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Executive Summary



Short PLUG: An Uninvestible Stock. Long-Term Potential To \$0.

Plug Power ("PLUG" or "the Company") is a manufacturer of hydrogen fuel cell systems with a ~20 year history of setting unrealistic goals and resorting to onerous financing, endless equity raises, and creative accounting to support unsustainable growth. It appears to be repeating this pattern of behavior today. The stock has advanced to a five-year high and \$1.5B market cap (fully-diluted) on the back of rapid multiple expansion as analysts claim that PLUG has turned a corner by producing back-to-back quarters of positive EBITDA – a first for the Company. A closer analysis, however, reveals that this is largely attributable to a recent accounting change, amended lease agreements which conveniently take advantage of it, and dubious non-GAAP adjustments which defy reasonable accounting logic. Adjusting for these factors wipes out PLUG's recent "inflection" to profitability and suggests that Company economics remain largely unchanged. PLUG has burdened itself with expensive debt and unfavorable customer agreements to support top-line growth and the appearance of profitability. A strained balance sheet and rapid cash burn could soon force Company to dilute investors even further, while, at the same time, it loses access to the leaseback arrangements supportive of the accelerated sales growth which has made dilution palatable of late.

- A Long History of Unrealistic Targets and Broken Promises: Management is fond of saying that "we'll be profitable this year." It never is (until this year, or so it says). For ~20 years, management has stoked investor confidence by citing big TAMs, futuristic use-cases, and the latest investor buzzwords, creating a dedicated following of growth-oriented retail investors singing PLUG's praises across internet chatboards. Underneath it all, PLUG has never turned a sustainable profit and has failed time and again to meet management's promotional targets, both near and long-term. Institutional investors have almost entirely exited the stock as they see little reason to believe management's promotional targets – nor that management will keep any promises not to dilute shareholders.
- Dependent on Vendor Financing, Unfavorable Customer Agreements, and Expensive Debt for Growth: While large customer wins have supported sales growth at PLUG through the past five years, they came at a steep price. Much of this growth was facilitated by PLUG's decision to provide expanded lease financing directly to customers in ~2014, likely at the behest of large, powerful customers such as Walmart and others. Sale/leaseback agreements with third parties, intended to support this lending, have tied up PLUG's balance sheet in over \$150M of restricted cash required by its financing partners to guarantee its leases with customers. PLUG's attempts to finance customer arrangements through other means have resulted in excessive shareholder dilution – by a third of the total float in 2017 alone – despite management's stated commitment to seek financing which would prevent it from having to distribute equity. Maintaining current sales and earnings growth rates will required similar dilution or leveraging up, which is becoming more and more unrealistic as the Company's balance sheet becomes increasingly strained.
- Recent Inflection to Profitability Attributable to Accounting Changes and Non-GAAP Adjustments: Since first embracing vendor financing as a route to growth, PLUG has crafted a panoply of non-GAAP metrics designed to recognize sales and profit associated with leased equipment up front. With its recent (accelerated) implementation of ASC 842 in late 2018, it was given a golden ticket to undertake the aggressive revenue and profit recognition that it had attempted to do several quarters prior, before receiving heavy pushback from SEC comment letters. PLUG immediately restructured its sale/leaseback agreements in late 2018 in a way that allowed it to maximize the benefit of this accounting change, and soon thereafter raised revenue guidance on claims of "ongoing development of its business pipeline." Reversing this accounting windfall shows that sales growth and underlying profitability improved little, if at all, through late 2018-19. Further, in its recently-issued non-GAAP metrics, PLUG is also attempting to accelerate the top-line benefit of these agreements while removing the impact of inextricably-linked costs, skewing investors' understanding of profitability.
- Recent "Inflection to Profitability" Excites Investors, But Will Inevitably Be Short-Lived: PLUG shares trade at an all-time high \$1.5B valuation and a peak EV/Sales multiple, on investor confidence that its recent "inflection" is a sign that the Company has finally turned the profitability corner. However, continued paper profitability will depend on continued growth through operating-type sale/leaseback agreements, for which the Company is rapidly running out of capacity given its \$180M TTM cash burn and ballooning debt . Future growth facilitated by vendor financing, the source of most of its recent growth, must inevitably rely on alternative forms of financing which lack the advantageous accounting treatment of operating leasebacks, and which could entail further shareholder dilution.
- Spruce Point's Conclusion PLUG Is Uninvestible With Long-Term Potnetial To \$0: PLUG has never generated a meaningful profit in its ~20 year history, and almost all of its recent sales and earnings growth has been supported by either unsustainable financing or shareholder dilution. The Company does not have a clear path to profitability or steady growth without continuing to access these financing channels, some of which may become inaccessible to it in the near term. There is no reason to own PLUG shares unless, and until, the Company proves that it can grow and produce a profit on sustainable financing.



A Hyper-Promoted Retail Stock With Low-Quality Earnings Supported By Shareholder Dilution

Spruce Point believes that the recent "inflection" to profitability is unsustainable, and that growth inevitably comes at the expense of PLUG shareholders through endless dilution.



Non-credible management frequently announcing unrealistic targets that it consistently fails to achieve



"Smart" institutional investors' avoidance of the stock suggests they have no trust in the Company



Capital structure deteriorating with escalating debt, and shareholders will inevitably bear the cost through more dilution



Recent "inflection" to profitability a product of accounting rather than underlying fundamental improvement



Absent access to capital, PLUG is worthless – and all assets have been pledged to creditors



Spruce Point Has A Strong Track Record In Evaluating Hydrogen Fuel Cell Companies

In Jan 2018, Spruce Point published a report on Ballard Power Systems (NASDAQ:BLDP) predicting that its efforts to grow in China would be challenged due to concerns regarding its local joint venture. Our analysis was proven correct as Ballard was inevitably forced to find a new JV partner to support its expansion efforts in China, ultimately driving the stock from \$3.80 at the time of our publication to a low of ~\$2.50 almost a year later – down 35%, within the range of our downside forecast.

Spruce Point Report Jan 25, 2018

"We have conducted on the ground due diligence in China and believe that Ballard's Chinese growth ambitions are likely to fail from weak partnerships with Broad Ocean and Synergy."

- Spruce Point



Source: Bloomberg

BLDP Q3 2018 Earnings Call Nov 1, 2018

"Our Q3 results and full-year outlook have been adversely impacted primarily by recent headwinds in the China fuel cell market. These headwinds include the relatively slow pace of hydrogen fueling station rollout, evolving government subsidy rules, and delays in Fuel Cell Electric Vehicle, or FCEV, certifications. These and other factors are impacting the pace of end market adoption with knock-on impacts on demand and working capital pressures throughout the value chain. These challenges resulted in slower than expected stock sales by the Synergy-Ballard JV, and a resulting buildup of inventory and working capital pressures. As a consequence, the Synergy-Ballard joint venture will not meet its MEA purchase commitments for 2018. We continue to work with Synergy and other partners to address these issues and to support an eventual resumption of MEA purchases."

- R. Randall MacEwen – CEO, Ballard Power Systems



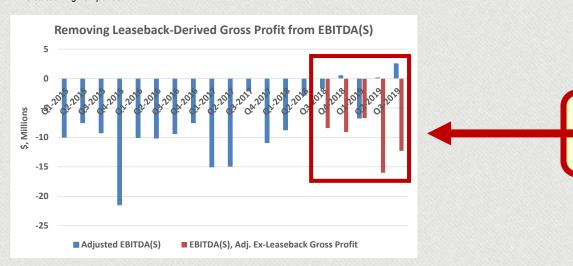
"Inflection" To Profitability Appears To Be Product of New Lease Accounting

Since adopting the new lease accounting standard in 2018, PLUG discloses the amount of gross profit realized on all operating leaseback agreements. Removing this accounting-driven windfall from PLUG EBITDA(S) reveals that, without this benefit, EBITDA(S) has *not* turned positive – and, in fact, would have declined to a two-year low in Q2.

Bulls will argue that the *new* accounting standard better reflects the economics of the business, and that gross profit associated with leases should have been included in all *past* earnings figures. We disagree – but, even if we didn't, the below analysis demonstrates that PLUG earnings have not *changed* for the better. Reconstructing EBITDA(S) to treat lease-derived gross profit just as it was treated before Q3 2018 appears to demonstrate that the recent "inflection" to profitability was driven entirely by the lease accounting change.

(\$, Millions)	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019
Adj. EBITDA(S) ¹	(\$10.0)	(\$10.1)	(9.4)	(\$7.5)	(\$15.0)	(\$14.9)	(\$2.1)	(\$10.9)	(\$8.7)	(\$2.8)	(\$1.6)	\$0.5	(\$6.7)	\$0.1	\$2.5
Less: Gross Profit on Operating Leasebacks	ı	-	-	-	-	-	-	-	-	-	6.8	9.6	-	16.1	14.8
Adj. EBITDA(S) Ex- Leaseback Profit	(\$10.0)	(\$10.1)	(9.4)	(\$7.5)	(\$15.0)	(\$14.9)	(\$2.1)	(\$10.9)	(\$8.7)	(\$2.8)	(\$8.4)	(\$9.1)	(\$6.7)	(\$16.0)	(\$12.3)

1. As stated in given period



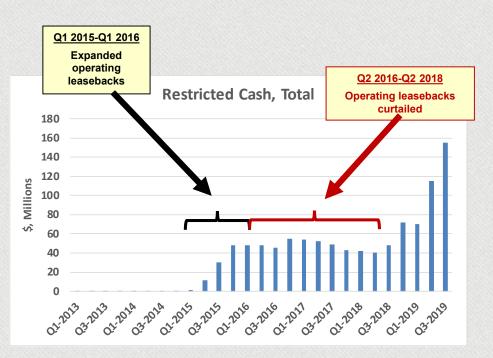
Adding back gross profit on operating leaseback arrangements has a dramatic effect on reported profitability and is entirely responsible for the "inflection" to profitability

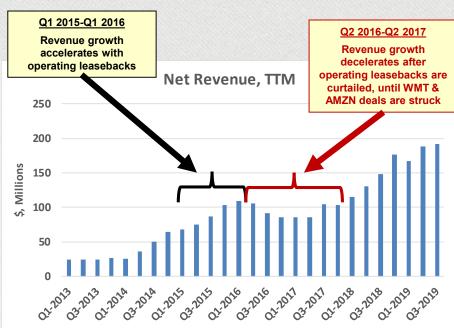
Spruce Point believes that the recent wave of bullishness in PLUG is misplaced. Analysts and investors should reconsider whether PLUG's apparent profitability reflects an improvement in Company performance in any meaningful sense.



PLUG In For A Repeat Of 2016?

Recall that PLUG similarly pursued operating-type sale/leasebacks throughout 2015 before seeking alternative, more cash-flow friendly financing arrangements in 2016. So what happened the last time that PLUG pivoted from operating-type to capital-type sale/leasebacks after stretching its balance sheet with restricted cash? TTM revenue growth quickly turned *negative* towards the end of 2015 – perhaps in part because PLUG lost the ability to pull forward lease revenue as it transitioned to capital-type leasebacks – and did not significantly recover until the Company announced its warrant deals with Amazon and Walmart in late 2017.





When management is inevitably forced to curtail its use of operating-type sale/leasebacks to support sales today, the resulting decline in revenue growth could be even more dramatic, as there will be no remaining deferred revenue or profit associated with these operating leasebacks left to be recognized in subsequent periods.



Capital Structure, Dilution, And Questionable Management Undermine Credibility Of Bull Case



Do Investors Fully Understand The Capital Structure And Dilution Risk?

PLUG management has shown no reluctance to dilute existing shareholders, whether to raise capital or secure new customers. But do shareholders fully understand the extent to which they have been diluted to date, and to which they might be diluted as the Company continues to burn cash?

/ć Millions	(\$, Millions, except per share values)			Exercise Proceeds		
(\$, willions, except per share values)		Shares	Tranche 1	Tranche 2	Tranche 3	Exercise Proceeds
Options		23.6	\$2.51	-	-	\$59.2
Restricted		4.3	-	-	-	-
	Amazon	55.3	\$1.19	\$1.19	90% of 30-day VWAP	\$65.8
Warrants ¹	Walmart	55.3	\$2.12	\$2.12	90% of 30-day VWAP (no lower than \$1.1893)	\$117.4
Preferred Stock		15.0	\$2.31	\$0.23		-
Convertible		59.1	\$2.58	\$2.29		-
Total Potential Dilution		212.7	-	-	-	-

Total potential dilutive shares, all of which are in-the-money, stand to increase the current share count by 80%

<u>Market Capitalization</u> (\$, Millions, except share data)	
Current Shares ²	261.1
Recent Equity Issuance	40.0
Over-Allotment	6.0
Total Shares Outstanding	307.1
Potential Dilution	212.7
Pro Forma Shares Outstanding	519.7
Price per Share	\$3.00
Market Capitalization (Fully-Diluted)	\$1,559.2

<u>Cash and Debt</u> (\$, Millions)	
Unrestricted Cash ³	\$43.3
Pro-Forma for Recent Offering (Full Allotment)	120.4
Cash from Warrants Exercise	183.1
Cash from Options Exercise	59.0
Total Cash (Pro-Forma)	\$405.8
Generate Debt	\$95.6
Finance Leases	249.6
Total Debt	\$345.1

Spruce Point believes that investors do not fully appreciate the extent to which they have been diluted by management

Given PLUG's current cash burn rate and ballooning debt levels, we believe that future equity raises are highly likely

Enterprise Value \$1,498.5

^{1.} Excludes 5.25M Tech Ops warrants recently exercised

^{2.} As of Nov 8, 2019, as reported in prospectus



The Holy Grail Of Profitability: Always Just A Few Quarters Away

Investors bullish on PLUG see hydrogen fuel cells as a promising, eco-friendly technology with a long runway for growth. The reality is that PLUG now has a ~20 year history of consistent unprofitability despite management's frequent claims that profitability is just around the corner.

PLUG 2009 Analyst Meeting Oct 8, 2009

"I'm going to just give you the highlight -- we will achieve profitability in 2012, and we have a clear path to get there."

- Andrew Marsh - CEO, Plug Power

PLUG Q4 2013 Earnings Call Mar 12, 2014

"When I step back and look at it all, I'm more bullish than ever that Plug Power is in the early stages of a very rapid growth market. I'm also bullish that we will make our goal of EBITDAS breakeven in 2014. I really feel that we are now well-positioned to be a long-term, profitable, market leader and a driving force in the hydrogen fuel-cell markets"

- Andrew Marsh - CEO, Plug Power

Rodman & Renshaw Conference Sep 9, 2015

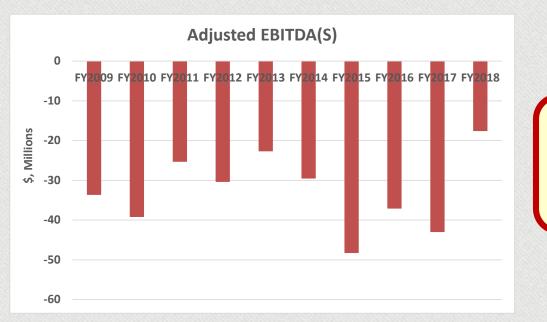
"This is something that, as we grow the top line, as we expand the margin side, we are going to grow into that and look to turn profitable in 2016."

- Andrew Marsh - CEO, Plug Power

PLUG Q3 2016 Earnings Call Nov 7, 2016

"This year-to-date performance, the growing contract backlog and the continued momentum of driving cost down are a strong indication that we're on track to build a profitable long-term enterprise."

- Andrew Marsh - CEO, Plug Power



Does management not understand its own business well enough to judge when it will finally become profitable? Or is it simply trying to drum up confidence in the Company?

Either way, Spruce Point believes investors should be hesitant to invest in this management team



Poor Results And Credibility Concerns Keeping Smart Investors Away From PLUG?

Spruce Point finds it telling that PLUG has extremely limited institutional ownership. We believe that the speculative nature of the PLUG growth story and "path to profitability," combined with management's seemingly promotional attitude and history of failed promises, has eroded any credibility that PLUG might have once had among the institutional investor community.

PLUG Ownership: Dec 18, 2019

Holder Name	Portfolio Name Source Opt	Position	% Out	Latest Chg	File Dt
1. ■ BlackRock Inc	All ▼ All ULT-AGG	17,041,990	5.81	684,498	09/30/19
Odey Asset Management Group Ltd	ULT-AGG	14,688,086	5.01	84,834	09/30/19
3. To Vanguard Group Inc/The		12,559,656	4.28	311,952	09/30/19
4. Capita PLC	Multiple Portfo MF-AGG	11,166,907	3.81	0	08/30/19
5. ■ Aegon NV	ULT-AGG	5,894,797	2.01	1,082,688	09/30/19
6. State Street Corp	ULT-AGG	4,845,012	1.65	478,614	09/30/19
7. 🖪 Geode Capital Management LLC	GEODE CAPITAL 13F	3,199,488	1.09	213,447	09/30/19
8. 🖪 Morgan Stanley	ULT-AGG	3,152,870	1.08	1,288,362	09/30/19
9. 🖪 Northern Trust Corp	NORTHERN TRU 13F	2,934,161	1.00	303,329	09/30/19
0. 🖬 FMR LLC	ULT-AGG	2,834,526	0.97	96,330	12/17/19
1. # Invesco Ltd	ULT-AGG	1,886,627	0.64	-429,921	09/30/19
12. 🖪 Argenta Asset Management SA	Multiple Portfo MF-AGG	1,736,213	0.59	224,411	11/27/19
B. 🖪 SIG HOLDING LLC	ULT-AGG	1,588,401	0.54	773,014	09/30/19
14. 🖪 Charles Schwab Corp/The	ULT-AGG	1,419,823	0.48	61,212	09/30/19
15, 🖪 Teachers Insurance & Annuity Ass.	. ULT-AGG	1,306,536	0.45	81,191	09/30/19
 Hudson Bay Capital Management L. 	- HUDSON BAY C 13F	1,082,846	0.37	1,082,846	09/30/19
7. McNamee George C	Form 4	867,304	0.30	4,278	10/01/19
18. 🖶 State of California	ULT-AGG	855,882	0.29	75,063	09/30/19
9, 🖪 BANK OF NEW YORK MELLON CORP/	. ULT-AGG	842,650	0.29	35,425	09/30/19
0. 🖪 Banque Lombard Odier & Cie SA	ULT-AGG	780,000	0.27	300,000	09/30/19
1. SEI Investments Co	ULT-AGG	646,621	0.22	573,013	11/30/19
Source: Bloomberg		THE STREET	1010	The Property of	30000

Very few institutional investors – and almost none in size

PLUG Ownership Base (Spruce Point Est.)				
Management	~5%			
Institutions	~35%			
Retail Investors	~60%			

PLUG investors should interpret the lack of institutional ownership as a sign that most serious investors do not see the stock as a credible investment...

PLUG Proxy Statement: May 31, 2013

Name and Address of Beneficial Owner (1)	Shares Beneficially Own	ed (2)
	<u>Percenta</u> <u>Number</u>	ge (%)
Entities affiliated with Interinvest Corporation Inc.(1)	9,817,367	15.33%
JSC INTER RAO Capital (3)	4,462,693	6.97%
Heights Capital Management, Inc.(4)	4,000,000	6.25%
Andrew Marsh(5)	550,931	*
George C. McNamee (6)	250,220	*
Gary K. Willis (7)	180,248	*
Larry G. Garberding (8)	174,897	*
Gerald A. Anderson (9)	162,431	*
Maureen O. Helmer (10)	161,235	*
Erik J. Hansen(11)	100,842	*
Gerard L. Conway, Jr. (12)	77,289	*
Adrian Corless (13)	60,317	*
Douglas T. Hickey (14)	37,664	*
Johannes M. Roth	-	*
Evgeny Rasskazov	37,455	*
Evgeny Miroshnichenko	37,455	*

U.S. Securities and Exchange Commission

clients.

Litigation Release No. 23713 / December 28, 2016

Securities and Exchange Commission v. Interinvest Corporation, Inc. et al., Civil Action No. 15-cv-12350 (D. Mass.)

Federal Court Imposes \$7.4 Million Judgment Against
Massachusetts Investment Adviser Who Steered Money to Firms
that Paid Him Consulting Fees

The Securities and Exchange Commission announced today the resolution of an enforcement action filed by the Commission on June 16, 2015 against a Massachusetts-based investment advisory firm, Interinvest Corporation, and its owner, Hans Peter Black. The Court entered default judgments against Interinvest and Black after both failed to answer the SEC's

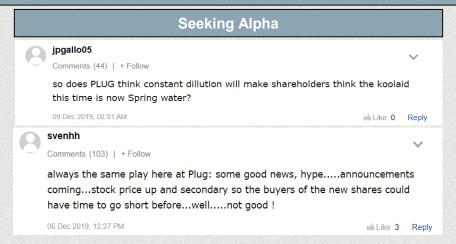
The SEC's complaint alleged that Interinvest and Black funneled more than \$1.7 million in client assets into four financially troubled Canadian penny stock companies in which Black had undisclosed business and financial interests. According to the complaint, Interinvest clients lost as much as \$1.2 million of their \$1.7 million investment based on the trading in the penny stock companies, some of which were purportedly in the business of exploring for gold or other minerals. Black served on the board of directors of these companies, which collectively paid approximately \$1.9 million to an entity that he controlled. The SEC alleged that Black's involvement with these companies and his receipt of payments from them created a conflict of interest that he and Interinvest failed to disclose to their advisory

...and when PLUG does attract institutional ownership in size, it isn't always of the highest quality...



Will Even Retail Investors Bail Out If The Company Continues To Disappoint?

Spruce Point notes that even retail investors have grown tired of management's promotional attitude and penchant for over-promising and underdelivering on lofty targets. Some view it as a "casino" or "lottery ticket" stock. How much longer will investors be willing to support the stock while the Company fails to deliver on promises of faster growth and sustained material profitability?



Yahoo Chat Board



CleanEnergy4Me 2 hours ago

As someone who invested in PLUG in 2000, I recall that they tended to over-promise and under-deliver. If you look at the chart ("max" view), you can see the impact. I further recall that they were perceived as disingenuous, so perhaps the lesson learned was to limit communications to what was truly solid rather than aspirational. I am certain an investor, not a trader, so I can wait - maybe not another 20 years, though, lol.



Capiche 15 days ago

Until PLUG can generate positive internal cash flow to cover growing capital and operating expenses, we will continue to see additional equity and debt issuances. Lets hope the growth prospects, increased revenue and positive net income, down the road are worth it.

thetrader 12 days ago

\$2.75 IS ONLY DOWN 50% FROM THEIR LAST OFFERING OVER FOUR YEARS AGO -- AND ANDY'S BONUSES ARE BASED ON REVENUE AS THIS IS A NON PROFIT ORGANIZATION!!

Stocktwits



FraudBuster

23m

\$PLUG Way to go Andy, master of share destruction. No one does it better, one lie at a time.



sbostrom

25m

SPLUG This sell off is all about Andy. Mr CEO, the "Market" believes you're full of crap and you have nothing left to announce since you achieved your goal of Pumping your Stock Price to get your Secondary. If you're not full of crap, you'd better get the PR machine pumping!!



BullishbyNature

12/17/19, 09:44 PM

\$PLUG Dear Santa,

I know that I haven't been a good boy with all my fussin' and cussin' on the Stocktwits boards, but please get me a new CEO for Plug Power. I'd like to have an honest younger model that is true to his word and can make the company profitable.

Thank you Santa!

BbN

Twitter



Zachary Belcher @Dunesway123 · Dec 16

\$PLUG executives pay for rising production with stockholder capital and +46M new shares of stock @\$2.75/share. Negative BV May temporarily pop to the positive with \$120M from stockholders. There is NO hope! Yikes!

dennis taylor @uaddt · Dec 11 \$Plug.... 3.15 +0.08 (2.61%) Pre-Market: 8:52AM EST

Ha! Now a strong lottery stock. Go figure.... finance.yahoo.com/news/5-strong-...

dennis taylor @uaddt · Nov 21

A 2014, 50 cent casino stock, to a lottery stock. finance.yahoo.com/news/5-lottery... Is doing well if these words of wisdom were applied,"If a stock continues to go down, and you believe in it and did your research, then you buy more. You are actually getting a better deal." Go Team \$PLUG!



Loan Agreements Suggest Lenders See PLUG As Even Riskier Than Penny Stock Comps

PLUG pays an expensive 12% rate on its \$100M term loan with Generate Capital. Meanwhile, FuelCell Energy (NASDAQ:FCEL), a close comp of PLUG which is at risk of being de-listed for trading under \$1.00 per share, pays only 10.65% on its \$25M term loan with Hercules Capital – also expensive, but not as cumbersome as PLUG's burdensome interest. Hercules also does not require FuelCell to post its IP and other various assets as collateral. PLUG, however, is required to post all of its domestic assets as collateral for its term loan with Generate. Spruce Point believes that lenders are implicitly communicating that they see just as much, if not more risk in PLUG than in its penny-stock peers.

FCEL Q3 2019 10-Q

In April 2016, the Company entered into a loan and security agreement (as amended from time to time, the "Hercules Agreement") with Hercules for an aggregate principal amount of up to \$25.0 million. The loan was a 30 month secured facility.

The Hercules Agreement was subsequently amended on September 5, 2017, October 27, 2017, March 28, 2018, August 29, 2018, December 19, 2018, February 28, 2019, March 29, 2019, May 8, 2019, June 11, 2019 and July 24, 2019. Principal payments under the Hercules Agreement began on April 1, 2019 and were expected to total approximately \$1.8 million per month, however, the Company has been prepaying principal as a result of the recent amendments to the Hercules Agreement, resulting in a loan balance of \$7.4 million as of July 31, 2019. The term loan interest rate as of July 31, 2019 was 10.65%. The term loan interest rate is the greater of (i) 9.90% plus the prime rate minus 4.50%, and (ii) 9.90%. The initial end of term charge of \$1.7 million was paid on October 1, 2018. An additional end of term charge of \$0.9 million will be due on April 1, 2020 or upon repayment of the principal balance. The additional end of term charge is being accreted over a 30-month term.

As collateral for obligations under the Hercules Agreement, the Company granted Hercules a security interest in FuelCell Energy, Inc.'s existing and thereafter-acquired assets except for intellectual property and certain other excluded assets. The collateral does not include assets held by FuelCell Finance or any project subsidiary thereof. The Company may continue to collateralize and finance its project subsidiaries through other lenders and partners.

Item 3.01. Notice of Delisting or Failure to Satisfy a Continued Listing Rule or Standard; Transfer of Listing.

On July 18, 2019, FuelCell Energy, Inc. (the "Company") received a letter from The Nasdaq Stock Market ("Nasdaq") stating that the Company is not in compliance with Nasdaq Listing Rule 5450(a)(1) because the closing bid price of the Company's common stock was below the required minimum of \$1.00 per share for the previous 30 consecutive business days.

PLUG Q3 2019 10-Q

Advances under the Term Loan Facility bear interest at 12.0% per annum. The Loan Agreement includes covenants, limitations, and events of default customary for similar facilities. The term of the loan is three years, with a maturity date of December 13, 2022. Principal payments will be funded in part by releases of restricted cash, as described in Note 15, Commitments and Contingencies.

All obligations under the Loan Agreement are unconditionally guaranteed by Emerging Power Inc. and Emergent Power Inc. The Term Loan Facility is secured by substantially all of the Company's and the guarantor subsidiaries' assets, including, among other assets, all intellectual property, all securities in domestic subsidiaries and 65% of the securities in foreign subsidiaries, subject to certain exceptions and exclusions.



Apparent Inflection In Profitability Has Made Bulls Of Sell-Side Analysts — Except For One...

It's little surprise to us that sell-side analysts are almost universally bullish on PLUG given the recent shift to positive EBITDA(S), however tenuous. Never, however, have we observed the analyst at a public company's lead underwriter assign the stock a rating that might deter potential investors. And yet Morgan Stanley, the lead underwriter for PLUG's equity issuance announced this Dec 2, currently rates the stock "equal-weight" assigns it a price target of \$2.75 per share – over 10% below current levels, and, interestingly, equal to the per-share equity price of the issuance. The sell-side analyst at PLUG's lead underwriter is effectively telling investors that there is no upside to the issuance as it is currently priced. Might he see assigning a "buy" rating to such a chatroom stock as a risk to his credibility?

Broker	Rating	Price Target
B Riley FBR	Buy	\$6.00
Roth Capital Partners	Buy	6.00
Craig-Hallum Capital Group	Buy	4.00
HC Wainwright & Co.	Buy	4.00
Canaccord Genuity	Buy	4.00
Cowen	Outperform	3.50
Oppenheimer & Co.	Outperform	3.00
Morgan Stanley	Equal-Weight	2.75
Average Price Target	\$4.16	
% Upside to Current Price	32%	

PLUG Prospectus Supplement (Dec 2, 2019)



(1) See "Underwriting" for additional disclosure regarding underwriting discounts, commissions and estimated expenses.

We have granted the underwriters an option for a period of 30 days to purchase up to 6,000,000 additional shares of our common stock from us at the public offering price, less the underwriting discounts and commissions.

Neither the U.S. Securities and Exchange Commission, any state securities commission, nor any other regulatory body has approved or disapproved of these securities or determined if this prospectus supplement and the accompanying prospectus are truthful and complete. Any representation to the contrary is a criminal offense.

Delivery of the common stock at the closing of the offering is expected to be made on or about December 10, 2019.



The date of this prospectus supplement is December 2, 2019.

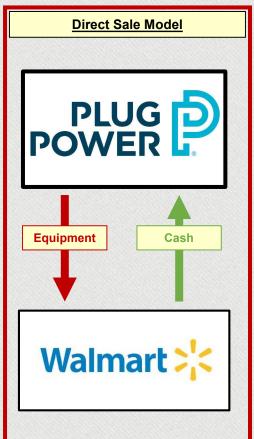


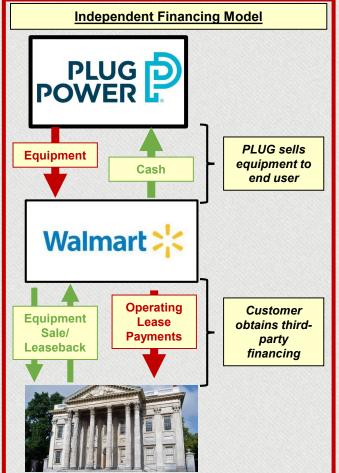
Reported Growth Fueled by Financing Arrangements and Questionable Accounting

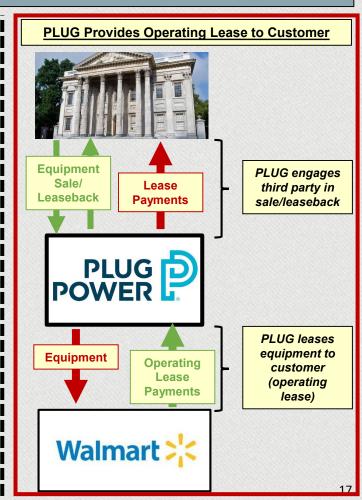


The Shift To Operating Leases: Larger Customers Transform the Economics of the Business

Much of PLUG's growth through the early 2010s can be attributed to just a few large customers, including the likes of Kroger, Volkswagen, and, notably, Walmart. Until the early 2010s, most of PLUG's customers would purchase PLUG's fuel cells directly or arrange for lease financing through a separate financial partner. However, in 2014, large customers such as Walmart appear to have demanded that PLUG offer operating leases itself, thereby keeping the equipment off their respective balance sheets. Without a large enough balance sheet of its own to support this, PLUG entered into sale/leaseback agreements with a number of financial institutions and independent renewable energy funds to facilitate these customer leases.









Leases Quickly Become A Material Source of Revenue

It appears that, since PLUG first began to provide operating leases to customers, these leases have become a dominant source of revenue for the Company. In 2009, management insinuated that ~25% of shipments went to customers who leased their PLUG equipment (whether through PLUG or a third party). However, in its 2014 10-K – not long after PLUG first began to offer operating leases – management claimed that ~25% of its revenue was attributable to operating leases facilitated by it sale/leaseback arrangement with M&T Bank. Shortly thereafter, management added a risk factor to its Q2 2015 10-Q stating that "customers representing most of our revenue lease, rather than purchase our products." By Q3 2015, management had revealed that 80% of its core GenKey customers leased their equipment. As we will show, this shift to providing expanded financing directly to customers came at a significant cost and transformed the underlying economics of the business.

PLUG: Oct 19, 2009 Analyst Meeting

"Your expectations on shipment levels through 2012, do you have a -- as far as the addressable market goes, do you have a certain percentage of customers that you think will choose the lease versus to buy outright and own? How much project financing are you willing to -- or third-party leasing --"

- Analyst

"In most cases, on the food and retail side, customers outright buy the equipment. On the heavy manufacturing side, you may have 40% to 60% of those customers lease the equipment. Because we don't know what our deals are yet for those years, I can't tell you what we expect in terms of what the mix is between capital purchases and lease financing deals.... 50% of our shipments will be in food."

- Gerry Anderson - CFO, Plug Power

Q3 2009

Implies ~25% of shipments were supported by lease financing

PLUG Q2 2015 10-Q

Our ability to obtain financing arrangements to support the sale or leasing of our products and services to customers may affect our sales and profitability.

Customers representing most of our revenue lease, rather than purchase, our products. On occasion, these lease arrangements require us to finance the purchase of such products, either ourselves or through third-party financing sources. To date, we have been successful in obtaining or providing the necessary financing arrangements. However, there is no certainty that we will be able to continue to obtain or provide adequate financing for these arrangements on acceptable terms, or at all, in the future. Failure to obtain or provide such financing may result in the loss of material customers and product sales, which could have a material adverse effect on our business, financial condition and results of operations.

Q2 2015

"Most" of revenue is associated leases

PLUG POWER FORMS 'PLUG POWER CAPITAL' TO ENABLE STREAMLINED FINANCING OPTIONS FOR GENKEY CUSTOMERS

09/14/15

Source

Q3 2015 80% of customers lease

"Approximately 80 percent of our customers lease their GenKey solution," said Andy Marsh, CEO at Plug Power. "To date, the one-stop GenKey model has proven to be highly efficient, as it provides customers with a seamless way to implement hydrogen and fuel cells from a product perspective. With the addition of GenFund, customers will also have a standardized financing process available to them."



The Shift To Direct Financing: Growth Comes At The Price of Deteriorating Company Economics

Did PLUG's new lease arrangements facilitate faster top-line growth? Again, per PLUG's 2014 10-K, ~25% of company sales came through its operating lease agreements with major customers such as Walmart and Volkswagen. However, with these customers already established business partners of PLUG's, it is not entirely clear that these arrangements supported incremental growth, at least in the near term. Rather, these arrangements may have simply been forced upon PLUG by major customers which the Company could not afford to lose. Importantly, PLUG reported in 2015 that its sale/leaseback partners required the Company to secure its leases in full: cash received from operating-type sale/leasebacks would be committed to restricted cash and released over the term of the lease. This in many ways defeated the purpose of the financing arrangement by withdrawing the immediate cash flow benefit that it would have otherwise recognized from the sale/leaseback.

PLUG 2015 10-K

Net cash used by investing and financing activities for the year ended December 31, 2015 included purchases of equipment and payments on capital lease and finance obligations. In addition, during 2015, the Company signed sale/leaseback agreements with the Company's primary financial institution (M&T Bank or the Bank) to facilitate its commercial transactions with key customers. These agreements represent the sale of the Company's fuel cell systems, hydrogen infrastructure and agreements to provide related extended maintenance to the Bank. The Company then leases the fuel cell systems and hydrogen infrastructure back from the Bank and operates them at customer locations to fulfill Power Purchase Agreements (PPAs). These operating leases require, the Company to maintain cash balances in restricted accounts securing its lease obligations. Cash added to these restricted accounts with 2142 million during 2015. Cash received from customers

Additional sale/leaseback agreements have been entered into with other financial institutions, however, they were structured differently in that they required prepaid rent or security deposits in addition to restricted cash. Prepaid rent and security deposits related to sale/leaseback transactions with these other financial institutions as of December 31, 2015 were \$12.1 million and restricted cash was \$32.6 million. Prepaid rent and security deposits are classified as operating outflows (and noncurrent assets on the consolidated balance sheets). Remaining lease payments associated with these agreements are \$27.9 and have been secured with restricted cash, security deposits and prepaid rent.





With PLUG's customers appearing to pressure the Company into supporting lease financing which it was ill-equipped to support, Spruce Point considers the (continued) shift towards operating lease-backed sales growth as a signal of deteriorating economics at PLUG.



Bloated Restricted Cash Balance Analogous To Inflated DSOs

Investors often look to Days Sales Outstanding (DSOs) as a measure of company liquidity, the health of its cash flow, and the sustainability of its current sales trajectory: the longer it takes a company to collect cash on booked revenue, the less healthy and sustainable is its financial position. PLUG's restricted cash balance can be thought of as analogous to accounts receivable: revenue booked in advance of cash collection, and a burden on Company liquidity as it awaits payment from customers. Treating PLUG's restricted cash balance as such, we observe that the Company's "effective DSOs" exploded beginning in 2015, as management increasingly turned to operating leases to support revenue growth.

PLUG's embrace of direct lease financing to create incremental sales (or to appease large customers) materially transformed Company economics for the worse, and any incremental sales created through this mechanism are demonstrably "low-quality" sales.



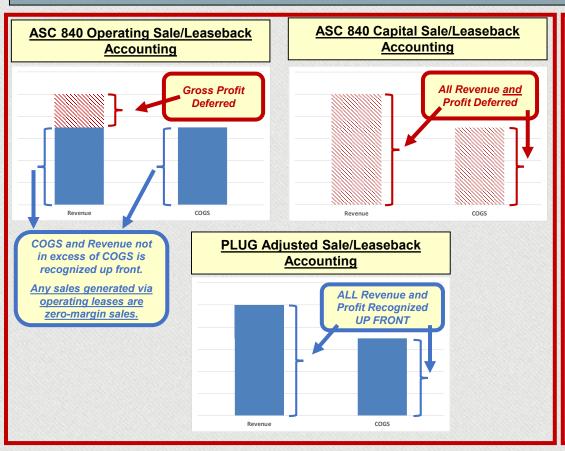
In growing sales by offering customers direct operating leases – leases which PLUG's sale/leaseback counterparties forced PLUG to guarantee itself – PLUG management effectively manufactured top-line growth by levering up its balance sheet and assuming massive counterparty risk by recognizing years' worth of revenue in advance of receiving the associated cash.

Even if investors deem PLUG's customers as sufficiently trustworthy, this trend clearly demonstrates that the economics of the business transformed for the worse.



Aggressive Non-GAAP Adjustments Reverse Negative Consequences of Shift to Leases

PLUG's shift to providing financing for an increasing share of Company revenue had significant consequences for the Company's financial reporting. Under ASC Topic 840, companies are instructed to recognize revenue on operating-type sale/leaseback transactions only up to the corresponding cost of goods. All revenue in excess of the associated COGS is then deferred, as is the corresponding profit. Accordingly, by engaging in operating-type sale/leasebacks with third parties rather than selling its equipment outright to customers, PLUG was unable to recognize some of the revenue and all of the profit associated with these sales. To make up for this, management devised "Adjusted Revenue" and "Adjusted Gross Profit" for its Q4 2015 earnings call, treating leased equipment as though it was sold. PLUG grew even more aggressive in 2016, when it began to engage in capital-type sale/leasebacks, on which it can recognize *no* revenue or profit under GAAP rules: management added *all* of the revenue and profit associated with these deals back to its Non-GAAP metrics. By Q2 2016, nearly half of PLUG's Adjusted Revenue, and all of its Adjusted Gross Profit, was attributable to these add-backs.

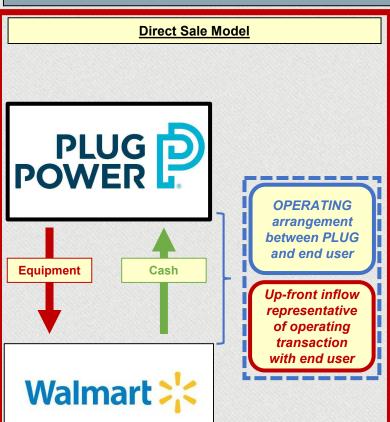


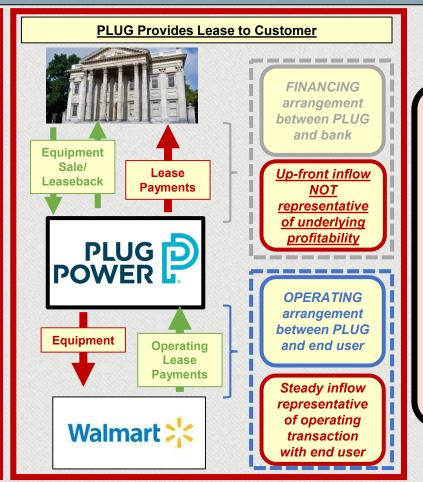
(\$, Millions)	Q4 2015	Q1 2016	Q2 2016
Revenue (As Reported)	\$38.4	\$15.3	\$20.5
Lease Financing Adjustment	3.6	14.8	17.5
Revenue (Adj.)	\$42.0	\$30.1	\$37.9
Gross Profit (As Reported)	(\$9.4)	\$0.2	\$0.4
Lease Financing Adjustment	3.6	3.6	5.7
Other Adjustments	10.1	-	
Gross Profit (Adj.)	\$4.2	\$3.8	\$6.1
EBITDAS	(\$21.5)	(\$10.0)	(10.1)
Lease Financing Adjustment	3.6	3.6	5.7
Other Adjustments	10.1	-	-
EBITDAS (Adj.)	(\$7.9)	(\$6.4)	(\$4.4)
Gross Margin	-24.5%	1.1%	1.9%
Gross Margin w/ Lease Adj.	-14.0%	12.5%	16.1%
EBITDAS Margin	-56.0%	-65.4%	-49.3%
EBITDAS Margin w/ Lease Adj.	-42.9%	-21.3%	-11.6%



Aggressive Non-GAAP Adjustments Ignore Economic Realities of the Business

Spruce Point strongly believes that PLUG's adjusted metrics presented a skewed view of Company financials. Management claimed that its adjustments were needed to "show our performance as if we finance a transaction as we have in the past." However, by providing direct financing to end users, PLUG materially transformed the structure of many of its customer relationships – and, therefore, its own operating model. Regardless of how it *financed* its leases to customers – in particular, through sale/leasebacks in which it received cash "up front" – inflows received from *financing* agreements should be treated as such, and not included in Non-GAAP metrics meant to reflect the *operating* side of the business. This holds particularly true for PLUG, as it was forced to park the up-front cash received on operating-type sale/leasebacks in restricted cash to guarantee future lease payments from end users.





Being forced to accept payments from end users over time, while at the same time being restricted from up-front cash payments from sale/ leasebacks, represents a material deterioration of PLUG's economics that should NOT be adjusted out of Company financials.



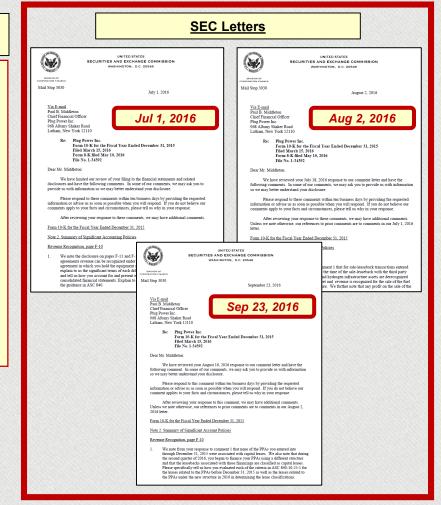
PLUG (Temporarily) Eliminates Improper Adjustments Due To SEC Pressure?

It appears that the SEC agrees with our assessment of PLUG's adjusted financial metrics. On Jul 1, 2016, the SEC submitted a letter to PLUG questioning management's non-GAAP metrics, which it deemed "...based on an individually-tailored revenue recognition which is inconsistent with the updated Compliance and Disclosure Interpretations...." The SEC would follow-up with two additional letters dated Aug 2 and Sep 23 further questioning these metrics before PLUG finally eliminated these non-GAAP figures from its Q3 2016 earnings presentation. Of course, this did not stop management from continuing to present the adjustments which it would have used to calculate its old adjusted metrics.

PLUG Q1 FY16 Earnings Call May 10, 2016

"As a reminder, we've been working on a number of finance alternatives to eliminate the need for new restricted cash or PPA deals where Plug Power finances the assets directly. In some, or likely all, of the new financing scenarios the cat profile of the transaction will be much better. But the accounting rules dictate we cannot recognize revenues up front as we've done with traditional sale-leaseback arrangements. The presentation of adjusted numbers is intended to show our performance as if we finance a transaction as we have in the past. Again, we believe it provides a clearer picture of the sales and implementation progress of the Company and a consistent comparison to past performance."

- Andrew Marsh - CEO, Plug Power



PLUG Q3 FY16 Earnings Call Nov 7, 2016

"Before I get started, I want to highlight that beginning this quarter, Plug Power's quarterly financial results will no longer include the non-GAAP measures of adjusted revenue. adjusted gross margin, adjusted EBITDAS, or adjusted EPS to reflect the impact of deployed Power Purchase Agreement transactions under alternative financing arrangements. However, we will continue to provide supplemental information to all external stakeholders as we believe it's important we convey the company's overall progress in growth and cost-downs and to maintain complete transparency."

- Andrew Marsh - CEO, Plug Power



Better Financing Terms Come At The Expense of Shareholders

In 2017, management announced that it had expanded terms with Walmart and Amazon without having to commit additional capital towards restricted cash. However, this came at the cost of heavy shareholder dilution: the Company granted Walmart and Amazon warrants to acquire up to 55.3M PLUG shares each, cumulatively just under 50% of the total float at the time. While these deals were worth a total of \$150M in future sales (per management), it appears that PLUG's large customers have little trouble demanding preferential terms from PLUG, and that PLUG would not be able to grow sales with its most material partners without diluting shareholders, tying up its balance sheet in restricted cash, or otherwise accepting unfavorable terms. This raises serious questions as to the Company's ability to generate profitable growth in the future.

Continued growth expected in Walmart's use of Plug Power hydrogen fuel cells in its distribution center material handling fleet

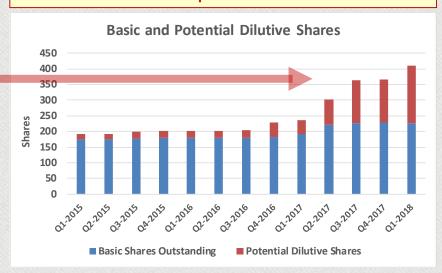
Walmart granted right to purchase Plug Power equity, vesting based on future business

LATHAM, N.Y., July 21, 2017 (GLOBE NEWSWIRE) — Plug Power Inc. (NASDAQ:PLUG), a leader in providing energy solutions that change the way the world moves, announces a new collaborative agreement with Walmart to facilitate further expansion of its ongoing relationship with Wal-Mart Stores, Inc. (NYSE:WMT). The new agreement includes revised deal terms with Walmart that allow Plug Power to access project financing at a lower cost of capital and no restricted cash, making Plug Power's future distribution transactions with Walmart cash flow positive up front. Plug Power expects to provide its GenKey hydrogen fueling station and fuel cell energy solutions to up to 30 additional Walmart sites in North America over the next three years, with ten sites already under contract and scheduled to be finished by the end of 2017. The value of these 2017 commitments is expected to be around \$80 million. On average, Plug Power has deployed a new Walmart site every 6 weeks since 2014, resulting in a deployed fleet of 5500 Plug Power fuel cells at 22 of Walmart's U.S. distribution centers as of the end of 2016.

No additional capital tied up in restricted cash...



...but at the expense of shareholders



How excited should investors be about PLUG's incremental growth if it must come either at the expense of investors of Company liquidity?



Warrant Deals Likely Not An Indication Of Interest In Owning PLUG

Bullish investors are quick to interpret these warrant deals as indications that Amazon and Walmart are interested in making strategic investments in PLUG. However, it is not uncommon for Amazon in particular to strike deals involving warrants with suppliers (particularly of commodity products) or other partners, particularly smaller ones. Spruce Point sees these deals as a sign that Amazon and Walmart used their leverage as major customers to secure advantageous terms from a producer

Amazon to Lease 10 More Freighters from Air Transport Services

Move aims to help reduce its shipping costs, reliance on carriers such as UPS and FedEx

Amazon.com Inc. AMZN -0.37% ▼ on Friday said it would lease another 10 freighter aircraft from Air Transport Services Group Inc., ATSG 0.38% ▲ as the online retail giant expands its air cargo operation.

The expanded deal also gives Amazon the ability to buy up to a 39.9% stake in the Wilmington, Ohio, air-cargo transportation company and includes multivear extensions of the current aircraft leases between the companies. Source

Kornit Digital grants Amazon warrants to buy stock

Published: Jan 11, 2017 7:57 a.m. ET

Israel-based Kornit Digital Ltd. KRNT, -0.27% said Wednesday it has granted Amazon.com Inc. AMZN, -0.37% warrants to buy up to 2.9 million Kornit shares over a five-year period at \$13.03 a share, which is 6.6% below Tuesday's closing price of \$13.95. Kornit has about 31 million shares outstanding, according to FactSet. The digital textile printing company said the grant comes after Kornit Source

Amazon Gets Warrant To Take Stake In **Call Center Operator STARTEK**

By PYMNTS 💓 🔤

Posted on January 26, 2018

In news reported Thursday (Jan. 25) by the Denver Business Journal, eCommerce giant Amazon has struck a deal with Colorado-based call center operator STARTEK to acquire as many as 4 million of the latter's shares.

In addition, an eight-year deal between the two firms could mean payments of as much as \$600 million to the Colorado firm. Details, said the publication, came from filings with the Securities and Exchange Commission (SEC). Under the terms of the deal, STARTEK has issued a warrant to Amazon subsidiary Amazon.com NV Investment Holdings to acquire the aforementioned shares. Exercise price will be \$9.96 Source through Jan. 23 of 2026.



More Accounting Games To Show The Appearance of Faster Top-Line Growth

Warrants weren't a perfect method for growing sales on paper: per GAAP rules, PLUG was forced to treat warrant-related expenses as a contraaccount against revenue. Accordingly, PLUG could not recognize as revenue all sales generated by these agreements. Furthermore, much like
revenue generated by PLUG's operating leases, all revenue attributable to these deals generated no gross profit. Management's solution?
Prominently display "Gross Revenue" in its quarterly letters, and add its provision for warrants back to gross profit to create a new "Adjusted
Gross Profit" metric. As it is unlikely that management would have been able to secure these deals without these costly warrant agreements,
Spruce Point believes that any presentation of gross profit which includes the revenue generated by these deals, but excludes the associated
warrant costs, is deceptive.

PLUG: Q4 2017 Investor Letter

Plug Power 2017 Fourth Quarter & Full Year Update Letter Gross Sales for the year of \$132.9M, a 55% Increase from 2016

Highlights for a Full Year 2017

- Gross revenues of \$132.9 million for the year, an increase of 55% from prior year.
- In 2017, announced a new collaboration agreement with Walmart to facilitate expansion of our relationship. To date, Plug Power has deployed more than 7,000 fuel cell units with 32 fueling stations at their distribution centers.
- Also in 2017, Plug Power announced a major agreement with Amazon to deploy fuel cells to power forklifts in their fulfillment centers, as well as a technology collaboration agreement.
- The development and shipment of Plug Power stacks continued in 2017, with more than 5,100 units shipped to the field.



	For the year ended	cember 31,	
Reconciliation of Reported Gross (Loss) Profit to Adjusted Gross Profit	2017		2016
Gross (loss) profit, as reported	\$ (28,089)	\$	3,946
Provision for common stock warrants	29,667		-
Adjusted gross profit	\$ 1,578	\$	3,946

PLUG 2017 10-K

	2017		2016		2015
Revenue:					
Sales of fuel cell systems and related infrastructure	\$	71,288	\$	39,985	\$ 78,002
Services performed on fuel cell systems and related infrastructure		22,774		20,456	14,012
Power Purchase Agreements		20,281		13,687	5,718
Fuel delivered to customers		18,302		10,916	5,075
Other		284		884	481
Gross revenue		132,929		85,928	103,288
Provision for common stock warrants		(29,667)		_	_
Net revenue		103,262		85,928	103,288

(\$, Millions)	GAAP	Provision for Common Stock Warrants	Adjusted (PLUG)
Net Revenue	\$103.3	\$29.7	\$132.9
cogs	131.4	-	131.4
Gross Profit	(28.1)	29.7	1.6
Gross Margin	-27.2%	100%	1.2%

PLUG likely would not have been able to secure these deals without offering warrants to Walmart and Amazon

Yet management believes that it should get full credit for this as revenue, AND that the warrants should not count against gross profit



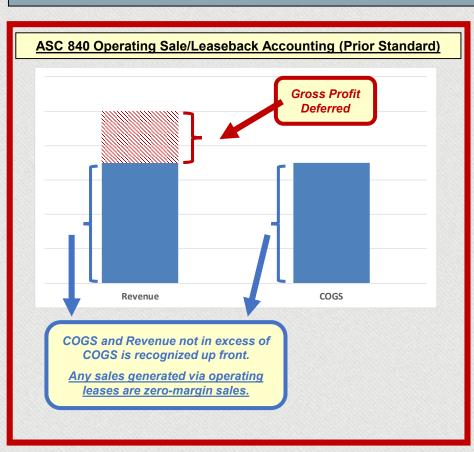
Shift In Company Strategy Following Beneficial Accounting Guidance Update?

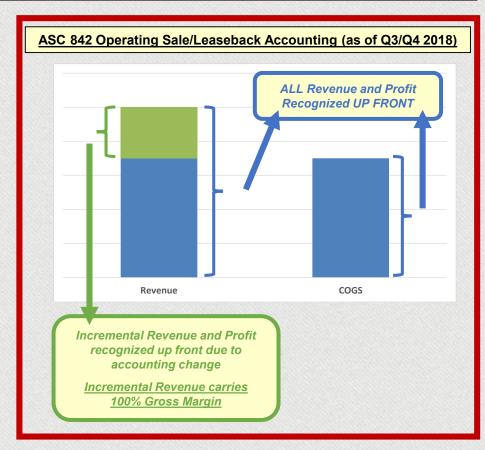


New Accounting Guidance Gives Management a Chance To Practice Old Leaseback Accounting

In late 2018, PLUG early-adopted ASC Topic 842, FASB's updated guidance on lease accounting. Whereas, under ASC 840, lessees in operating-type sale/leaseback transactions were instructed to recognize associated revenue only up to the corresponding COGS, ASC 842 now permits such lessees to recognize all associated revenue and profit immediately.

Spruce Point acknowledges that, in recognizing revenue and profit associated with operating-type sale/leasebacks up front, management is no longer bending GAAP accounting rules, regardless of whether the resulting financials accurately reflect the underlying economics of the business. However, we also find that, shortly after adopting this accounting standard, the Company undertook several measures which should raise questions among investors as to whether recent improvements in Company financials are sustainable or meaningful in any sense.







Sacrificing Liquidity To Revert To Operating-Type Sale/Leasebacks?

In Q2 2016, management announced a new approach to project financing under which (A) PLUG would no longer have to restrict cash balances received from financing partners, and (B) PLUG would take ownership of the equipment at the end of the lease term. Without saying as much, management was communicating to investors that it was now structuring its sale/leaseback agreements as capital leases, under which management would not be able to recognize any revenue or profit up front, but which would not tie up Company liquidity in restricted cash. Despite strongly voicing the importance of this decision for Company cash flow at the time, management was quick to restructure (and expand) its lease agreement with Wells Fargo in Q3 2018 – the same quarter in which it adopted ASC 842 – to change the associated "end of lease term options." Soon thereafter management added a disclosure to its Q3 2018 10-Q that it was now accounting for this deal as an operating lease and, accordingly, recognizing all associated revenue up front.

1

PLUG 2018 Q2 10-Q

The Company has an amended and restated master lease agreement with Wells Fargo (Wells Fargo MLA) to finance the Company's commercial transactions with Wal-Mart Stores Inc. (Walmart). Pursuant to the Wells Fargo MLA, the Company sells fuel cell systems and hydrogen infrastructure to Wells Fargo and then leases them back and operates them at Walmart sites under lease agreements with Walmart. The total remaining lease payments to Wells Fargo was \$24.8 million at June 30, 2018. Additionally, the Company completed financings in August 2018 of approximately \$16.0 million. The Wells Fargo MLA requires the Company to maintain restricted cash for the portion of the transaction that related to the applicable investment tax credit.

Management expands lease agreement with Wells Fargo just as it amends the agreement (after the close of Q2)

2

Jul 30, 2018: Master Lease Agreement Amended

FIRST AMENDED AND RESTATED MASTER LEASE AGREEMENT

This First Amended and Restated Master Lease Agreement (this "Agreement"), dated as of July 30, 2018, is made between Wells Fargo Equipment Finance, Inc., a Minnesota corporation (together with its successors and assigns, the "Lessor"), and Plug Power Inc., a corporation incorporated under the laws of Delaware (the "Lessoe"). Lessor and Lessee are referred to in this Agreement individually as a "Party" and, collectively, as the "Parties". Capitalized terms used but not defined herein shall have the meaning set forth for such terms in the Master Purchase Agreement (as defined below).

As of Q3, management accounts for arrangement as an operating lease and recognizes all associated revenue up front under ASC 842 (adopted Q3)

3

PLUG 2018 Q3 10-Q

Commencing in the third quarter of 2018, the Company has an amended and restated master lease agreement with Wells Fargo (Wells Fargo MLA) to finance the Company's commercial transactions with Wal-Mart Stores, Inc. (Walmart). Pursuant to the Wells Fargo MLA, the Company sells fuel cell systems and hydrogen infrastructure to Wells Fargo and then leases them back and operates them at Walmart sites under lease agreements with Walmart. The total remaining lease payments to Wells Fargo was \$51.9 million at September 30, 2018. Transactions completed in the three months ended September 30, 2018 were accounted for as operating leases and therefore recognized as revenue. In connection with the Wells Fargo MLA, the Company has a customer guarantee for a majority of the transaction. The Wells Fargo MLA requires a letter of credit for the unguaranteed portion.

Spruce Point finds it interesting that management restructured this lease agreement just as new lease accounting standards permitted it to recognize associated revenue and profit up front. If nothing else, this suggests that subsequent revenue and earnings growth are not necessarily indicative of a meaningful improvement in Company fundamentals.



Conveniently-Timed Revenue Guidance Increase

On Oct 16, 2018 – again, shortly after PLUG adopted FASB's updated lease accounting guidance – management issued a press release announcing increased revenue guidance, raising the full-year (gross revenue) range from \$155-180M to \$175-190M "due to continued traction in the market and ongoing development of its business pipeline." It's curious enough that management raised full-year revenue guidance by a full \$15M (at the midpoint) with just one quarter of revenue remaining in the year to meet this high bar. It's perhaps even more interesting that, in its 10-K, PLUG disclosed that "gross profit on sale/leaseback transactions for all operating leases was \$16.4 million for the year ended December 31, 2018." This gross profit would have represented the sale/leaseback revenue "overhang" which PLUG was not allowed to recognize up front until adopting the new accounting standard in Q3/Q4 2018 – and is almost equivalent in magnitude to management's revenue guidance increase, which, again, it attributed entirely to improving fundamentals.



PLUG 8-K (Oct 16, 2018): Revenue Guidance Increase

Plug Power Increases Full-Year 2018 Revenue Guidance

Latham, NY — October 16, 2018 — Plug Power Inc. (NASDAQ: PLUG), a leading provider of energy solutions that change the way the world moves, today increased its revenue guidance for the full-year of 2018 due to continued traction in the market and ongoing development of its business pipeline.

For the full year of 2018, Plug Power has increased gross revenue guidance to between \$175 million and \$190 million (1). This compares to the previously forecasted revenue range of \$155 million to \$180 million.

Chief Executive Officer Andy Marsh stated, "As a result of continued domestic and international growth across our lines of business paired with a strong deal pipeline, we are increasingly optimistic as we close out the year. This momentum in our pipeline also bodes well as we move into 2019. We are finalizing our fourth quarter delivery schedule and will be able to provide more insight in our upcoming third quarter earnings call."

Management increases FY18 revenue guidance by ~\$15M ahead of Q4, citing improving fundamentals

PLUG discloses that gross profit recognized on operating-type sale/ leaseback agreements was \$16.4M after adopting new accounting standard in Q3/Q4 2018

2

PLUG 2018 10-K

The gross profit on sale/leaseback transactions for all operating leases was \$16.4 million for the year ended December 31, 2018. Right of use assets obtained in exchange for new operating lease liabilities were \$42.2 million for the year ended December 31, 2018.

Can management confirm that it raised full-year revenue guidance in Q4 2018 by nearly 10% entirely due to improving fundamentals, and not due to changes in the manner in which it would account for sale/leaseback inflows?



PLUG Piles Back Into Operating-Type Sale/ Leasebacks After Shunning Them in 2016

Again, in Q2 2016, management tacitly announced plans to structure future sale/leaseback agreements as capital leases in the interest of enhancing Company liquidity. This is reflected in PLUG's restricted cash balance between 2017 and most of 2018: restricted cash declined as gross profit was recognized over the lives of the customer leases, and as PLUG initiated no new operating-type sale/leaseback agreements requiring Company guarantees. Management claimed that this was an important step towards "accelerating cash flows" while avoiding shareholder dilution. Why, then, did management rush back into operating-type sale/leaseback agreements starting in Q3 2018, just as it announced its adoption of a new lease accounting standard which would allow it to recognize associated revenue and profit up front?

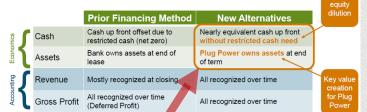
PLUG Q2 FY16 Earnings Presentation

PPA Project Financing Update



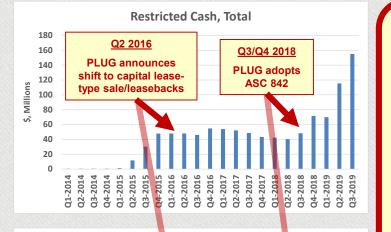
Primary Goal - Accelerate Cash Flows and Maximize Return on Investment

- PPA History
 - Deploying PPA-structured systems since 2014
 - · Full GenKey providing power and uptime; Plug Power owns the system
 - · Mainly Walmart, but others may participate
- PPA can drive faster sales cycles and improved profitability
- Continuing to develop new approaches to achieve financing objectives



Management tacitly announces shift towards capitaltype sale/leaseback agreements to enhance cash flow and liquidity from financing arrangements

Changing Lease Dynamics in FY19





Why did management again embrace operating-type sale/leaseback agreements so quickly, and in such great magnitude, in late 2018 – not long after promoting the liquidity benefits of its shift to capital lease agreements?

Did the revenue and profit recognition benefits associated with ASC 842 have a role to play?



Sacrificing Liquidity — And Shareholders — For The Sake of Accounting-Driven Growth?

As discussed, because operating-type sale/leaseback agreements require PLUG to tie up its balance sheet in restricted cash, they do not offer the liquidity relief for which the Company sought sale/leasebacks in the first place. How, then, did management address its increasingly strained balance sheet as it rushed back into operating leasebacks while at the same time burning significant cash each quarter? On Dec 2, management announced plans to return to equity markets yet again, this time offering another 40M shares – over 15% of the current (basic) float. Recall that, at the same time that it announced its plans to shift from operating to capital-type leasebacks for liquidity purposes, management cited its desire to avoid diluting shareholders as one of its primary motivations. Why is management now abandoning this goal?

PLUG Q2 FY16 Earnings Call

"So let me reiterate our key goals around liquidity and funding our growth. Our key goals remain to continue driving more efficient and seamless direct customer and PPA financing platforms, avoid restricting additional cash, maintain sufficient working capital to support the growing backlog of deployments and avoid dilution of existing equity owners.

In regards to our PPA financing approach, our primary goal is simple. We are focused on accelerating cash flows and maximizing the return on investment. We have been using this PPA approach since early 2014 and we have often found it a strategical advantage in accelerating customer adoption and improving our product offering and margin profile. But it's critical we continue developing improved capital solutions to fund these programs."

- Paul Middleton - CFO, Plug Power

Dec 2, 2019: Announcement of Proposed Public Offering

Proposed Public Offering of Common Stock (MORGAN STANLEY)

Deal priced at \$2.75 per share, or 27% below PLUG's closing price Market News Publishing, Inc.

PLUG POWER INC ("PLUG-Q") MORGAN STANLEY (MS-T,MSTLW-0") - Proposed Public Offering of Common Stock

Plug Power Inc., a leader in providing clean, reliable energy solutions, today announced that it has commenced an underwritten public offering of 40 million shares of its common stock. In addition, Plug Power intends to grant the underwriters a 30-day option to purchase up to an additional 6 million shares of its common stock.

Morgan Stanley and Barclays are acting as joint book-running managers for the offering. The offering is subject to market and other conditions, and there can be no assurance as to whether or when the offering may be completed, or the actual size or terms of the offering.

Plug Power intends to use the net proceeds from the offering for working capital and other general corporate purposes, including capital expenditures.

Spruce Point is concerned that management is sacrificing liquidity for faster top-line growth – growth which is not reflective of improving fundamentals, but which we believe is simply attributable to (1) a shift in how management accounts for operating leasebacks and (2) a rapid readoption of operating-type sale/leaseback agreements which are now being recognized as revenue in full up front.



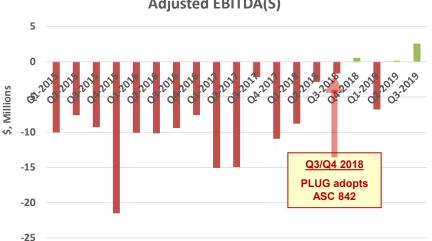
Re-Evaluating PLUG Earnings And The Sustainability Of Its Growth And Profitability



Equity Raises Facilitated By Renewed Confidence in PLUG Profitability — But Has PLUG Really Changed?

Despite these concerning developments, sell-side analysts and the investor community remain bullish on the stock. This, indeed, was perhaps an enabling factor in management's decision to issue equity: swapping capital leasebacks for operating leasebacks sacrificed liquidity, but the subsequent (accounting-driven) sales growth has supported extremely elevated valuations, making now a convenient time for an equity raise. In particular, investors are bullish about the fact that, for the first time in its ~20 year history, PLUG is reporting positive EBITDA(S). However, given its recent accounting changes, it's worth asking whether recent growth in sales and earnings really represents an "inflection point" for the business in any meaningful sense.

PLUG Achieving Profitability For The First Time (Just As It Adopts New Lease Accounting Standards) Adjusted EBITDA(S)



Questionable Incentives?

Moving back to operating leasebacks sacrifices liquidity, but if the subsequent accounting-driven sales and earnings growth drives valuations higher, it's easy to make up for the lost liquidity by diluting shareholders...

Apparent profitability driving record valuations...



...and renewed confidence in the business

• We are upgrading shares of Plug to Buy (from Neutral) as the company passes an inflection point. We expect valuation to be driven by visibility for Plug continuing on impressive revenue growth trajectory, outlook for record revenue and EBITDA in 4Q19, and material EBITDA profitability in 2020. The outlook for 2020 where we forecast material EBITDA production of \$35.5m suggests Plug is clearly passing an inflection point.



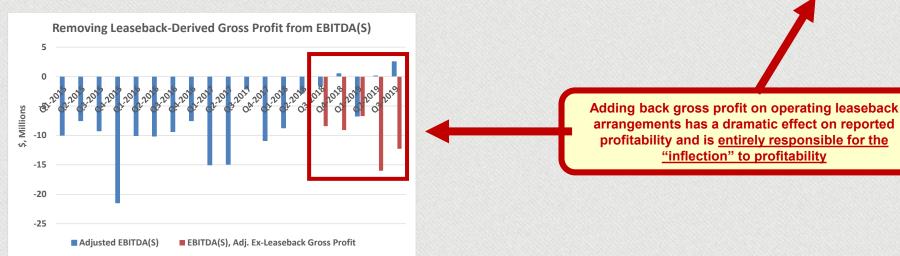
"Inflection" To Profitability Appears To Be Product of New Lease Accounting

Since adopting the new lease accounting standard in 2018, PLUG discloses the amount of gross profit realized on all operating leaseback agreements. Removing this accounting-driven windfall from PLUG EBITDA(S) reveals that, without this benefit, EBITDA(S) has *not* turned positive – and, in fact, would have declined to a two-year low in Q2.

Bulls will argue that the *new* accounting standard better reflects the economics of the business, and that gross profit associated with leases should have been included in all *past* earnings figures. We disagree – but, even if we didn't, the below analysis demonstrates that PLUG earnings have not *changed* for the better. Reconstructing EBITDA(S) to treat lease-derived gross profit just as it was treated before Q3 2018 appears to demonstrate that the recent "inflection" to profitability was driven entirely by the lease accounting change.

(\$, Millions)	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019
Adj. EBITDA(S) ¹	(\$10.0)	(\$10.1)	(9.4)	(\$7.5)	(\$15.0)	(\$14.9)	(\$2.1)	(\$10.9)	(\$8.7)	(\$2.8)	(\$1.6)	\$0.5	(\$6.7)	\$0.1	\$2.5
Less: Gross Profit on Operating Leasebacks	ı	-	-	-	-	-	-	-	-	-	6.8	9.6	-	16.1	14.8
Adj. EBITDA(S) Ex- Leaseback Profit	(\$10.0)	(\$10.1)	(9.4)	(\$7.5)	(\$15.0)	(\$14.9)	(\$2.1)	(\$10.9)	(\$8.7)	(\$2.8)	(\$8.4)	(\$9.1)	(\$6.7)	(\$16.0)	(\$12.3)

1. As stated in given period



Spruce Point believes that the recent wave of bullishness in PLUG is misplaced. Analysts and investors should reconsider whether PLUG's apparent profitability reflects an improvement in Company performance in any meaningful sense.



True Profitability Remains Clouded By Dubious Adjustments

Now included in management's EBITDA adjustments are interest expenses associated with its leaseback financing. However, much like the cost of the warrants associated with the 2017 Walmart and Amazon deals, the revenue associated with these lease expenses would be unavailable to PLUG without these financing arrangements, particularly as it recognizes an increasing amount of this revenue up front. Spruce Point believes that removing these costs from EBITDA only renders management's presentation of Company profitability more out-of-line with the underlying economics of the business.

PLUG Adj. EBITDA Reconciliation (As Reported As Of Q2 2019)

(\$, Millions)	Q1 2018	Q2 2018	Q3 2018	Q4 2018 ¹	Q1 2019	Q2 2019	Q3 2019	CUMULATIVE
Operating Income	(\$20.9)	(\$23.0)	(12.6)	-	(\$23.5)	(\$12.4)	(\$13.2)	(\$105.6)
Stock-Based Compensation	2.0	2.3	2.1	+	2.5	2.6	2.8	14.3
Depreciation and Amortization	2.9	3.2	3.0	Ŧ	3.0	2.9	3.6	18.6
Right-of-Use Asset Depreciation and Interest Associated with PPA Financings	3.5	3.6	3.9	-	6.0	6.2	7.8	31.0
Restructuring and Other Non-Negotiating Charges	0.5	0.3	0.7	-	1.2	0.8	1.5	5.0
Adj. EBITDA	(\$12.0)	(\$13.5)	(\$3.0)	-	(\$10.9)	\$0.1	\$2.5	(\$36.8)

^{1.} Not yet reported in or derivable from PLUG filings

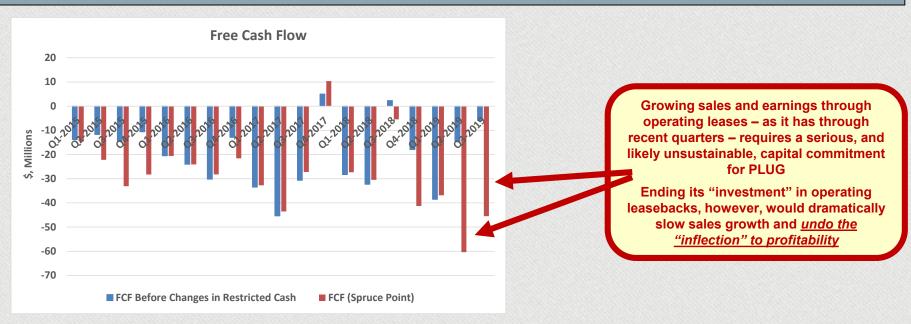
Leaseback-related expenses have been the single largest add-back to PLUG's new presentation to Company profitability, despite being inextricably linked to PLUG's selling strategy

If management recognizes as revenue sales related to leaseback arrangements – sales which exist only because PLUG is willing to provide vendor financing, and which it able to recognize up front due only to the manner in which the lease is structured – then it should recognize the expenses associated with these lease arrangements as a necessary and unavoidable reduction to PLUG profitability.



Free Cash Flow: The Best View Into PLUG Economics

How should investors evaluate PLUG's profitability? The majority of our criticisms with PLUG's presentation of its earnings power are, in effect, cash flow arguments: we take issue with the fact that management is reporting accelerated growth in sales and earnings which exists only because it is leveraging its balance sheet to guarantee future payments from end users to banks. For a business whose customers largely lease its equipment, payments received from end users over time are a better reflection of both underlying company economics and company cash flow – since, in PLUG's case, its restricted cash is unlocked only as these payments are made. Therefore, Spruce Point believes that free cash flow is the best measure of PLUG's profitability. Importantly, however, for the same reason that we concluded that restricted cash was analogous to accounts receivable, changes in restricted cash should be subtracted from PLUG's earnings to calculate Company FCF. It's interesting to note that management stopped reporting changes to restricted cash on its cash flow statement after FY17. Regardless, these changes are of course not difficult to calculate independently.



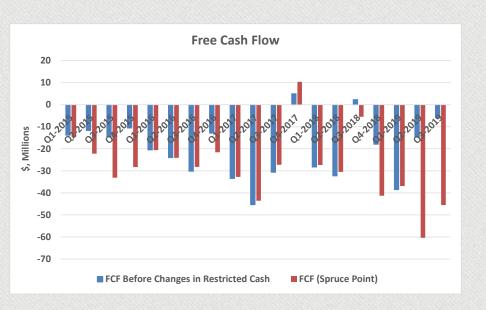
With management tying up significant sums of cash in sale/leaseback agreements to support continued sales and earnings growth – particularly with its newfound incentive to structure leasebacks as operating leases – PLUG FCF is consistently and dramatically negative.

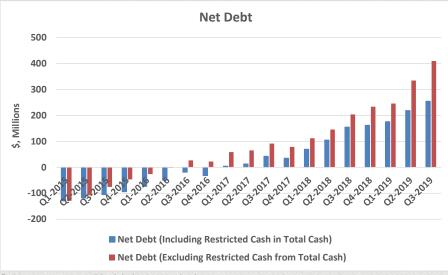
PLUG will likely once again be forced to find alternative mechanisms to finance its customer leases outside of operating-type sale/leasebacks. With sales and earnings recently inflated by accelerated revenue and profit recognition – facilitated by ASC 842 – any such change would come against difficult comps and appear even more dramatic than it otherwise would.



Balance Sheet Stretched Too Thin to Support Much More Growth-Accelerating Operating Leasebacks

The extent to which PLUG has strained its balance sheet should not be ignored. Excluding restricted cash, PLUG's net debt stood at \$410M at Q3-end, up from \$234M at the beginning of this year and just \$79M at year-end 2017 (assuming no converts are exercised). Ending its use of operating-type leasebacks would slow the cash burn – \$184M through the past twelve months, including restricted cash – but would dramatically slow sales and earnings growth against difficult comps created by the recent accounting-driven revenue "pull-forward." Doing so would also reverse PLUG's recent "inflection" to profitability, which, again, is reliant on continued revenue pull-forwards enabled by operating-type leasebacks. This "profitability" inflection will likely be short-lived as management is forced to pursue alternative forms of financing which do not feature the new accounting benefits of operating leasebacks. Otherwise, shareholders will experience extremely dramatic dilution.





Debt assumes convertible debt is not exercised

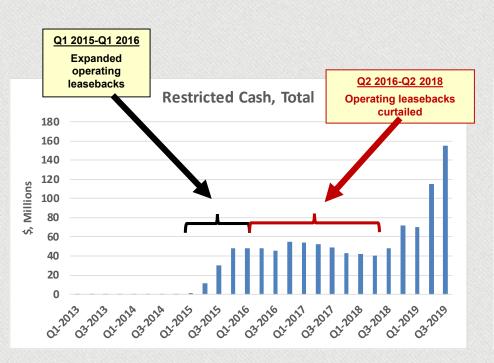
Spruce Point believes that PLUG cannot issue equity or raise debt fast enough to support its current restricted cash build – and, therefore, cannot continue to support customer leases through operating-type leasebacks, the source of the Company's recent "inflection" to profitability.

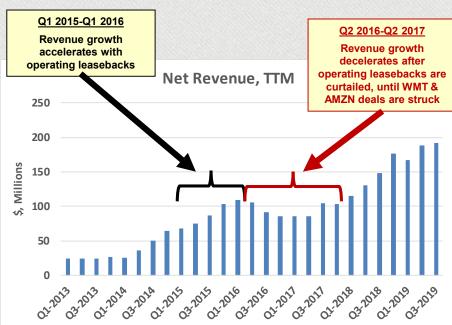
Spruce Point believes that this "inflection" to profitability will reverse in the coming quarters without either (1) egregious (and perhaps prohibitive) levels of shareholder dilution, (2) unsustainable borrowing, or (3) extremely aggressive non-GAAP accounting adjustments designed to present sustained profitability.



PLUG In For A Repeat Of 2016?

Recall that PLUG similarly pursued operating-type sale/leasebacks throughout 2015 before seeking alternative, more cash-flow friendly financing arrangements in 2016. So what happened the last time that PLUG pivoted from operating-type to capital-type sale/leasebacks after stretching its balance sheet with restricted cash? TTM revenue growth quickly turned *negative* towards the end of 2015 – perhaps in part because PLUG lost the ability to pull forward lease revenue as it transitioned to capital-type leasebacks – and did not significantly recover until the Company announced its warrant deals with Amazon and Walmart in late 2017.





When management is inevitably forced to curtail its use of operating-type sale/leasebacks to support sales today, the resulting decline in revenue growth could be even more dramatic, as there will be no remaining deferred revenue or profit associated with these operating leasebacks left to be recognized in subsequent periods.

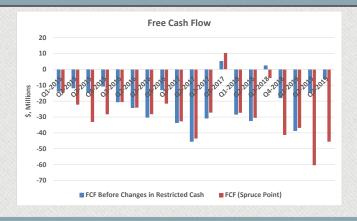


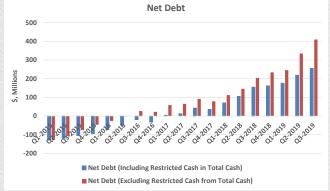
Spruce Point's "Valuation": PLUG Stock Is Uninvestible. Long-Term Potential To \$0.

It's standard practice for investors to value unprofitable companies on a multiple of sales. But how valuable is the revenue of a relatively mature industrial company which has not been able to turn a profit for its entire twenty-year history, and whose incremental growth either generates zero margin or is financed directly by its own balance sheet?

Even if one accepts that PLUG is not profitable today, but believes that the costly growth is justified on the belief that the proverbial operating leverage will eventually kick in, should an investor be willing to wait around for this to happen while management dilutes shareholders to no end?

Spruce Point believes that investors should not consider owning this stock until management demonstrates that it can grow sales profitably and without stretching its own balance sheet, and commits to refraining from turning to the equity market to finance this growth.





Investors who are in the stock for the long-term fundamentals will inevitably be diluted as the company continues to finance unprofitable growth even as its balance sheet becomes tremendously strained







...and even shorter-term traders should be wary of PLUG's current levels

So long as management is able to generate growth by only (1) striking zero margin deals with large customers or (2) using its own liquidity as currency in direct leasing deals (while shoring up its balance sheet through endless dilution in the meantime), Spruce Point sees no path for management to generate profitable growth or deliver sustainable value to shareholders.