Calpine Corporation (NYSE:CPN) Buy Pitch

Natural Resources

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Table of Contents

Business Overview

Calpine is an American wholesale and retail natural gas power generation business.

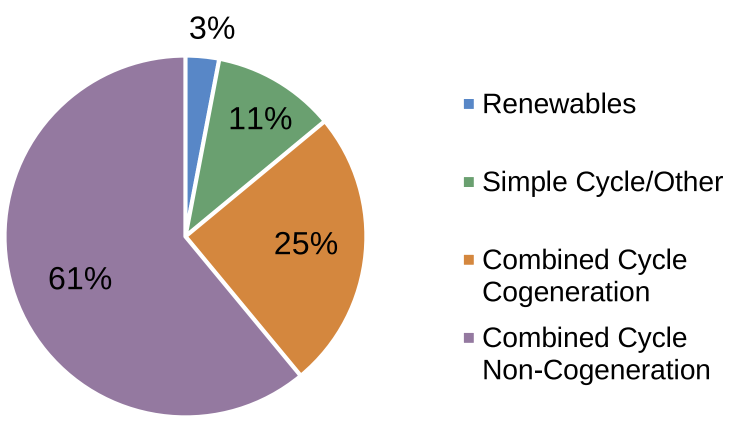
Financial Metrics

Ticker	NYSE: CPN
Stock Price (US$)	$11.53
Market Capitalization	$4.21B
Enterprise Value	$15.63B
52 Week Range	$10.81 – $16.49
Adj. Leverage Ratio (LTM)	5.61x
Capital Return % (LTM)	14%
EV/EBITDA (LTM)	8.5x

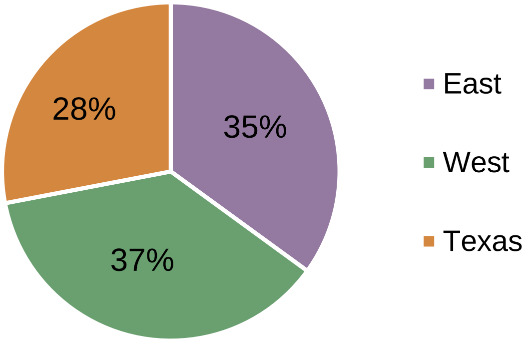
Business Model

- CPN is one of North America’s largest natural gas-fired power generators. They are classified as an independent power producer (IPP).
- Calpine is capable of delivering nearly 24,000 MWhs of clean and cost-effective electricity to 18 states in the U.S. retail and wholesale markets.
- CPN is the largest in wholesale market and 3rd largest in the American retail electricity market.

Power Generation Sources



US Regional Markets



Business Overview

Calpine produces electricity in various regions for both retail & wholesale markets.

Supply Chain

Natural Gas Extractors → CPN Purchases Fuel → CPN Converts Fuel to Electricity → CPN Sells Energy to Retailers & Wholesalers → Consumed by End Users

Gas Supplier

- Natural gas is bought from producers to be burned in plants.
- Unlike other high quantity fuel buyers, fuel is bought on spot or on short term contracts.

Calpine

- Electricity is generated through renewables, simple, and combined methods.
- Combined is the largest method used. This strategy uses multiple engines to increase efficiency and has been an industry standard since the late 1990s.

End Market

- After generation, electricity is sold to wholesale buyers usually through PPAs
- Recently CPN has been realigning focus on retailers
- Electricity is transmitted and converted to lower voltages for households.

Operations Overview

Three types of power generating plants.

Combined Cycle Process

- A combined-cycle power plant uses both a gas and a steam turbine to produce up to 50% more electricity versus a traditional simple-cycle plant
- The waste heat from the gas turbine is recycled and routed to a steam turbine to generate extra power

Cogeneration Process

- Combined-cycle plants can also cogenerate energy. These plant generate both electricity and heat, whereas simple cycle or combine cycle generates only electricity
- These process create steam which could be sold to industrial customers in their manufacturing processes
- The main economic advantage are its improved efficiency ratios from the combined cycle process

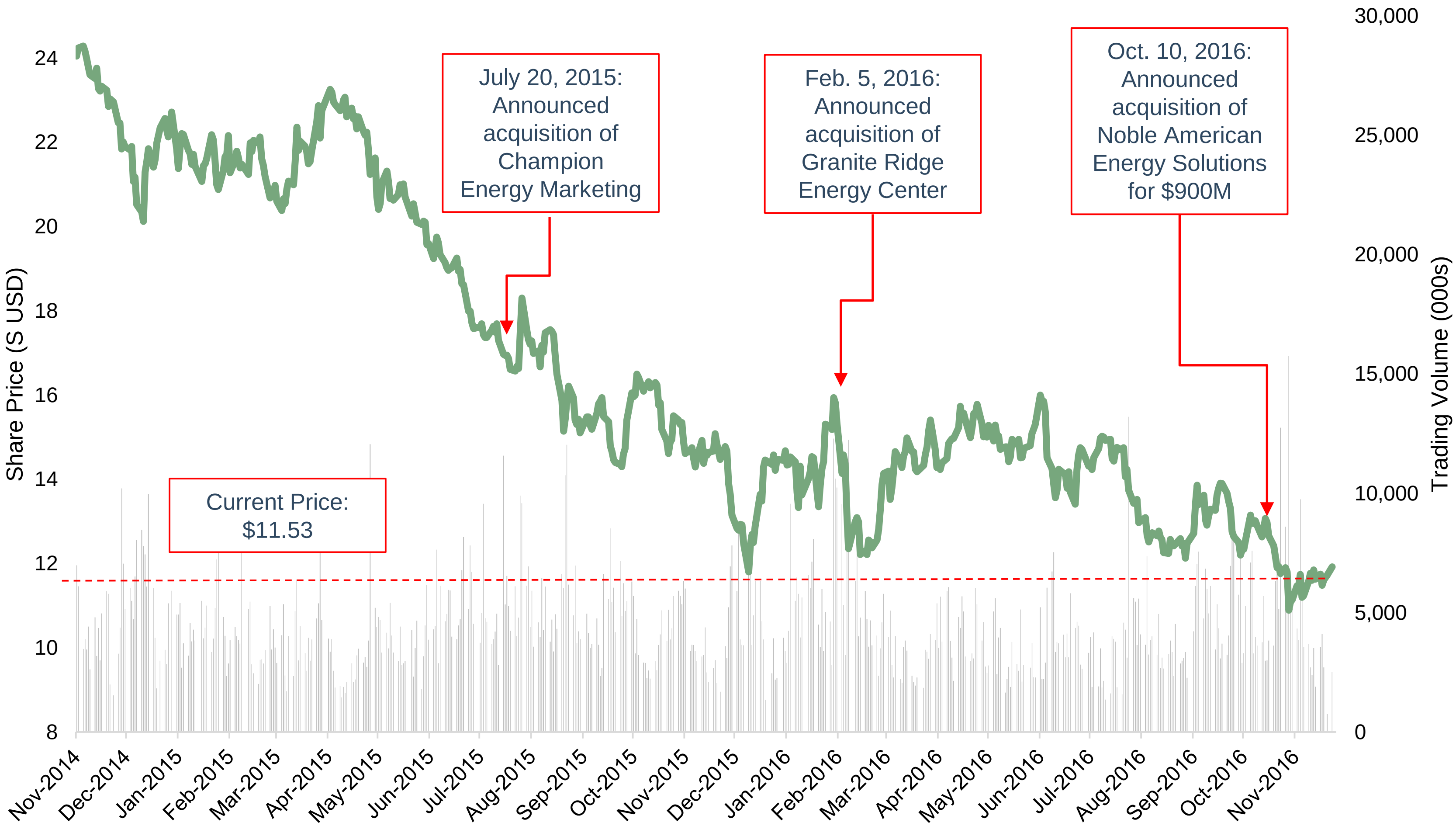
Geothermal

- Geothermal energy originates from steam in hot springs and other natural geographic formations
- The energy can be harvested through generating stations and sold back to the grid
- The main economic benefit of geothermal energy are its environmentally friendly method of energy generation. Energy produced can be applied for tax credits

Recent Negative Sentiment

A combination of negative sentiment and industry wide drivers has punished CPN.

Despite recent stellar financial performance, CPN remains depressed.



Why Is Calpine Undervalued?

Calpine is believe to be undervalued due to a misunderstood business model and external industry wide factors.

Internal: Misunderstood Business Model

- Different from peer competitors, Calpine is differentiated because:
  - CPN does not pay dividends, but consciously elects to use share buybacks to return capital for shareholders
  - CPN has more leveraged than industry peers by 1x – 2x on a Debt/EBITDA basis
- Overall the non-traditional business model in the defensive utility industry is effective nonetheless

External: Sector Events

- Sector downswing due to cyclicality within the industry
  - Since Calpine is more leveraged, the extra debt amplifies returns and losses
- Unusually warm winter contributed to less usage
  - This lead to quarterly earning misses

Conclusion

- Trading within 15% of its 52 week low, we believe that right now is the optimal entry point as the stock is beginning to trend up
- In addition, we believe that the factors mentioned are not material to Calpine’s ability to generate returns and add value to share holders

Investment Thesis

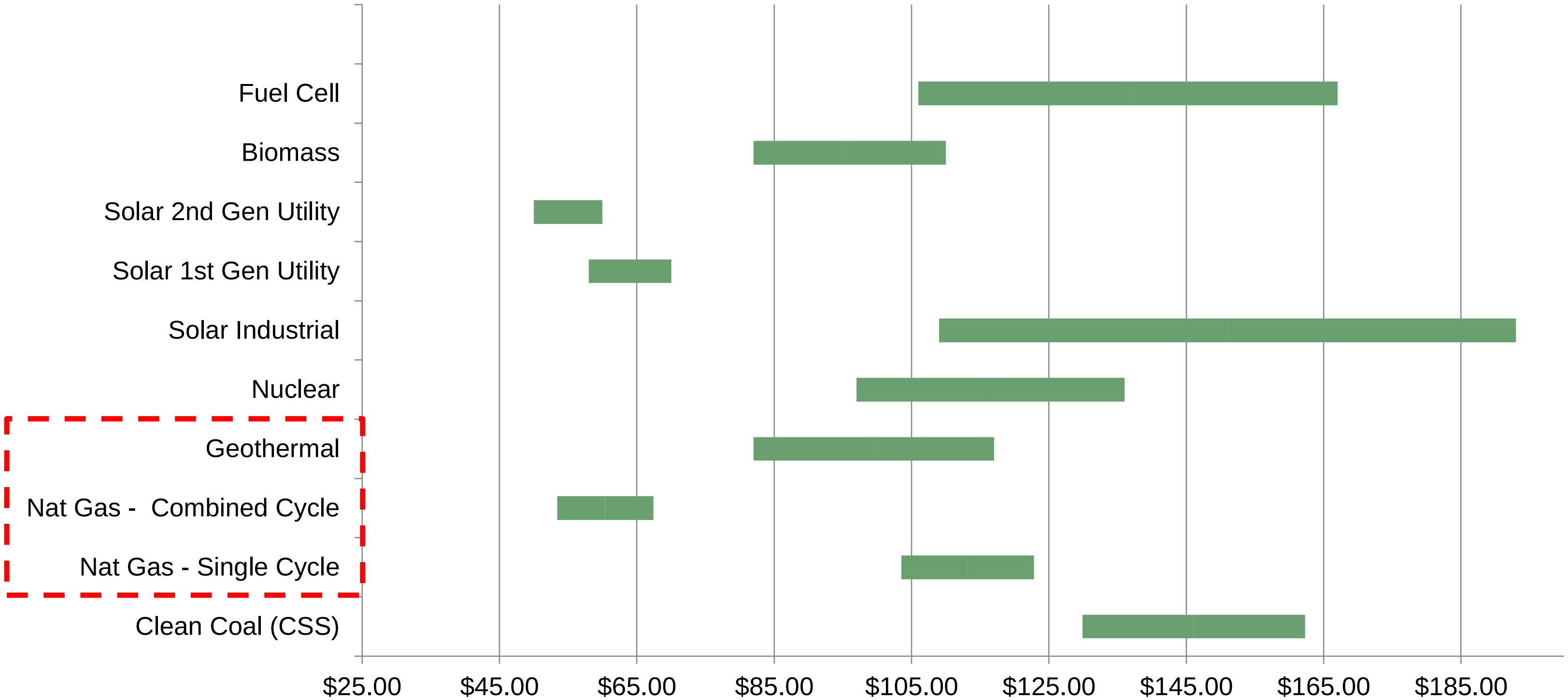
CPN is a strong fundamental company positioned to succeed among its peer group.

Long Term Growth Trajectory of Natural Gas Remains Stellar	▪ Advancements in shale positions natural gas as the most viable source energy on a Levelized Cost of Energy basis ▪ Improvements in fracking has made natural gas the most used power source as it is both cleaner and more efficient than coal ▪ Natural gas has a competitive advantage since it can be used for as a baseload or in peaking situations
Operational Excellence Through a "Public LBO"	▪ Best in class operator with underappreciated FCF yield and stability ▪ Accumulated NOL provides a tax advantage ▪ Conscious choice to remain levered and maximize return on equity ▪ Strong capital allocation program (14% LTM payout rate) is shareholder focused ▪ Downside protection since fluctuating natural gas prices does not impact EBITDA
Near Term Catalysts Indicate Turnaround	▪ Strategic transition into the retail space yields upside potential due to a more sticky customer base, and opportunity for margin expansion ▪ Management articulated effort to de-leverage from 6x to 4.5x Debt/EBITDA inline with industry average by 2019. Market should reward CPN similar to peers ▪ Policy support in the long run favours natural gas over coal

External Analysis

On a LCOE basis, natural gas is starting to replace coal as the leading source of electricity with low cost and high efficiency.

Levelized Cost of Energy Basis (LCOE) ($/MWh)



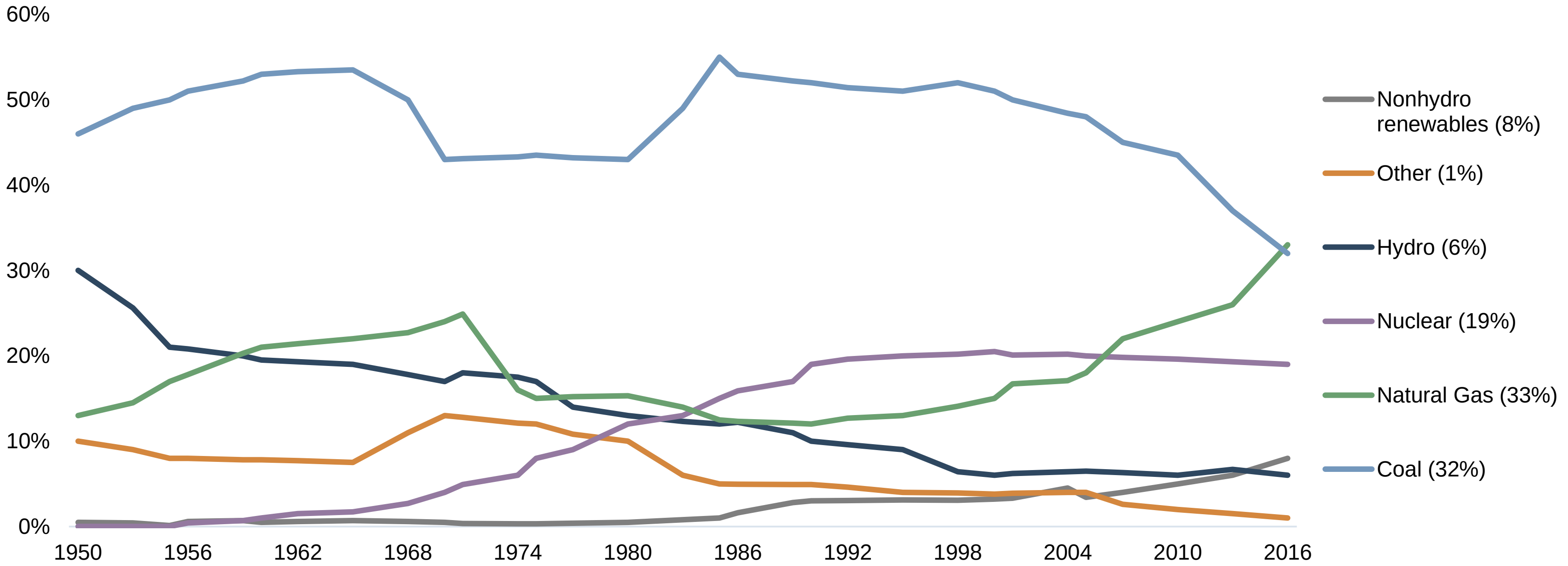
- Efficient gas-burning combined cycle plants have begun to displace coal as baseload generation
  - However natural gas is also the preferred method for peaking versus renewable methods
- Calpine is well positioned to take advantage of this growing trend in the coal-to-natural gas transition with its young, flexible and efficient fleet of power plants

Source: EIA

External Analysis

Increasingly stringent environmental regulations is pushing for the transition from coal to natural gases as the main sources of electricity.

Annual Share of Total U.S. Electricity Generation by Source (1950-2016)



- Clean Air Act aims to reduce CO_2 by 30 percent from 2005 levels nationwide by 2030
- Calpine is an EPA Climate Leaders Partner with a stated goal to reduce GHG emissions partially through its cogeneration & geothermal operations
- $23.0/MWh renewable energy credit from geothermal segment, further tax credits available in 2040, which includes a permanent 10% investment tax credit

Source: EIA

External Analysis

Expected rise in natural gas prices has caused investors to view CPN negatively, failing to understand Calpine on a company specific level.

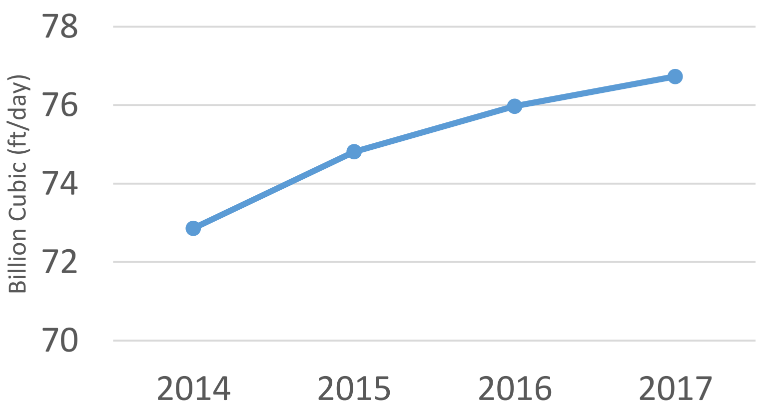
Expected Rise in Natural Gas Prices

- The power grid also is becoming more reliant on natural gas as coal-fired power plants close, industrial demand also increased from 2015 for six straight months
- Due to strong demands pushing for higher natural gas prices, the power generation sector is expected take lower energy margins
- Investors has generalized this opinion onto Calpine, causing a dip in CPN share price
- However, Calpine's competitive advantage will hedge against rise in natural gas prices

Natural Gas Prices ($/1000 cubic ft)

Sector	2014	2015	2016	2017
Henry Hub Spot	4.52	2.71	2.59	3.16
Residential Sector	10.94	10.36	10.18	11.1
Commercial Sector	8.88	7.89	7.38	8.27
Industrial Sector	5.61	3.91	3.61	4.3

Total Consumption of Natural Gas

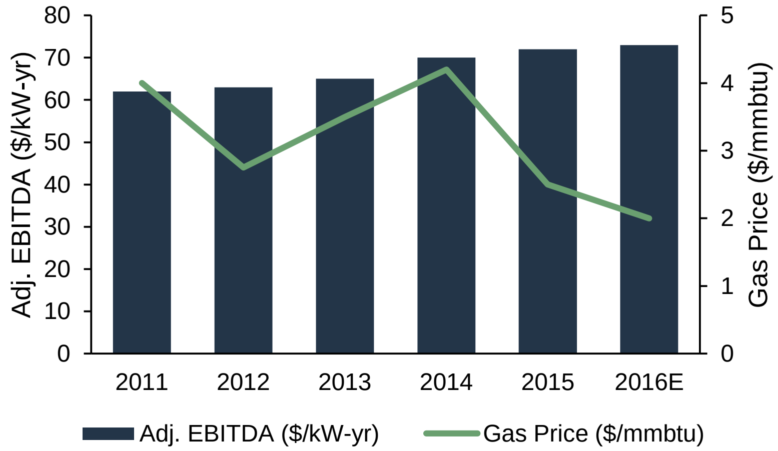


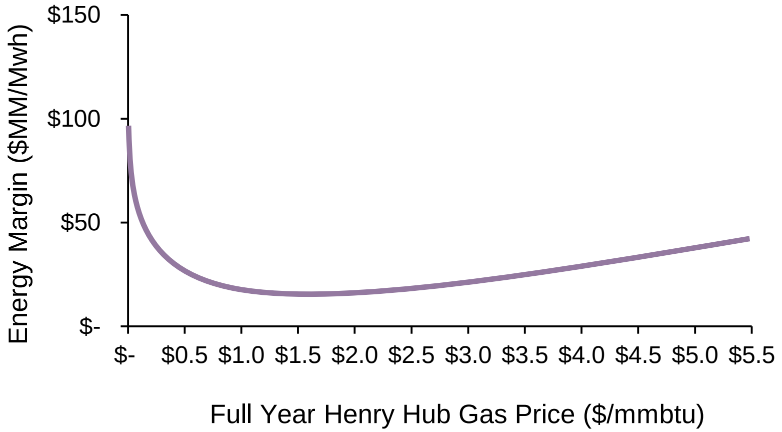
Source: EIA

Internal Analysis

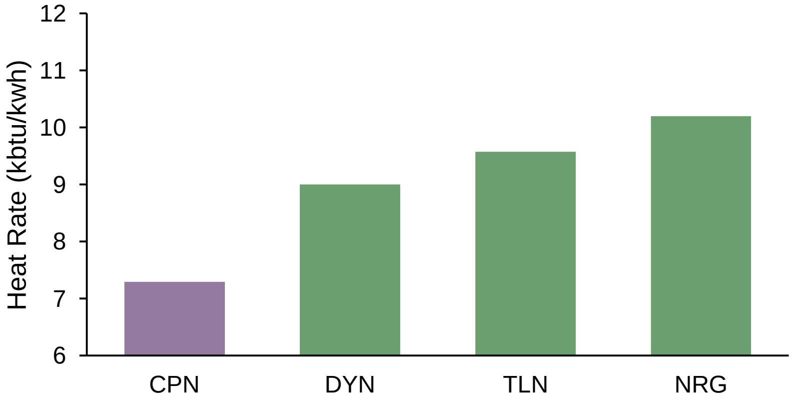
Calpine's stable free-cash-flow is largely unaffected by natural gas prices.

Stable & Efficient Cash Generation

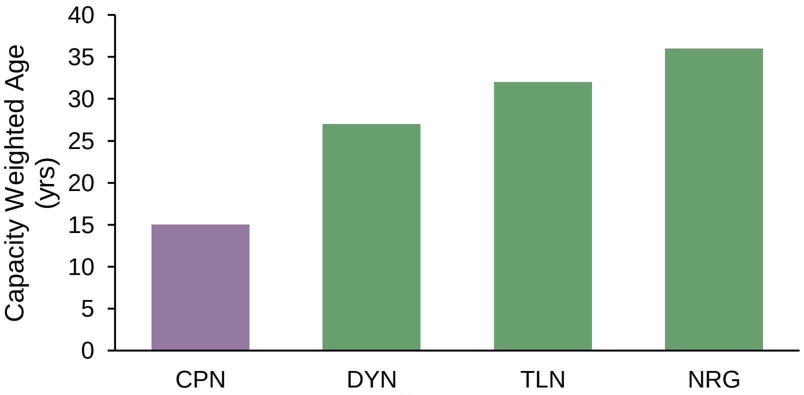




Industry-Leading Efficiency



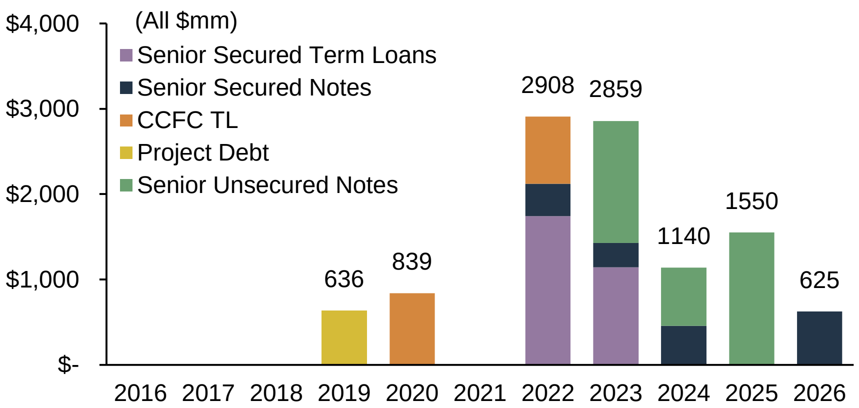
Industry-Leading Age



Internal Analysis

Calpine's leverage management and capital allocation is strongly value-oriented.

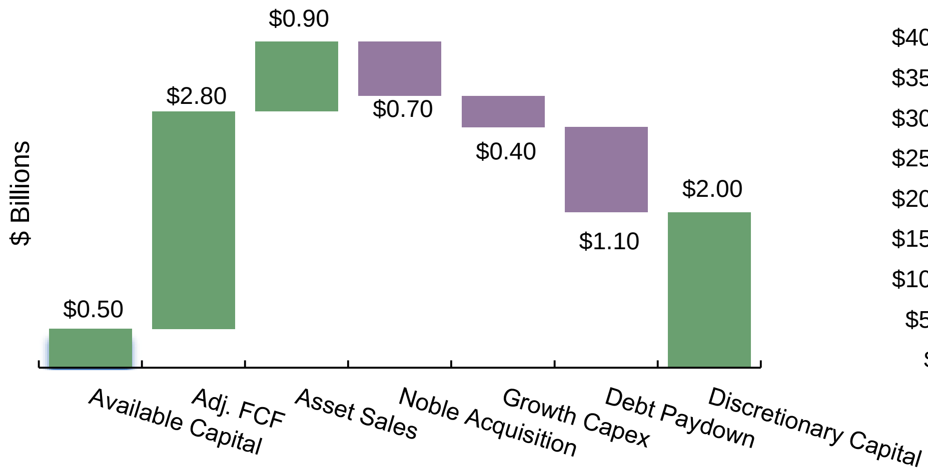
Long Amortization Runway



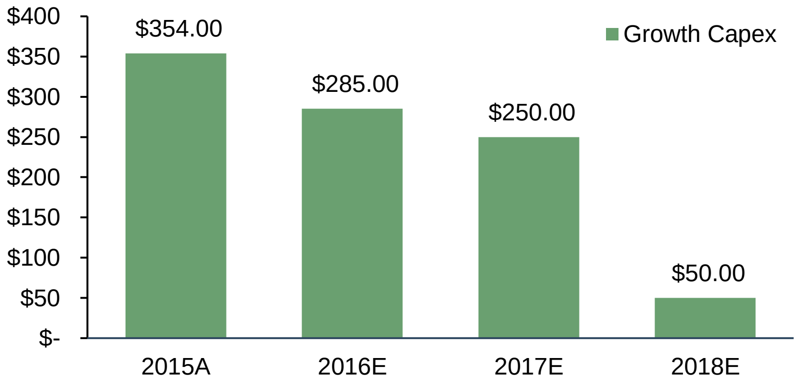
Commentary

- Since 2013, management has been pursuing a growth and capital recycling program with focus on FCF accretive capex
- CPN has a blended interest rate of 5-6%, against a FCF yield of 17% and M&A opportunities in the same range
- Management has expressed shift in capital allocation away from growth capex and towards debt consolidation

Capital Allocation Q416-2019



Reducing Growth Capex

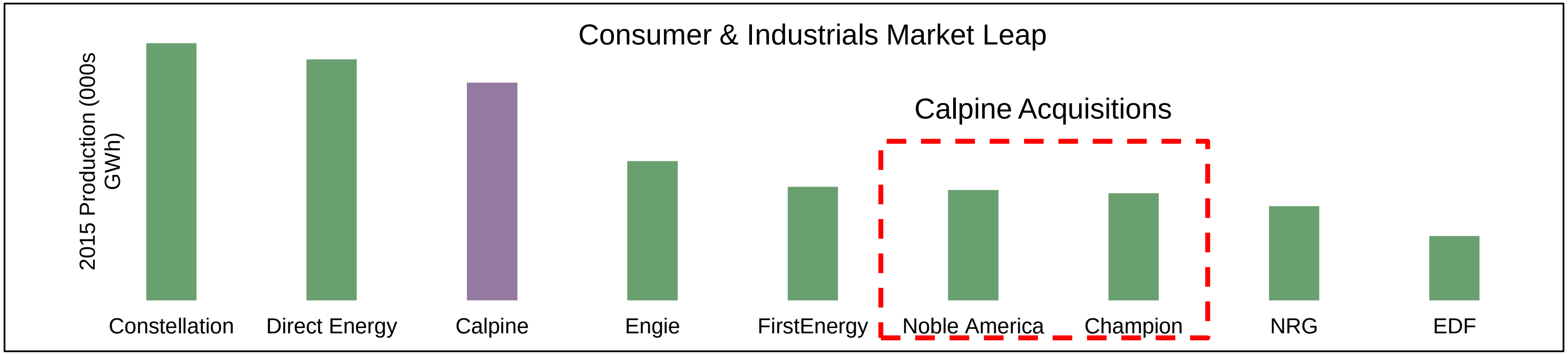


Catalysts

Transition to retail customers in a roll-up strategy.

Shift in Business Strategy to More Solution Customization

- 2 recent acquisitions in the retail space slingshots CPN into a higher margined, more sticky business segment versus the traditional wholesale space
  - Transition into the retail space skips the middle man that sells electricity to end consumers
  - Increased customization moves CPN away from a commodity product
- Noble Americas Energy Solutions purchased at $900M adds $180 in EBITDA with $200M of expected synergies in the next two years (12% of EBITDA)
  - Once synergies are realized, CPN will double its consumer base in Eastern US
- Champion Energy Marketing: purchased at $240M adding 22MWh of energy production
- Southern Company Case Study: has 1.6x the energy production capacity but 9x market cap
  - This is attributed to Southern's strong retail customer base
- CPN has $2B of capital earmarked specifically for M&A transactions in the next 2 fiscal years

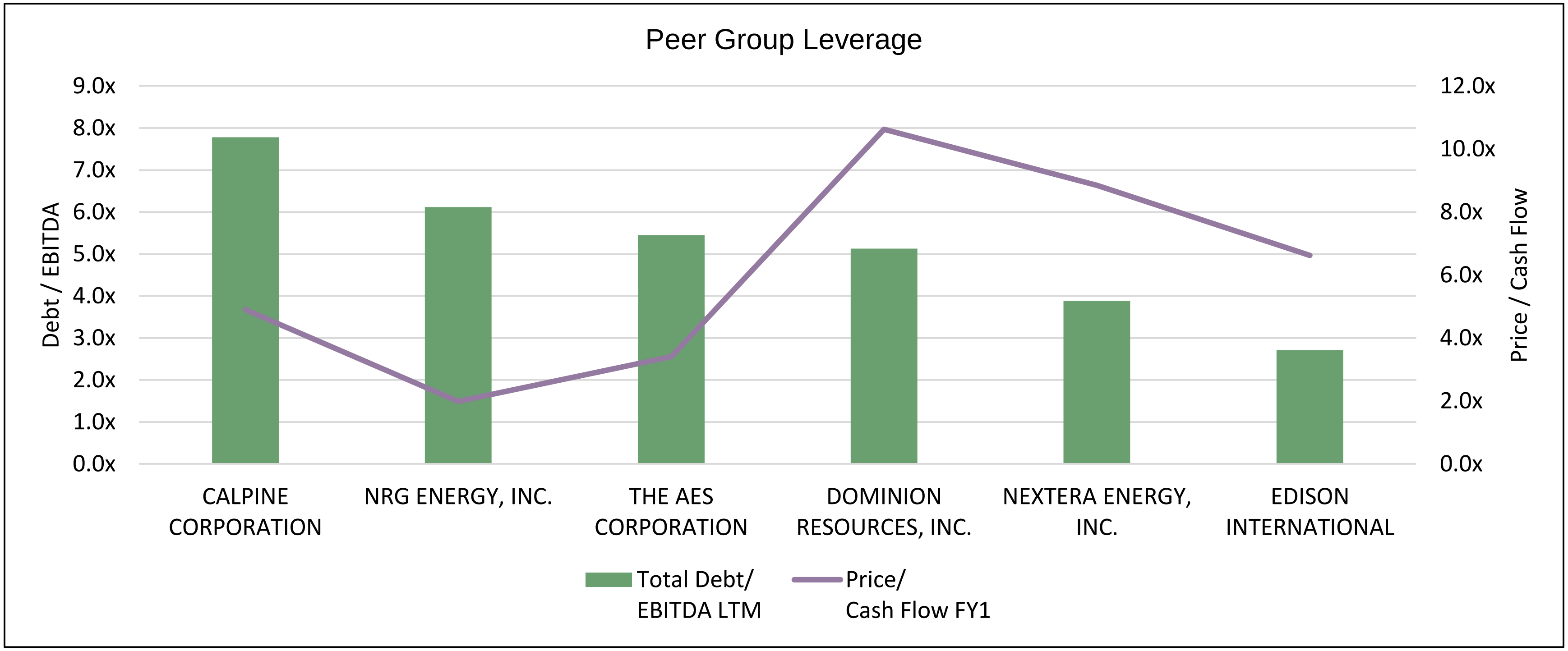


Catalysts

Deleveraging balance sheet appeases investors as a well capitalized businesses.

Management's Indication to Deleverage Balance Sheet.

- For the first time in the history of operations management has indicated they are looking to deleverage their balance sheet from 7.8x Debt/EBITDA to 4.5x Debt/EBITDA more in lines with industry average of (4.7x DEBT/EBITDA)
- Price should see upside relative to peers who are less leveraged



Catalysts

Realization of some policy catalysts could trigger a correction in the market for the natural gas industry.

US Policy Catalysts

EPA's Anti Haze Laws	▪ PJM (large presence in Eastern US) will evaluate retirement of coal fired plants. Results to be released December 29, 2016 ▪ ERCOT (large presence in Texas) will evaluate retirement of coal fired plants ▪ Overall, initial plan phases are due in 2018, 2028 and every 10 years thereafter	Short Term
Trump Presidency	▪ Donald Trump supports increasing the production of fossil fuels like coal, crude oil, and natural gas ▪ Trump proposes to lift regulatory restrictions on crude oil and natural gas exploration and production ▪ Trump plans to bring more federal land under crude oil and natural gas drilling	Medium Term
Renewable Portfolio Standards (RPS) [1]	▪ States such as California has RPS mandates to generate 33% of electricity from renewables by 2020. Many states in the US are attractive, but lack penetration due to a lack of RPS standards ▪ As more states enact RPS goals, renewables companies will see increased penetration rates and coal companies will realize less market share ▪ 29 States already has RPS, while numerous additional states are in the process of consideration ▪ Natural gas is not in direct competition with renewable sources as they are more efficient for peaking uses while renewables are more effective for base loading	Long Term

Comparables

On a comparable basis, CPN trades below peers. However given its pure play natural gas fleet, it should trade a premium to hybrid coal players.

Comparables Companies Analysis

IPP Comparables (Geography Pureplay)

Company Name	Market Cap ($M)	% Natural Gas	Ticker	Leverage Debt/EBITDA	Leverage Interest Coverage	EV/EBITDA 2016E	EV/EBIT 2016E	P/FCF 2016E
Northland Power	$ 2,900	60%	NPI	11.3x	3.3x	15.6x	19.9x	2.0x
Dynergy	$ 975	83%	DYN	10.6x	1.5x	7.4x	19.9x	1.6x
NRG	$ 3,479	48%	NRG	6.9x	2.5x	9.5x	20.8x	2.0x
Mean				9.6x	2.4x	10.8x	20.2x	1.8x
Median				10.6x	2.5x	9.5x	19.9x	2.0x
Calpine Corporation	**$ 4,000**	**97%**	**CPN**	**7.8x**	**2.4x**	**7.78x**	**18.6x**	**4.9x**

IPP Comparables

Company Name	Market Cap ($M)	% Natural Gas	Ticker	Leverage Debt/EBITDA	Leverage Interest Coverage	EV/EBITDA 2016E	EV/EBIT 2016E	P/FCF 2016E
American Electric Power	$ 30,683	23%	AEP	4.1x	5.9x	9.9x	16.6x	7.1x
PG&E	$ 30,254	9%	PCG	4.2x	5.2x	7.4x	12.9x	6.9x
Duke Energy	$ 53,239	23%	DUK	5.2x	5.1x	10.1x	14.7x	7.7x
DTE	$ 17,530	29%	DTE	4.6x	3.1x	9.8x	16.0x	6.6x
NextEra Energy	$ 57,558	27%	NEE	3.9x	4.5x	10.2x	16.0x	8.9x
Mean				4.4x	4.8x	9.5x	15.3x	7.4x
Median				4.2x	5.1x	9.9x	16.0x	7.1x
Calpine Corporation	**$ 4,000**	**97%**	**CPN**	**7.8x**	**2.4x**	**7.78x**	**18.6x**	**4.9x**

DCF

A discounted cash flow analysis concludes that CPN offers ~39% upside.

DCF Analysis Summary

	2012A	2013A	2014A	2015A	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E
uFCF					$ 1,075	$ 1,121	$ 1,152	$ 1,178	$ 1,180	$ 1,179	$ 1,168	$ 1,146
WACC	7.04%											
Period (Mid-Year Convention)						0.5	1.5	2.5	3.5	4.5	5.5	6.5
Discount Factor						0.97	0.90	0.84	0.79	0.74	0.69	0.64
PV of CF						$ 1,084	$ 1,040	$ 994	$ 930	$ 868	$ 803	$ 736
EBITDA	$ 1,020	1026	859	1390		$ 1,824	$ 1,870	$ 1,898	$ 1,907	$ 1,907	$ 1,888	$ 1,851

Weighted Average Cost of Capital	
Structure	
Debt	8540
Equity	3690
Debt / Capitalization	69.8%
Target D/E	2.31
Cost of Debt	
Cost of Debt	7.0%
Tax	35.0%
After Tax Cost of Debt	4.6%
Cost of Equity	12.8%
Risk-free rate	2.30%
Market Risk Premium	7.00%
Levered Beta	1.50
Size Premium	0%
WACC	7.04%

Exit Analysis		
Exit Multiple		7.8x
Implied Perpetuity Growth		-0.85%
Terminal Year EBITDA		1,851
Terminal Value		14,397
PV of Terminal Value		9,252
PV of Cashflow		6,457
PV of TEV		15,709
Less: Debt		11,901
Less: Minority Interest		58
Plus: Cash		561
Plus: PV NOLs		1,655
Equity Value		5,966
Diluted Shares		359
Implied Share Price	$	16.62
Current Share Price	$	11.53
Implied Upside		44.1%

Exit Sensitivity - Implied Upside

Exit Multiple \ WACC	6.04%	6.54%	7.04%	7.54%	8.04%
8.8x	96%	84%	73%	63%	52%
8.3x	81%	70%	59%	49%	39%
7.8x	65%	54%	44%	34%	25%
7.3x	50%	40%	30%	21%	12%
6.8x	35%	25%	16%	7%	-2%

COGS Sensitivity - Implied Upside

Blended COGS \ WACC	6.04%	6.54%	7.04%	7.54%	8.04%
47%	130%	118%	106%	95%	84%
45%	99%	87%	76%	66%	56%
43%	65%	54%	44%	34%	25%
41%	36%	26%	17%	8%	-1%
39%	5%	-4%	-13%	-21%	-29%

Appendix

Appendix – DCF

	2012	2013	2014	2015	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E
Revenue	5478	6301	8030	6472	6763	7000	7175	7283	7319	7319	7246	7101
YoY Growth		15%	27%	-19%	5%	4%	3%	2%	1%	0%	-1%	-2%
COGS	2894	3808	4815	3589	3867	4002	4102	4163	4184	4184	4142	4060
Margin	47%	40%	40%	45%	43%	43%	43%	43%	43%	43%	43%	43%
Blended Gross Profit	$ 2,584	$ 2,493	$ 3,215	$ 2,883	$ 2,897	$ 2,998	$ 3,073	$ 3,119	$ 3,135	$ 3,135	$ 3,103	$ 3,041
Operating Expenses												
SG&A	1020	1026	859	1390	1134	1174	1203	1221	1227	1227	1215	1191
% of Revenue	18.6%	16.3%	10.7%	21.5%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%
D&A	562	593	603	638	626	631	639	674	667	664	658	648
% of Revenue	10.3%	9.4%	7.5%	9.9%	9.3%	9.0%	8.9%	9.3%	9.1%	9.1%	9.1%	9.1%
Total Operating Expenses	$ 1,582	$ 1,619	$ 1,462	$ 2,028	$ 1,760	$ 1,805	$ 1,842	$ 1,896	$ 1,894	$ 1,891	$ 1,874	$ 1,839
Operating Income	$ 1,002	$ 874	$ 1,753	$ 855	$ 1,136	$ 1,194	$ 1,231	$ 1,224	$ 1,241	$ 1,243	$ 1,230	$ 1,202
Net Interest Expense	-736	-854	-639	-624	-656	-665	-674	-677	-673	-666	-652	-639
% of Revenue	-13.4%	-13.6%	-8.0%	-9.6%	-9.7%	-9.5%	-9.4%	-9.3%	-9.2%	-9.1%	-9.0%	-9.0%
Investment Income	-48	0	25	24	27	28	29	29	29	29	29	28
% of Revenue	-0.9%	0.0%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Unusual Items	0	0	-171	-96								
EBT	$ 218	$ 20	$ 968	$ 159	$ 507	$ 557	$ 585	$ 575	$ 597	$ 607	$ 607	$ 591
Less: Tax	19	2	22	-76	178	195	205	201	209	212	212	207
Tax Rate	8.7%	10.0%	2.3%	-47.8%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%
Net Income	$ 199	$ 18	$ 946	$ 235	$ 330	$ 362	$ 380	$ 374	$ 388	$ 394	$ 394	$ 384
NOPAT	915	787	1713	1264	739	776	800	795	806	808	799	781
Plus: D&A	263	234	245	258	626	631	639	674	667	664	658	648
Plus: Unusual Items					0	0	0	0	0	0	0	0
Less: CapEx	-637	-575	-492	-565	-425	-355	-359	-364	-366	-366	-362	-355
% of Revenue	-11.6%	-9.1%	-6.1%	-8.7%	-6.3%	-5.1%	-5.0%	-5.0%	-5.0%	-5.0%	-5.0%	-5.0%
Net WC (Increase)	653	549	854	863	135	70	72	73	73	73	72	71
% of Revenue	11.9%	8.7%	10.6%	13.3%	2.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
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Levered Beta	1.50
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Implied Share Price	$	16.62
Current Share Price	$	11.53
Implied Upside		44.1%

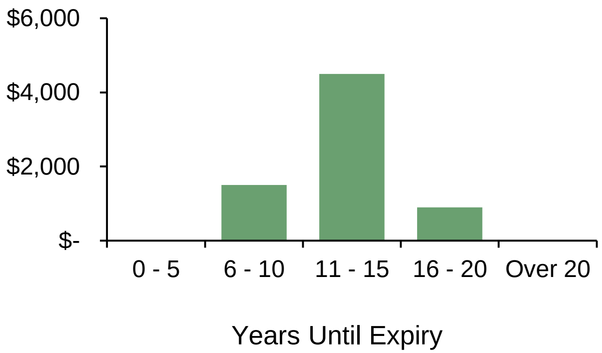
Appendix – DCF 2

NOL Supplementary Information

Federal NOLs	6,900

NOLs Present Value									
	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	TV*
EBT	507	557	585	575	597	607	607	591	
Tax Rate	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*
Taxes	178	195	205	201	209	212	212	207	-
NOL Income	-	-	-	-	-	-	-	-	-
Remaining	6,393	5,836	5,251	4,676	4,079	3,473	2,866	2,275	-
Actual Tax	-	-	-	-	-	-	-	-	-
Tax Savings	178	195	205	201	209	212	212	207	796
PV	-	188	184	168	162	154	143	130	499
PV NOLs	**1,628**								

**Assumes 3% EBT decline into perpetuity*



NOL Expiry Schedule

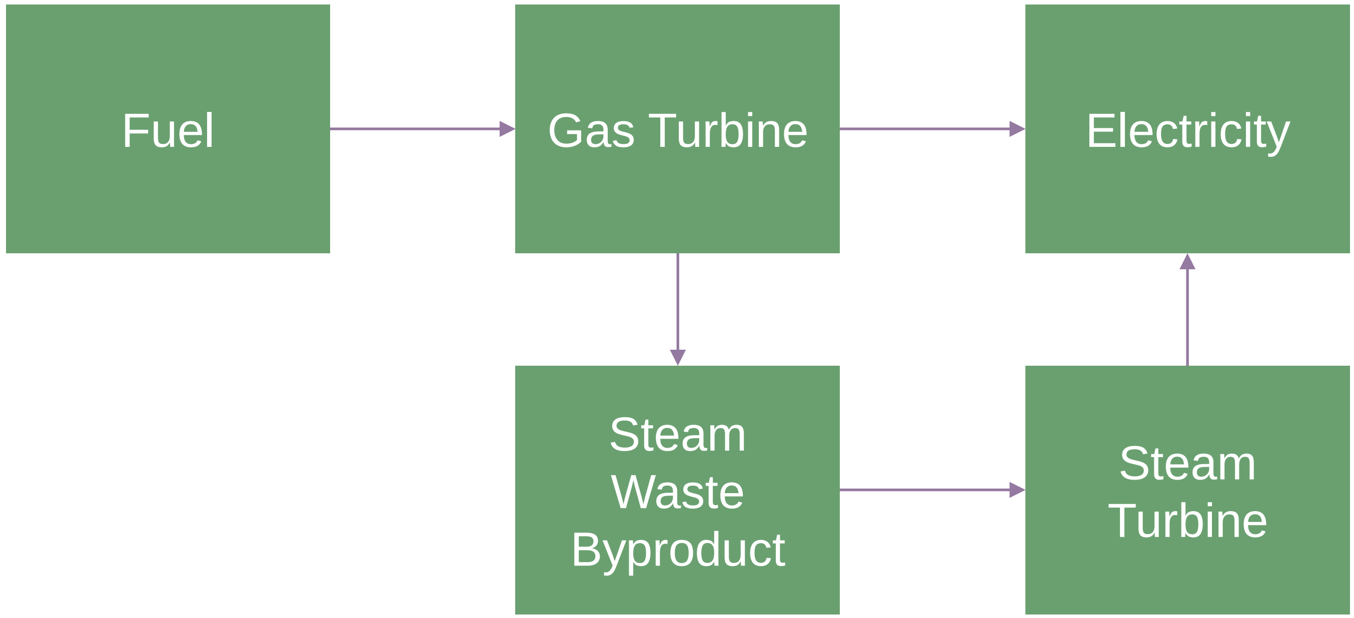
	NOL Sensitivity - Implied Upside				
	WACC				
NOL Value	6.04%	6.54%	7.04%	7.54%	8.04%
2,655	87%	78%	68%	59%	51%
2,155	75%	65%	56%	47%	38%
1,655	63%	53%	44%	35%	26%
1,155	51%	41%	32%	23%	14%
655	39%	29%	20%	11%	2%

Operations Overview

Three types of power generating plants.

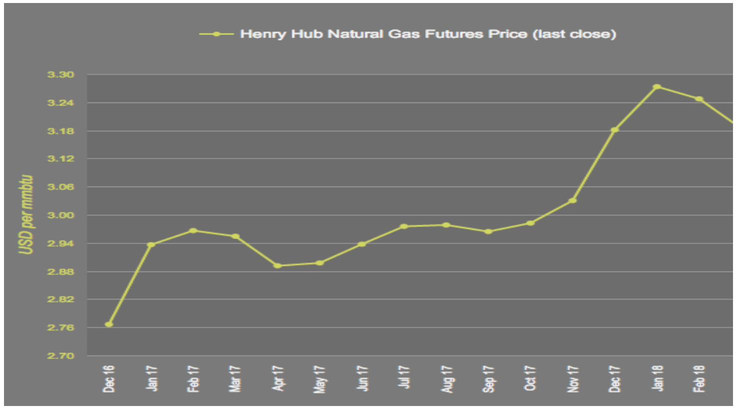
Combined Cycle Process

- A combined-cycle power plant uses both a gas and a steam turbine to produce up to 50% more electricity versus a traditional simple-cycle plant
- The waste heat from the gas turbine is recycled and routed to a steam turbine to generate extra power

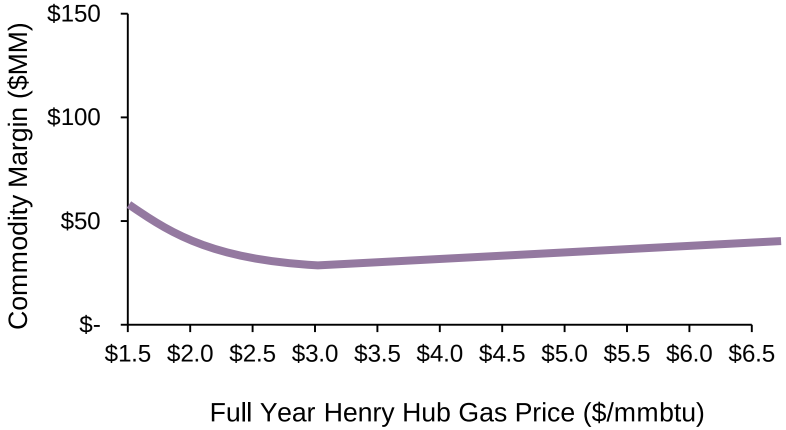


Appendix – IPPs and Margins

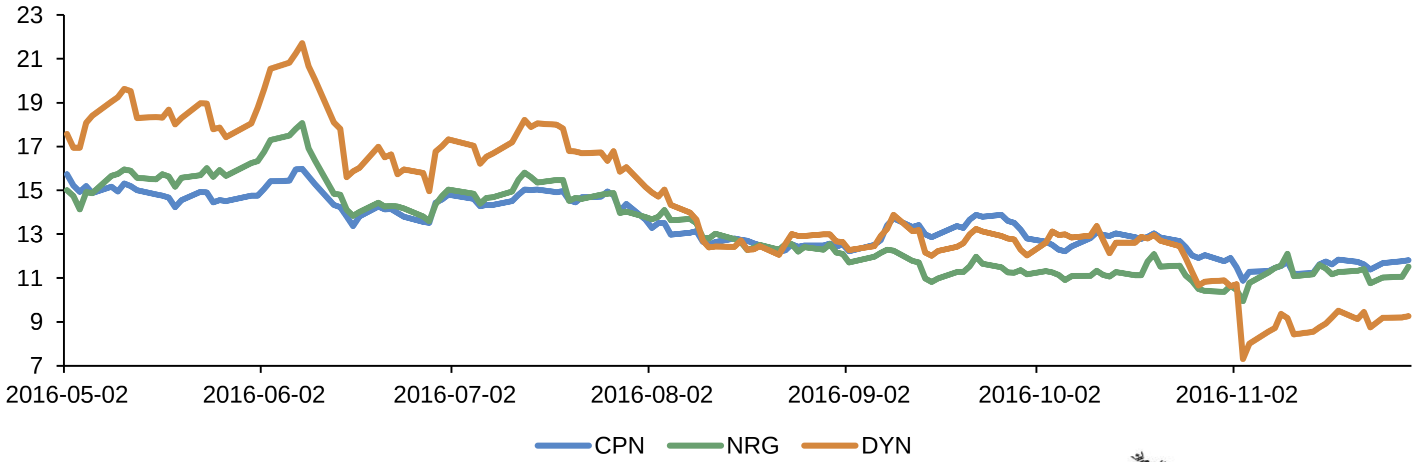
Henry Hub Forward Curve



Commodity Margin



US Nat Gas IPPs 2015 - 2016



Post-election Risks & Analysis

Despite high uncertainty surrounding clean energy plans after Trump's election, the coal to gas switch remains largely a subject of market forces

Post-election Risks and Uncertainties

- Trump has vowed constantly to come up with a plan to toss out most of what the Obama administration achieved on policies to punish coal producers: competitors to natural gas producers
- Policies such as the Clean Air Act that aims to reduce CO2 by 30 percent from 2005 levels nationwide by 2030 may be repealed by Trump
- CPN's "clean fleet" competitive advantage could be dimmed as a result of these coal-lenient policies

Analysis

- Even though CPP's future is at risk, it does not make a significant impact on natural gas' future
- Market forces is still the predominant reason for the coal to gas switch
- Since 2008 natural gas production boom due to fracking technology innovation, natural gases has remained low
- Gases have simply become cheaper to produce and to run
- How Trump plans to change these clean energy policies is highly unclear and uncertain
- Even if Trump repeals all clean energy plans, it only means coal plants will be free from government regulations, but does not change their decline of their low-cost competitive edge against natural gas in the market
- CPN's competitive advantage as an efficient and clean energy fleet still stands as Trump has declared his support for natural gas due to its ability to both reduce emissions and increase economic output

Calpine 2005 Bankruptcy

CPN filed for chapter 11 bankruptcy along with other industry players as natural gas prices declined.

Bankruptcy Story

- Cause:
  - When gas prices were high in early 2000s, CPN used debt to finance asset acquisitions
  - Deregulation sparked aggressive expansion
  - After Enron & natural gas prices collapsed, CPN was unable to meet debt obligations
- After Effects
  - Numerous industry players also filed for bankruptcy (NRG)
  - New management team emerged after the restructuring