs from stack failures. They addressed this problem however and stated that the issue had been resolved by replacing the cooling technology within the fuel cells and this strategy conveniently also lowered operating costs in their new class 3 fuel cell models. Plug ended the quarter with over $115 million in cash, cash equivalents, and restricted cash that protects itself from losses in upcoming quarters in case they occur. GenDrives achieved a positive margin of 17% and are projected to increase to 25% in the Q4 of 2015. Service margins fell from -33% Q2 to -17% in Q3 and showed strong signs of improvement going forward into Q4 as well. Plug Power says that as they gain experience they are learning how to simplify their products and reduce overall operating costs. Their newer product models have higher profit margins and much more of these will be shipped starting Q4 and going forward. They made a statement that they have met all of 2015 expectations and this is a great sign for confidence going forward with this company. I believe they now have a strong understanding of operations and will achieve profitability by the end of 2016 or sooner.

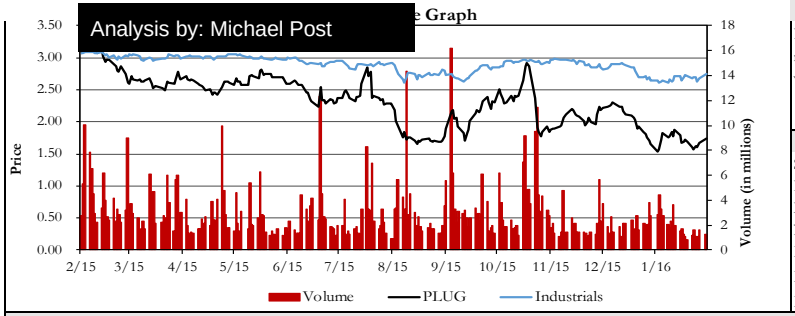
Conclusion

Plug Power has positioned itself as a leader in the material handling market in a rapidly growing industry that is both effective and environmentally friendly. With government support continuing to provide very

large tax break incentives, I expect their growth to continue as projected. Assuming that operating costs continue to decline while revenue exponentially grows as planned, I rate Plug Power a buy with a 3-month price target of $2.40, which represents a 33% upside in the short term.

Plug Power Inc. (PLUG) — CENTER FOR GLOBAL FINANCIAL STUDIES — NEUTRAL

Analysis by P.C. Principal	Current Price:	$1.79	Intrinsic Value	$2.40	Target 1 year Return: 18.04%
2/18/2016	Divident Yield:	0.0%	Target Price	$2.84	Probability of Price Increase: 98%



Description

Plug Power Inc., an alternative energy technology provider, engages in the design, development, manufacture, and commercialization of fuel cell systems for the industrial off-road markets worldwide.

General Information

Sector	Industrials
Industry	Electrical Equipment
Last Guidance	November 3, 2015
Next earnings date	March 16, 2016
Estimated Country Risk Premium	6.67%
Effective Tax rate	36%
Effective Operating Tax rate	36%

Market Data

Market Capitalization	$329.37
Daily volume (mil)	0.54
Shares outstanding (mil)	179.98
Diluted shares outstanding (mil)	174.37
% shares held by institutions	N/M
% shares held by investments Managers	15%
% shares held by hedge funds	0%
% shares held by insiders	0.85%
Short interest	19.09%
Days to cover short interest	16.90
52 week high	$3.38
52-week low	$1.30
Levered Beta	1.89
Volatility	110.10%

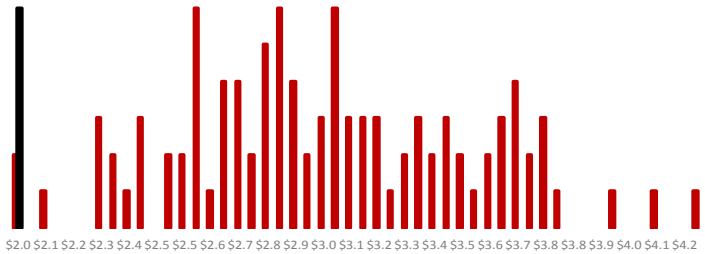
Past Earning Surprises

Quarter ending	Revenue	EBITDA
9/30/2014	-18.41%	-339.60%
12/31/2014	-18.43%	-325.02%
3/31/2015	-45.26%	-245.07%
6/30/2015	-4.85%	-202.86%
9/30/2015	2.38%	-270.33%
Mean	-16.91%	-276.58%
Standard error	8.1%	25.3%

Peers

Capstone Turbine Corp.
FuelCell Energy Inc.
Hydrogenics Corporation
SolarCity Corporation

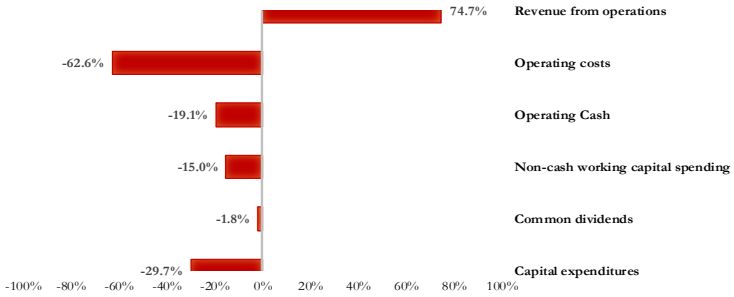
Target Price Distribution--Prob(Price Increase)= 98%



Management	Position	Total compensations growth	Total return to shareholders
McNamee, George	Co-Founder, Chairman and Mem	4.29% per annum over 5y	-15.48% per annum over 5y
Marsh, Andrew	Chief Executive Officer, Pre	61.39% per annum over 5y	-15.48% per annum over 5y
Garberding, Larry	Co-Founder, Independent Dire	9.73% per annum over 5y	-15.48% per annum over 5y
Middleton, Paul	Chief Financial Officer and	N/M	0% per annum over 0y
Schmid, Keith	Chief Operating Officer and	1173.48% per annum over 1y	93.55% per annum over 1y
Conway, Gerard	Senior Vice President, Gener	43.95% per annum over 5y	-15.48% per annum over 5y

Profitability	PLUG (LTM)	PLUG (5 years historical average)	Industry (LTM)
ROIC	-20.2%	-55.48%	12.86%
NOPAT Margin	-21%	-66.47%	11.1%
Revenue/Invested Capital	0.95	0.83	1.16
ROE	-20.5%	-66.99%	15.14%
Adjusted net margin	-22%	-68.46%	10.1%
Revenue/Adjusted Book Value	0.94	0.98	1.50
Invested Funds	**PLUG (LTM)**	**PLUG (5 years historical average)**	**Industry (LTM)**
Total Cash/Total Capital	33.6%	42.1%	22%
Estimated Operating Cash/Total Capital	4.7%	4.8%	N/A
Non-cash working Capital/Total Capital	9.9%	11.2%	12%
Invested Capital/Total Capital	66.4%	58.5%	78%
Capital Structure	**PLUG (LTM)**	**PLUG (5 years historical average)**	**Industry (LTM)**
Total Debt/Common Equity (LTM)	0.07	0.15	0.22
Cost of Existing Debt	13.85%	11.34%	3.70%
Estimated Cost of new Borrowing	1.13%	12.94%	3.70%
CGFS Risk Rating	AAA	C	BB
Unlevered Beta (LTM)	1.88	1.16	1.19
WACC	15.53%	10.98%	10.34%

Sensitivity Analysis



Valuation

Period	Revenue growth	ROIC/WACC	Invested Capital	Net Claims	Price per share
Base Year			$35.28	-$41.20	$2.24
9/30/2016	50.0%	0.27	$39.69	-$26.67	$2.68
9/30/2017	45.0%	0.56	$24.48	-$4.74	$3.12
9/30/2018	40.0%	0.70	$23.64	$19.51	$3.66
9/30/2019	35.0%	0.82	$105.23	$46.85	$4.31
9/30/2020	30.0%	0.92	$168.04	$63.89	$5.08
9/30/2021	25.0%	1.02	$214.64	$75.78	$5.95
9/30/2022	20.0%	1.10	$267.32	$71.75	$6.91
9/30/2023	15.0%	1.15	$336.26	$31.60	$7.96
9/30/2024	10.0%	1.21	$424.73	-$44.94	$9.04
9/30/2025	5.0%	1.27	$521.19	-$161.04	$10.11
Continuing Period	5.0%	1.39			