Short Circuit

IPP February Monthly

US Credit Research
Dave Katz, CFA [AC]
[redacted]

Bayina Bashtaeva
[redacted]

J.P. Morgan Securities LLC

- **This is our initial high yield utility monthly.** In it, we update our thoughts on the HY utilities we cover, provide credit and industry data and graphs, and summarize recent company and industry news. Over the last month, the Utilities sector underperformed the high yield index, returning 1.37% to HY's 2.74%.
- **In the present monthly, we include an estimate of key IPPs sensitivity to a $1/MMBtu change in natural gas prices.** Assuming constant heat rates, and due to their differing generation and hedge portfolio, we estimate that Edison is the most exposed, followed by GenOn and then NRG. Surprisingly, as a percentage of LTM EBITDA, TCEH is not as exposed as some other credits.
- **We estimate the impact on future revenues of changes in the PJM 2015/16 capacity auction prices.** The most exposed credit (as measured by the revenue effect of a $25/MW-day price change divided by LTM EBITDA) is GEN (13%). GEN is followed by EME (8%), DYN (3%), CPN (2%), and NRG (<1%).
- **We reiterate our Overweight on NRG credit and update our NRG financial model in advance of earnings.** We estimate that the company generated $384 million of EBITDA in 4Q11. We expect NRG will address the lower natural gas price environment and how it will impact, if at all, its timeline to refinance the 2017 notes and the company's shareholder friendly actions (i.e., dividends and share repurchases). We model a pick-up in shareholder friendly activities; this assumption may prove conservative if the company does not refinance the 2017 notes and given that NRG may flex the activities down to help guard cash. Despite these assumptions, and using the current natural gas forward price curve (NGA <CMDTY> <GO> CCRV <GO>), we expect gross recourse debt leverage would increase from 4.2x to 5.3x at the end of 2013, before falling to 4.3x at the end of 2014. We believe NRG Energy is set up to survive an extended period of low power prices.
- **We are downgrading our recommendation for Edison Mission Energy to Neutral.** We also update our Edison Mission Energy financial model. We believe Edison Mission is one of the most exposed credits in the high yield IPP universe to natural gas price declines. Using the current forward, while assuming that natural gas price decreases result in heat rate increases, we estimate that the company generates $77 million of adjusted EBITDA in 2012, $309 million in 2013, and $582 million in 2014. We estimate that the company would have $580 million of liquidity at the end of 2014, but this presupposes a full refinance of both the EME credit facility and the Midwest Generation credit facility. It also assumes that the 2013 notes are successfully refinanced. Although we value Edison Mission's assets on a $/KW basis, we still believe that the recovery has likely fallen over the last few months and that the notes now trade ahead of recovery value whereas we believe they traded at or around recovery value just a few months ago. Further, over that period, given the fall in power prices, we believe the likelihood of a recovery scenario arising, has increased. These factors are behind our downgrade of the credit.

See page 58 for analyst certification and important disclosures.

[redacted]

Table of Contents

EFTA00606160

NRG Energy update

We have updated our NRG financial model in advance of earnings. We estimate that the company generated $384 million of EBITDA in the fourth quarter of 2011. Based on the current forward curve, we estimate NRG will generate $1.75 billion in 2012. We expect a more modest EIBTDA of $1.5 billion in 2013 as the company's hedges fall off. We expect EBITDA of $1.8 billion in 2014.

On the conference call, we expect the company will spend time laying out how, if at all, NRG's strategy has changed in the current low natural gas price environment. We expect management will address its plans to refinance the 2017 notes. The notes became callable on 15-Jan-12, and can currently be called at a price of 103.688. On prior conference calls, management stated that it would refinance the 2017 notes in early 2012 so that all of its senior notes would have essentially the same covenants. The non-2017 notes and the credit agreement have a restricted payment basket that grows by adjusted EBITDA minus 140% of interest expense. This should build much more rapidly than the calculation under the 2017 notes, which is based on 50% of net income.

We believe the company is likely to be fairly interest rate sensitive with regard to any new debt issuance. As such, we expect the notes are only now approaching trading levels that imply the company would undertake a refinance. Although we believe that the company has over $3 billion of secured debt capacity, we do not think that NRG would issue secured debt to refinance the 2017 notes.

We believe our model is conservative from the point of view of a credit investor. We assume that the company refinances the 2017 notes and then completes $400 million of share repurchases and $30 million of dividends in 2012. We assume $400 million of share repurchases and $80 million of dividends in 2013. We believe these assumptions are conservative because in a low natural gas price environment, we would expect management would pull back somewhat on shareholder friendly activities. However, even with these assumptions, we still estimate that the company's liquidity ends 2013 at $1.5 billion, down from $1.9 billion at 3Q11. We expect gross recourse debt leverage would increase from 4.2x to 5.3x at the end of 2013, before falling to 4.3x at the end of 2014. Net recourse leverage would increase from 3.6x at the end of 3Q11 to 4.8x at the end of 2013, before dropping to 3.9x at the end of 2014.

We believe NRG Energy is set up to survive an extended period of low power prices. As we have indicated above, we believe the company has the relatively easy option of decreasing shareholder friendly activities to guard cash. As such, **we reiterate our Overweight on NRG Energy.**

Dave Katz, CFA
[redacted]

J.P.Morgan

NRG Energy, Inc.

NRG

FINANCIAL SUMMARY ($ mn)

Fiscal year-end March / Income statement data	Actual Full Year FYE 2004	Actual Full Year FYE 2005	Actual Full Year FYE 2006	Restated Full Year FYE 2007	Actual Full Year FYE 2008	Actual Full Year FYE 2009	Actual 1Q10 31-Mar-10	Actual 2Q10 30-Jun-10	Actual 3Q10 30-Sep-10	Actual 4Q10 31-Dec-10	Actual Full Year FYE 2010	Actual 1Q11 31-Mar-11	Actual 2Q11 30-Jun-11	Actual 3Q11 30-Sep-11	Estimate 4Q11 31-Dec-11	Estimate Full Year FYE 2011	Estimate Full Year FYE 2012	Estimate Full Year FYE 2013	Estimate Full Year FYE 2014	Actual LTM 30-Sep-11
Total GWh sold	24,949	28,023	73,416	77,081	74,128	69,009	16,515	17,192	20,980	16,136	70,822	17,829	18,927	23,754	16,926	77,436	70,991	74,237	76,617	76,645
Total GWh generated	**24,697**	**26,261**	**71,156**	**74,118**	**71,960**	**64,697**	**15,526**	**15,526**	**19,586**	**14,854**	**65,492**	**16,723**	**17,923**	**21,474**	**15,878**	**71,988**	**65,875**	**68,239**	**71,450**	**70,974**
Natural gas price assumption	$5.89	$8.89	$6.99	$6.94	$8.85	$3.92	$5.30	$4.09	$4.38	$3.80	$4.39	$4.11	$4.31	$4.28	$3.33	$3.99	$2.90	$3.76	$4.14	$4.10
Revenues	**$2,104**	**$2,400**	**$5,585**	**$5,989**	**$6,885**	**$8,952**	**$2,215**	**$2,133**	**$2,685**	**$1,816**	**$8,849**	**$1,995**	**$2,278**	**$2,674**	**$1,659**	**$8,606**	**$7,898**	**$7,951**	**$8,375**	**$8,763**
yoy % chg		14.1%	132.7%	7.2%	15.0%	30.0%	33.6%	-4.8%	-7.9%	-15.2%	-1.2%	-9.9%	6.8%	-0.4%	-8.6%	-2.7%	-8.2%	0.7%	5.3%	-4.5%
Cost of good sold	$1,290	$1,829	$3,265	$3,378	$3,598	$5,323	$1,638	$1,329	$1,835	$1,278	$6,073	$1,324	$1,688	$2,053	$1,090	$6,075	$5,616	$5,915	$5,968	$6,255
SG&A	$197	$176	$276	$309	$319	$350	$130	$139	$172	$157	$598	$143	$187	$169	$180	$639	$635	$648	$661	$636
Other	$46	$12	$36	$84	$46	$102	($14)	$13	$14	$19	$32	$9	$12	$171	$12	$204	$48	$48	$48	$211
Adjusted EBITDA	**$971**	**$731**	**$1,476**	**$2,240**	**$2,291**	**$2,618**	**$601**	**$693**	**$777**	**$443**	**$2,514**	**$455**	**$517**	**$456**	**$384**	**$1,814**	**$1,747**	**$1,488**	**$1,827**	**$1,873**
% Margin	46.2%	30.5%	26.4%	37.4%	33.3%	29.2%	27.1%	32.5%	28.9%	24.4%	28.4%	22.8%	22.7%	17.1%	23.1%	21.1%	22.1%	18.7%	21.8%	21.4%
Less: Adjustments	$308	$286	($569)	($53)	($707)	($503)	$123	$11	$86	$71	$291	$442	$137	$191	($16)	$754	$136	$136	$136	$841
EBITDA	$663	$445	$2,045	$2,293	$2,998	$3,121	$478	$682	$691	$372	$2,223	$13	$380	$267	$400	$1,060	$1,611	$1,352	$1,691	$1,032
% Margin	31.5%	18.5%	36.6%	38.3%	43.5%	34.9%	21.6%	32.0%	25.7%	20.5%	25.1%	0.7%	16.7%	10.0%	24.1%	12.3%	20.4%	17.0%	20.2%	11.8%
Depreciation and amortization	$179	$158	$590	$658	$649	$818	$202	$208	$210	$218	$838	$206	$222	$238	$213	$878	$855	$897	$925	$883
EBIT	**$390**	**$225**	**$1,418**	**$1,560**	**$2,273**	**$2,159**	**$258**	**$444**	**$454**	**$152**	**$1,388**	**$314**	**$289**	**$43**	**$184**	**$810**	**$744**	**$444**	**$753**	**$778**
% Margin	18.5%	9.4%	25.4%	26.0%	33.0%	24.1%	11.6%	20.8%	16.9%	8.4%	14.8%	15.7%	11.8%	1.6%	11.1%	9.4%	9.4%	5.6%	9.0%	8.8%
Interest expense	$255	$177	$590	$702	$583	$634	$153	$147	$169	$163	$632	$173	$167	$164	$167	$671	$700	$746	$773	$667
Other (income) expense	($94)	($62)	($37)	($75)	($76)	($144)	($18)	($30)	($27)	($2)	($77)	$506	$111	$14	($3)	$628	($12)	($12)	($12)	$629
EBT	**$229**	**$110**	**$865**	**$933**	**$1,766**	**$1,669**	**$123**	**$327**	**$312**	**($8)**	**$753**	**($365)**	**($9)**	**($135)**	**$21**	**($488)**	**$56**	**($290)**	**($8)**	**($518)**
Tax provision (benefit)	$74	$42	$322	$377	$713	$728	$65	$117	$89	$6	$277	($105)	($630)	($80)	$4	($811)	$14	($73)	($2)	($809)
Minority interests	$0	$0	$0	$0	$0	($1)	$0	($1)	$0	$0	($1)	$0	$0	$0	$0	$0	$0	$0	$0	$0
Income from continuing operations	**$155**	**$68**	**$543**	**$556**	**$1,053**	**$942**	**$58**	**$211**	**$223**	**($15)**	**$477**	**($260)**	**$621**	**($55)**	**$17**	**$323**	**$42**	**($218)**	**($6)**	**$291**
Dividends for preferred shares	$0	$20	$50	$55	$55	$33	$2	$3	$2	$2	$9	$2	$3	$2	$2	$9	$9	$9	$9	$9
Income from discontinued operations, net	$31	$16	$78	$17	$172	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Net income	**$186**	**$64**	**$571**	**$518**	**$1,170**	**$909**	**$56**	**$208**	**$221**	**($17)**	**$468**	**($262)**	**$618**	**($57)**	**$15**	**$314**	**$33**	**($227)**	**($15)**	**$282**
Cash flow analysis																				
Net income (loss)	$155	$68	$543	$556	$1,053	$942	$58	$211	$223	($15)	$477	($260)	$621	($55)	$17	$323	$42	($218)	($6)	$291
Depreciation and amortization	$215	$195	$807	$661	$649	$818	$202	$208	$210	$218	$838	$205	$222	$238	$213	$878	$855	$897	$925	$883
Other	$181	($188)	($838)	$306	($153)	$467	($41)	$191	$46	$233	$429	$312	($689)	$96	($5)	($86)	$231	$293	$287	$152
Working capital	$94	($7)	$197	($6)	($70)	($121)	($105)	($119)	$57	$46	($121)	($241)	($61)	$80	$131	($91)	$7	$47	($19)	($176)
Cash flow from operating activities	**$645**	**$68**	**$408**	**$1,517**	**$1,479**	**$2,106**	**$114**	**$491**	**$536**	**$482**	**$1,623**	**$216**	**$93**	**$359**	**$355**	**$1,023**	**$1,135**	**$1,018**	**$1,187**	**$1,150**
Maintenance Capex	($37)	($37)	($74)	($210)	($182)	($250)	($69)	($1)	($49)	($80)	($199)	($49)	($83)	($51)	($51)	($214)	($250)	($225)	($225)	($243)
Environmental Capex	($18)	($18)	($11)	($74)	($188)	($169)	($41)	($50)	($41)	($52)	($184)	($45)	($31)	($43)	($51)	($190)	($55)	($203)	($173)	($191)
Discretionary FCF	**$590**	**$13**	**$323**	**$1,233**	**$1,109**	**$1,687**	**$4**	**$440**	**$446**	**$350**	**$1,240**	**$122**	**($21)**	**$265**	**$253**	**$619**	**$830**	**$590**	**$789**	**$716**
Discretionary Capex and acquisitions	($64)	($51)	($136)	($197)	($529)	($316)	($75)	($94)	($70)	($84)	($323)	($125)	($506)	($422)	($23)	($1,076)	($825)	($226)	($162)	($1,137)
Preferred stock dividends	($20)	($20)	($50)	($55)	($55)	($33)	($2)	($3)	($2)	($2)	($9)	($2)	($3)	($2)	($3)	($10)	($10)	($10)	($10)	($9)
Payment for treasury stock	($405)	($250)	($732)	($353)	($185)	($330)	$0	($50)	($130)	$0	($180)	($130)	$0	($248)	($52)	($430)	($480)	($400)	($400)	($378)
Cash dividend to common shareholders	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($30)	($80)	($100)	$0
Free Cash Flow	**$101**	**($308)**	**($595)**	**$628**	**$340**	**$1,008**	**($73)**	**$293**	**$244**	**$264**	**$728**	**($135)**	**($530)**	**($407)**	**$176**	**($898)**	**($435)**	**($126)**	**$127**	**($808)**

Source: [redacted] and Company Reports

EFTA00606162

Dave Katz, CFA
[redacted]

NRG Energy, Inc.

FINANCIAL SUMMARY ($ mn)

Balance sheet data	Actual Full Year FYE 2004	Actual Full Year FYE 2005	Actual Full Year FYE 2006	Restated Full Year FYE 2007	Actual Full Year FYE 2008	Actual Full Year FYE 2009	Actual 1Q10 31-Mar-10	Actual 2Q10 30-Jun-10	Actual 3Q10 30-Sep-10	Actual 4Q10 31-Dec-10	Actual Full Year FYE 2010
Cash and cash equivalents	$1,100	$506	$795	$1,132	$1,494	$2,304	$1,813	$2,168	$3,447	$2,951	$2,951
Restricted cash	$113	$64	$44	$29	$16	$2	$7	$13	$19	$8	$8
Senior Secured debt	**$0**	**$0**	**$3,148**	**$2,816**	**$2,642**	**$2,213**	**$1,984**	**$1,984**	**$1,984**	**$1,759**	**$1,759**
Recourse debt	**$2,185**	**$1,535**	**$7,859**	**$7,516**	**$7,342**	**$7,685**	**$7,436**	**$7,436**	**$8,602**	**$8,356**	**$8,386**
Total debt	**$3,173**	**$2,218**	**$8,793**	**$8,403**	**$8,179**	**$8,447**	**$8,827**	**$8,199**	**$9,249**	**$9,241**	**$9,241**
Minority interest	$6	$1	$1	$0	$7	$12	$12	$17	$17	$17	$17
3.625% convertible perpetual preferred stock	$0	$246	$247	$247	$247	$247	$247	$248	$248	$248	$248
4.00% convertible perpetual preferred stock	$406	$406	$406	$406	$406	$149	$0	$0	$0	$0	$0
5.75% convertible perpetual preferred stock	$0	$0	$486	$486	$447	$0	$0	$0	$0	$0	$0
Shareholder equity	$2,286	$1,625	$4,766	$4,612	$6,283	$7,536	$8,009	$8,013	$8,204	$8,055	$8,085
Total capitalization	**$5,871**	**$4,696**	**$14,699**	**$14,154**	**$15,549**	**$16,391**	**$16,295**	**$16,477**	**$17,718**	**$17,561**	**$17,561**
Net Debt	$2,073	$1,712	$7,998	$7,271	$6,685	$6,143	$6,214	$6,031	$5,802	$6,290	$6,290
Discretionary FCF as % of total debt	18.6%	0.6%	3.7%	14.7%	13.6%	28.8%	20.9%	19.7%	17.2%	13.4%	13.4%
Credit statistics [1]											
EBITDA/Net Interest Expense	3.8x	4.1x	2.5x	3.2x	3.9x	4.1x	4.2x	4.2x	4.1x	4.0x	4.8x
EBITDA - CapEx/Net Interest Expense	3.3x	3.5x	2.1x	2.5x	2.4x	3.0x	3.2x	3.1x	3.8x	2.9x	2.9x
Secured Debt/EBITDA	0.8x	0.8x	2.1x	1.3x	1.2x	0.8x	0.7x	0.7x	0.8x	0.7x	0.7x
Recourse Debt/EBITDA	2.3x	2.1x	5.3x	3.4x	3.2x	2.9x	2.7x	2.8x	3.4x	3.3x	3.3x
Total Debt/EBITDA	3.3x	3.8x	6.0x	3.8x	3.6x	3.2x	2.9x	3.1x	3.6x	3.7x	3.7x
Net Debt/EBITDA	2.1x	2.3x	5.4x	3.2x	2.9x	2.3x	2.3x	2.2x	2.3x	2.5x	2.5x
Secured Debt/Cap	0%	0%	21%	20%	17%	14%	12%	12%	11%	10%	10%
Recourse Debt/Cap	37%	33%	53%	53%	47%	47%	46%	45%	49%	48%	48%
Total Debt/Cap	54%	47%	60%	59%	53%	52%	49%	50%	52%	53%	53%
Net Debt/Cap	35%	36%	54%	51%	43%	37%	38%	37%	33%	36%	36%
Secured Debt/GWh produced	$0	$0	$44,241	$37,993	$36,715	$34,048	$38,479	$30,704	$29,994	$26,858	$26,858
Recourse Debt/GWh produced	$88,472	$58,452	$118,447	$101,406	$102,029	$117,929	$114,237	$115,076	$138,046	$126,846	$128,046
Total Debt/GWh produced	$128,477	$84,460	$123,574	$113,373	$113,680	$129,960	$123,316	$126,884	$139,827	$141,101	$141,181
Net Debt/GWh produced	$83,938	$68,192	$112,401	$98,100	$92,889	$94,512	$95,463	$83,333	$87,715	$96,842	$96,042

Balance sheet data	Actual 1Q11 31-Mar-11	Actual 2Q11 30-Jun-11	Actual 3Q11 30-Sep-11	Estimate 4Q11 31-Dec-11	Estimate Full Year FYE 2011	Estimate Full Year FYE 2012	Estimate Full Year FYE 2013	Estimate Full Year FYE 2014	Actual LTM 30-Sep-11
Cash and cash equivalents	$2,711	$1,909	$1,127	$1,299	$1,299	$848	$706	$816	$1,127
Restricted cash	$13	$145	$441	$441	$441	$441	$441	$441	$441
Senior Secured debt	**$1,604**	**$1,588**	**$1,592**	**$1,588**	**$1,588**	**$1,572**	**$1,556**	**$1,540**	**$1,592**
Recourse debt	**$8,289**	**$7,919**	**$7,924**	**$7,920**	**$7,863**	**$7,904**	**$7,888**	**$7,872**	**$7,924**
Total debt	**$8,981**	**$9,089**	**$9,298**	**$9,294**	**$9,237**	**$10,639**	**$11,522**	**$11,566**	**$9,298**
Minority interest	$0	$158	$162	$162	$162	$162	$162	$162	$162
3.625% convertible perpetual preferred stock	$248	$248	$248	$248	$248	$248	$248	$248	$248
4.00% convertible perpetual preferred stock	$0	$0	$0	$0	$0	$0	$0	$0	$0
5.75% convertible perpetual preferred stock	$0	$0	$0	$0	$0	$0	$0	$0	$0
Shareholder equity	$7,601	$8,170	$7,770	$7,733	$7,733	$7,336	$6,829	$6,114	$7,770
Total capitalization	**$16,830**	**$17,585**	**$17,478**	**$17,437**	**$17,380**	**$18,385**	**$18,561**	**$18,090**	**$17,478**
Net Debt	$6,270	$7,070	$8,171	$7,995	$7,938	$9,791	$10,817	$10,750	$8,171
Discretionary FCF as % of total debt	15.1%	10.0%	7.7%	6.7%	6.7%	7.8%	5.1%	6.8%	7.7%
Credit statistics [1]									
EBITDA/Net Interest Expense	3.6x	3.3x	2.8x	2.7x	2.7x	2.5x	2.0x	2.4x	2.8x
EBITDA - CapEx/Net Interest Expense	2.5x	1.5x	0.5x	0.5x	0.5x	0.9x	1.1x	1.7x	0.5x
Secured Debt/EBITDA	0.7x	0.7x	0.8x	0.9x	0.8x	0.9x	1.0x	0.8x	0.8x
Recourse Debt/EBITDA	3.5x	3.6x	4.2x	4.4x	4.3x	4.5x	5.3x	4.3x	4.2x
Total Debt/EBITDA	3.8x	4.1x	5.0x	5.1x	5.1x	6.1x	7.7x	6.3x	5.0x
Net Debt/EBITDA	2.6x	3.2x	4.4x	4.4x	4.4x	5.6x	7.3x	5.9x	4.4x
Secured Debt/Cap	10%	9%	9%	9%	9%	9%	8%	9%	9%
Recourse Debt/Cap	49%	45%	45%	45%	45%	43%	42%	44%	45%
Total Debt/Cap	53%	51%	53%	53%	53%	58%	62%	64%	53%
Net Debt/Cap	37%	40%	47%	46%	46%	53%	58%	59%	47%
Secured Debt/GWh produced	$24,052	$23,131	$22,431	$22,056	$22,058	$23,883	$22,473	$21,553	$22,431
Recourse Debt/GWh produced	$124,293	$114,625	$111,647	$110,083	$109,211	$119,984	$113,926	$118,174	$111,647
Total Debt/GWh produced	$134,670	$130,483	$131,806	$129,087	$128,295	$161,582	$166,410	$161,874	$131,086
Net Debt/GWh produced	$94,019	$102,336	$115,127	$111,046	$110,254	$148,626	$156,232	$158,455	$115,127

Source: J.P Morgan and Company Reports. (1) Calculated using LTM Adjusted (cash flow) EBITDA

CAPITALIZATION

($ mn)	Actual 30-Sep-11	Leverage
Cash and cash equivalents	$1,127	
Restricted cash	$441	
Revolver due 2016	$0	
Term loan B facility due 2018	$1,592	
Recourse secured debt	**$1,592**	**0.8x**
7.375% senior notes due 2017	$1,090	
7.625% senior notes due 2018	$1,200	
8.50% senior notes due 2019	$700	
7.625% senior notes due 2019	$800	
8.25% senior notes due 2020	$1,100	
7.875% senior notes due 2021	$1,200	
Indian River Power LLC, tax-exempt bonds, due 2040	$57	
Indian River Power LLC Tax-Exempt Bonds due 2045	$126	
Dunkirk Power LLC tax-exempt bonds due 2042	$59	
Recourse debt	**$7,924**	**4.2x**
Non-recourse debt	$1,374	
Total debt	**$9,298**	**5.0x**
Minority interest	$162	
3.625% convertible perpetual preferred stock	$248	
Shareholders Equity	$7,770	
Total Capitalization	**$17,478**	

Source: J.P Morgan and Company Reports

ASSET COVERAGE

($ mn)	Estimate 15-Feb-12
Stock price (USD)	$17.04
Shares outstanding	230.0
Market value of equity	$3,919
Preferred Equity	$248
Net debt	$8,171
Minority interests	$162
Enterprise value	**$12,500**
Adjusted LTM EBITDA	$1,873
EV/LTM EBITDA	**6.7x**
Total Debt/EV	**74%**

Source: J.P Morgan and Company Reports

LIQUIDITY

($ mn)	Actual 30-Sep-11
Total cash	$1,127
Funds deposited by counterparties	$259
Restricted cash	$441
Revolver due 2016	$2,300
Outstanding	$0
Restrictions	$0
Letters of Credit	($1,949)
Revolver availability	$351
Liquidity incl. counterparty funds	**$2,178**
Funds deposited by counterparties	$259
Total Liquidity	**$1,919**

Source: J.P Morgan and Company Reports

DEBT AMORTIZATION SCHEDULE

($ mn)	Estimate 30-Sep-11
2011	$16
2012	$63
2013	$62
2014	$376
2015	$71
Thereafter	$8,699

Source: J.P Morgan and Company Reports

Edison Mission Energy update

We updated our Edison Mission Energy financial model in advance of earnings and following the downward move in the natural gas forward price curve. As we indicate in the *Natural gas price sensitivity* section of this report, Edison Mission is the most notable credit in the high yield IPP space that does not provide an estimate of the effect of a $1/MMBtu change in natural gas prices. Further, we believe the company is unlikely to provide 2012 EBITDA estimates in conjunction with its earnings release/call given that the 2012 Southern California Edison General Rate Case remains open. As such, analysts are unlikely to have clarity into the impact of recent forward curve price changes in the short-term.

Using the current forward curve (accessed in Bloomberg by NGA <CMDTY> <GO> CCRV <GO>) and assuming that natural gas price changes result in heat rate changes, we estimate that the company generates $77 million of adjusted EBITDA in 2012, $309 million in 2013, and $582 million in 2014. We estimate that the company would have $580 million of liquidity at the end of 2014, but this presupposes a full refinance of both the EME credit facility and the Midwest Generation credit facility. It also assumes that the 2013 notes are successfully refinanced. If the company were so inclined, it could likely refinance all three of these facilities as secured debt. Using 2013 EBITDA, this would imply secured gross leverage of 4.9x. Still, the ability to refinance has likely become more difficult as natural gas prices have fallen. Further, a refinance of all three as secured debt would layer the non-2013 notes.

We value Edison Mission's assets on a $/KW basis (see our initiation linked here for our original valuation), and do not feel that valuations should move in anything approaching a 1:1 relationship to natural gas prices. However, we do feel that as natural gas prices fall, the recovery value of the company's assets falls as well. Recovery values also fall as it becomes more likely that the existing notes are layered. Thus, we believe it is more easily posited that Edison Mission's bonds now trade ahead of recovery value whereas we believe they traded at or around recovery value just a few months ago. Further, over that period, given the fall in power prices, we believe the likelihood of a recovery scenario arising, has increased.

As such, **we are downgrading our recommendation for Edison Mission Energy credit to Neutral from Overweight.**

Edison Mission Energy

EIX

FINANCIAL SUMMARY ($ mn)

Fiscal year-end December Income statement data	Actual Full Year FYE 2006	Actual Full Year FYE 2007	Actual Full Year FYE 2008	Actual Full Year FYE 2009	Actual 1Q10 31-Mar-10	Actual 2Q10 30-Jun-10	Actual 3Q10 30-Sep-10	Actual 4Q10 31-Dec-10	Actual Full Year FYE 2010	Actual 1Q11 31-Mar-11	Actual 2Q11 30-Jun-11	Actual 3Q11 30-Sep-11	Estimate 4Q11 31-Dec-11	Estimate Full Year FYE 2011	Estimate Full Year FYE 2012	Estimate Full Year FYE 2013	Estimate Full Year FYE 2014	Actual LTM 30-Sep-11
Revenues	**$2,239**	**$2,580**	**$2,811**	**$2,377**	**$651**	**$493**	**$691**	**$588**	**$2,423**	**$550**	**$536**	**$595**	**$547**	**$2,228**	**$1,958**	**$2,214**	**$2,502**	**$2,289**
yoy % chg	-1.1%	15.2%	9.0%	-15.4%	6.4%	-11.5%	16.5%	-4.4%	1.9%	-15.5%	8.7%	-13.9%	-7.0%	-8.0%	-12.1%	13.1%	13.0%	-7.4%
Fuel	$645	$684	$747	$796	$213	$161	$228	$207	$809	$182	$174	$242	$219	$817	$926	$986	$1,031	$805
Plant operations	$511	$584	$621	$579	$158	$226	$135	$135	$654	$192	$240	$136	$169	$737	$700	$680	$687	$703
Plant operating leases	$176	$176	$176	$177	$44	$45	$44	$45	$178	$44	$44	$44	$45	$177	$180	$180	$180	$177
Administrative and general	$140	$204	$207	$196	$47	$44	$43	$48	$182	$43	$45	$40	$44	$172	$176	$181	$185	$176
Other	$0	$6	$14	$4	$0	$3	$0	$42	$45	$0	$8	$0	$0	$8	$0	$0	$0	$50
Adjusted EBITDA	**$847**	**$1,020**	**$1,248**	**$805**	**$238**	**$55**	**$315**	**$182**	**$795**	**$106**	**$100**	**$201**	**$104**	**$511**	**$77**	**$309**	**$582**	**$589**
% Margin	37.8%	39.5%	44.4%	33.9%	36.6%	11.2%	45.6%	31.0%	32.8%	19.3%	18.7%	33.8%	19.1%	23.0%	3.9%	13.9%	23.3%	26.0%
Adjustments	$16	$35	$58	$60	$14	$20	$13	$55	$107	$18	$29	$11	$18	$76	$61	$68	$79	$113
EBITDA	$831	$985	$1,190	$745	$224	$35	$302	$127	$688	$88	$71	$190	$86	$435	$16	$241	$503	$476
% Margin	37.1%	38.2%	42.3%	31.3%	34.4%	7.1%	43.7%	21.6%	28.4%	16.0%	13.2%	31.9%	15.8%	19.5%	0.8%	10.9%	20.1%	21.0%
Depreciation and amortization	$144	$162	$194	$236	$59	$60	$62	$67	$248	$72	$79	$78	$80	$309	$315	$331	$357	$296
EBIT	**$623**	**$764**	**$852**	**$389**	**$130**	**($46)**	**$179**	**$44**	**$307**	**$17**	**($54)**	**$55**	**($10)**	**$8**	**($338)**	**($144)**	**$62**	**$62**
% Margin	27.8%	29.6%	30.3%	16.4%	20.0%	-9.3%	25.9%	7.5%	12.7%	3.1%	-10.1%	9.2%	-1.9%	0.3%	-17.3%	-6.5%	2.5%	2.7%
Equity in income from unconsolidated affiliates	($186)	($200)	($122)	($100)	($17)	($20)	($61)	($6)	($104)	$5	($17)	($55)	($16)	($83)	($31)	($46)	($76)	($73)
Impairment loss on equity method investment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Dividend income (from projects)	($2)	($12)	($10)	($12)	($16)	($1)	($1)	($1)	($19)	($1)	($27)	($1)	($1)	($30)	($8)	($8)	($8)	($30)
Interest income	($97)	($85)	($26)	($7)	($1)	($1)	$0	$0	($2)	($1)	$0	$0	$0	($1)	($3)	($0)	$4	($1)
Interest expense	$279	$273	$279	$296	$68	$66	$64	$65	$263	$80	$80	$81	$80	$321	$331	$348	$357	$306
Loss on early extinguishment of debt	$146	$160	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other expense (income), net	($21)	($6)	($12)	($5)	($2)	$0	$1	($8)	($9)	($3)	($2)	($1)	$0	($6)	$0	$0	$0	($14)
EBT	**$504**	**$634**	**$743**	**$217**	**$98**	**($90)**	**$176**	**($6)**	**$178**	**($63)**	**($88)**	**$31**	**($74)**	**($194)**	**($627)**	**($437)**	**($216)**	**($126)**
Tax provision (benefit)	$189	$219	$243	$16	$23	($70)	$58	$8	$19	($45)	($57)	($2)	($48)	($152)	($312)	($243)	($165)	($96)
Minority interests	($1)	($1)	$0	($3)	$0	$0	$0	($1)	($1)	$0	$0	$0	$0	$0	$0	$0	$0	($1)
Income from continuing operations	**$316**	**$416**	**$500**	**$204**	**$75**	**($20)**	**$118**	**($13)**	**$160**	**($18)**	**($31)**	**$33**	**($26)**	**($42)**	**($315)**	**($194)**	**($51)**	**($29)**
Non-recurring and unusual items, net of tax	$98	($2)	$1	($7)	$6	$3	($5)	$0	$4	($2)	($1)	$0	$0	($3)	$0	$0	$0	($3)
Net income	**$414**	**$414**	**$501**	**$197**	**$81**	**($17)**	**$113**	**($13)**	**$164**	**($20)**	**($32)**	**$33**	**($26)**	**($45)**	**($315)**	**($194)**	**($51)**	**($32)**
Cash flow analysis																		
Net Income (loss) from continuing operations	$316	$416	$500	$204	$75	($20)	$118	($13)	$160	($18)	($31)	$33	($26)	($42)	($315)	($194)	($51)	($29)
Depreciation and amortization	$158	$172	$202	$246	$63	$62	$65	$70	$260	$81	$83	$79	$82	$325	$323	$339	$365	$313
Proceeds from U.S. Treasury grants	$0	$0	$0	$0	$0	$92	$0	$0	$92	$0	$0	$310	$41	$351	$95	$0	$0	$310
Other	$516	$200	$30	$297	$42	$52	($15)	$267	$346	$22	($86)	($106)	($48)	($183)	($312)	($243)	($165)	$117
Working capital	$232	($272)	($4)	($496)	$138	($336)	$256	($310)	($252)	$27	($183)	$334	($117)	$51	($133)	($175)	($156)	($142)
Cash flow from operating activities	**$1,222**	**$516**	**$728**	**$251**	**$318**	**($150)**	**$424**	**$14**	**$606**	**$112**	**($207)**	**$650**	**($68)**	**$502**	**($343)**	**($274)**	**($6)**	**$569**
Capex	($310)	($540)	($552)	($283)	($83)	($230)	($156)	($295)	($764)	($111)	($127)	($239)	($213)	($690)	($764)	($616)	($403)	($772)
Project debt	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$279	$279	$572	$189	($5)	$0
Cash dividend	($51)	($925)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Free Cash Flow	**$861**	**($949)**	**$176**	**($32)**	**$235**	**($380)**	**$268**	**($281)**	**($158)**	**$1**	**($334)**	**$411**	**($2)**	**$91**	**($535)**	**($701)**	**($413)**	**($203)**

Source: [redacted] and Company Reports

Edison Mission Energy

FINANCIAL SUMMARY ($ mn)

Balance sheet data	Actual Full Year FYE 2006	Actual Full Year FYE 2007	Actual Full Year FYE 2008	Actual Full Year FYE 2009	Actual 1Q10 31-Mar-10	Actual 2Q10 30-Jun-10	Actual 3Q10 30-Sep-10	Actual 4Q10 31-Dec-10	Actual Full Year FYE 2010	Actual 1Q11 31-Mar-11	Actual 2Q11 30-Jun-11	Actual 3Q11 30-Sep-11	Estimate 4Q11 31-Dec-11	Estimate Full Year FYE 2011	Estimate Full Year FYE 2012	Estimate Full Year FYE 2013	Estimate Full Year FYE 2014	Actual LTM 30-Sep-11
Cash and cash equivalents	$1,213	$994	$1,807	$798	$1,034	$707	$1,097	$1,075	$1,075	$1,183	$833	$1,235	$1,233	$1,233	$698	($3)	($416)	$1,235
Short-term investments	$558	$81	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Restricted cash	$91	$48	$43	$69	$96	$25	$15	$2	$2	$10	$11	$15	$15	$15	$15	$15	$15	$15
Total recourse debt	**$2,356**	**$4,392**	**$4,768**	**$4,379**	**$4,320**	**$4,320**	**$4,265**	**$4,265**	**$4,265**	**$4,213**	**$4,213**	**$4,160**	**$4,160**	**$4,160**	**$4,045**	**$3,920**	**$3,786**	**$4,160**
Total debt	**$3,846**	**$4,502**	**$5,341**	**$4,645**	**$4,701**	**$4,706**	**$4,793**	**$5,051**	**$5,051**	**$5,111**	**$5,100**	**$5,034**	**$5,313**	**$5,313**	**$5,770**	**$5,835**	**$5,686**	**$5,034**
Minority interests	$47	$42	$80	$76	$5	$5	$5	$4	$4	$4	$3	$2	$2	$2	$2	$2	$2	$2
Shareholder equity	$2,582	$1,923	$2,684	$2,761	$2,927	$2,776	$2,926	$2,817	$2,817	$2,794	$2,737	$2,732	$2,706	$2,706	$2,391	$2,197	$2,146	$2,732
Total capitalization	**$6,475**	**$6,467**	**$8,105**	**$7,482**	**$7,633**	**$7,487**	**$7,724**	**$7,872**	**$7,872**	**$7,909**	**$7,840**	**$7,768**	**$8,020**	**$8,020**	**$8,163**	**$8,033**	**$7,844**	**$7,768**
Net Debt	$2,633	$3,508	$3,534	$3,849	$3,667	$3,999	$3,696	$3,976	$3,976	$3,928	$4,267	$3,799	$4,079	$4,079	$5,072	$5,837	$6,112	$3,799
Discretionary FCF as % of total debt	22.4%	NM	3.3%	NM	0.3%	1.2%	3.9%	NM	NM	NM	NM	NM	1.4%	1.7%	NM	NM	NM	NM
Liquidity		**$1,998**	**$1,888**	**$1,756**	**$1,996**	**$1,668**	**$2,057**	**$2,056**	**$2,056**	**$2,164**	**$1,778**	**$2,231**	**$2,229**	**$2,229**	**$1,694**	**$993**	**$580**	**$2,231**
Credit statistics [1]																		
EBITDA/ Interest Expense	3.0x	3.7x	4.5x	2.7x	2.9x	2.5x	3.0x	3.0x	3.0x	2.4x	2.4x	1.9x	1.6x	1.6x	0.2x	0.9x	1.6x	1.9x
EBITDA - CapEx / Interest Expense	1.9x	1.8x	2.5x	1.8x	1.9x	0.8x	0.8x	0.1x	0.1x	NM	0.0x	NM	NM	NM	NM	NM	0.5x	NM
Recourse Debt/EBITDA	2.8x	4.3x	3.8x	5.4x	5.2x	6.2x	5.3x	5.4x	5.4x	6.4x	6.0x	7.1x	8.1x	8.1x	52.3x	12.7x	6.5x	7.1x
Total Debt/EBITDA	4.5x	4.4x	4.3x	5.8x	5.6x	6.8x	6.0x	6.4x	6.4x	7.8x	7.3x	8.5x	10.4x	10.4x	74.7x	18.9x	9.8x	8.5x
Net Debt/EBITDA	3.1x	3.4x	2.8x	4.8x	4.4x	5.7x	4.6x	5.0x	5.0x	6.0x	6.1x	6.4x	8.0x	8.0x	65.6x	18.9x	10.5x	6.4x
Recourse Debt/Cap	36%	68%	59%	59%	57%	58%	55%	54%	54%	53%	54%	54%	52%	52%	50%	49%	48%	54%
Total Debt/Cap	59%	70%	66%	62%	62%	63%	62%	64%	64%	65%	65%	65%	66%	66%	71%	73%	73%	65%
Net Debt/Cap	41%	54%	44%	51%	48%	53%	48%	51%	51%	50%	54%	49%	51%	51%	62%	73%	78%	49%

(1) Calculated using LTM Adjusted EBITDA

CAPITALIZATION

($ mn)	Actual 30-Sep-11	Leverage
Cash and cash equivalents	$1,235	
Short-term investments	$0	
Restricted cash	$15	
EME credit facility	$0	
7.50% senior notes due 2013	$500	
7.75% senior notes due 2016	$500	
7.00% senior notes due 2017	$1,200	
7.20% senior notes due 2019	$800	
7.625% senior notes due 2027	$700	
8.56% Midwest Generation Series B Pass-Through Certificates due 2016	$460	
Recourse debt	**$4,160**	**7.1x**
Non-recourse debt	$874	
Total debt	**$5,034**	**8.5x**
Minority interests	$2	
Shareholders Equity	$2,732	
Total Capitalization	**$7,768**	

Source: [redacted] and Company Reports
Note: 8.56% Pass-Through Certs estimated 2-Jul-11 balance of $460 million

LIQUIDITY

($ mn)	Actual 30-Sep-11
Cash	$1,235
EME credit facility commitment due June 2012	$564
Outstanding	$0
Restrictions	$0
Outstanding letters of credit	($65)
Net	**$499**
Midwest Generation credit facility commitment due June 2012	$500
Outstanding	$0
Restrictions	$0
Outstanding letters of credit	($3)
Net	**$497**
Total Liquidity	**$2,231**

Source: [redacted] and Company Reports

ASSET COVERAGE

($ mn)	Estimate 30-Sep-11
EV/EBITDA assumption	**7.0x**
EBITDA	$589
EV	**$4,123**
Debt	$5,034
OpCo Debt/EV	**101%**
HoldCo Debt/EV	**122%**

Source: [redacted] and Company Reports

DEBT AMORTIZATION SCHEDULE

($ mn)	Estimate 30-Sep-11
2011	$24
2012	$54
2013	$652
2014	$273
2015	$70
Thereafter	$3,961

Source: [redacted] and Company Reports

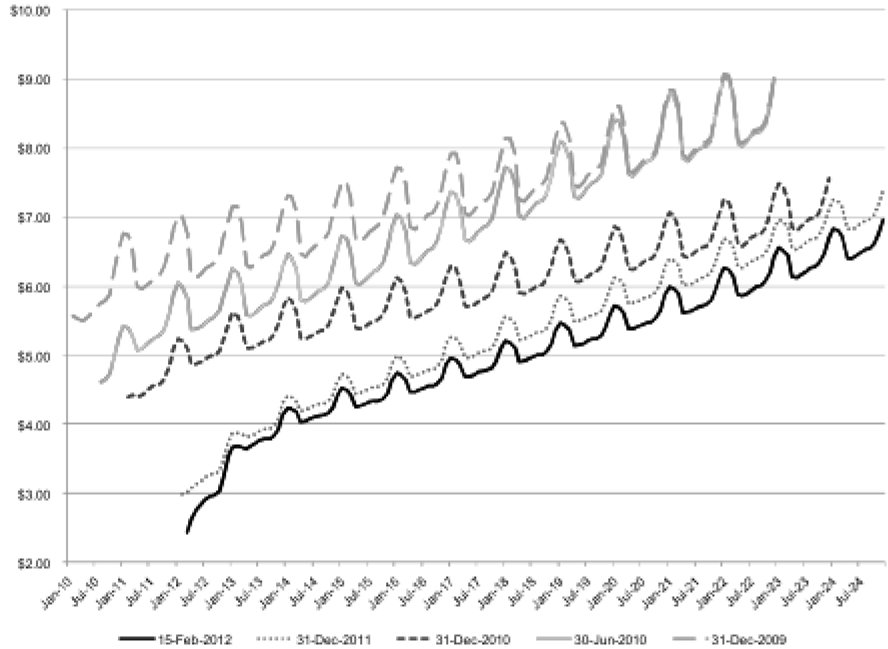
EFTA00606166

Natural gas price sensitivity

Natural gas prices have fallen substantially over the last two years. The curve as of 31-Dec-11 averaged roughly $4.37 per MMBtu, compared to $6.96 per MMBtu as of 31-Dec-09, for the roughly six-year period from February 2012 through the end of 2017.

However, following the end of the year, prices fell further and now average $4.10 per MMBtu over the same 2012 – 2017 period. The forward curve currently does not move above $4.00 per MMBtu until December 2013.

Figure 1: RPM capacity sold in PJM base residual auction - price per MW-day



Source: Company reports.

Given the rapid and substantial decline in natural gas prices, we believe many investors will want to know the extent to which IPP's are exposed to natural gas price moves.

There tends to be an inverse relationship between natural gas prices and heat rates. As natural gas prices fall, off-peak market heat rates rise as gas plants displace coal plants. As Calpine indicated on its conference call, some of its competitors' coal plants are now cycling daily while the company's combined cycles are now running baseload in several regions. In on-peak hours, a higher market heat rate is required to cover generators fixed charges incurred for starting and running plants.

We believe that most IPPs do not account for this inverse relationship, instead providing sensitivities as if heat rates were fixed. As such, following the current fall in natural gas prices, we would expect IPPs to decrease their sensitivities to further equal moves in natural gas prices. We believe this was to some extent behind the decline in the sensitivity for a $1/MMBtu change in natural gas prices as disclosed in Calpine's 3Q11 and 4Q11 conference call slides. However, we also believe the decline was more pronounced than it would be at other IPPs given Calpine's natural exposure to greater generation volumes as natural gas prices fall.

Table 1: Calpine's estimated effect of a $1/MMBtu decrease in natural gas prices ($ mn)

Sensitivity for $1/MMBtu decrease	As of 3Q11	As of 4Q11
2012	$149	$61
2013	$340	$224
2014	$366	$271

Source: Company reports and [redacted]. Morgan estimates.

GenOn, NRG and TXU provide data on their 3Q11 conference call presentations indicating the extent to which they are exposed to swings in natural gas prices. We have estimated Edison Mission Energy's sensitivity given that the company does not provide the data. As we have indicated, we believe the numbers below, especially for Edison Mission, likely overstate true exposure. In our models, we have attempted to adjust for heat rate effects. For example, our Edison Mission model does not show the same EBITDA sensitivity as indicated below.

Table 2: Estimated effect of a $1/MMBtu decrease in natural gas prices ($ mn) from 3Q11 data

Sensitivity for $1/MMBtu change	EME	GEN	NRG	TCEH
2012	$487	$97	$56	$15
2013	$561	$202	$344	$245
2014	$576	$230	$430	$395
2015			$455	$550

Source: Company reports and [redacted]. Morgan estimates.
Note: NRG is for baseload generation sensitivity only.

We can then compare the data to the company's LTM EBITDA and liquidity. We note that the CPN data is from 4Q11 while the other credits are from 3Q11. Differing methodologies may make intercompany comparisons a bit apples-and-oranges, but we believe it is still a useful starting point.

Table 3: Implied change in LTM EBITDA and liquidity for a $1/MMBtu change in natural gas prices

Change in LTM EBITDA as % of LTM EBITDA	EME	GEN	NRG	TCEH	CPN
2012	83%	14%	3%	0%	4%
2013	95%	29%	18%	7%	13%
2014	98%	33%	23%	11%	16%
2015			24%	15%	
Change in Liquidity as % of LTM EBITDA	**EME**	**GEN**	**NRG**	**TCEH**	**CPN**
2012	22%	4%	3%	1%	3%
2013	25%	9%	18%	10%	11%
2014	26%	10%	22%	16%	13%
2015			24%	22%	

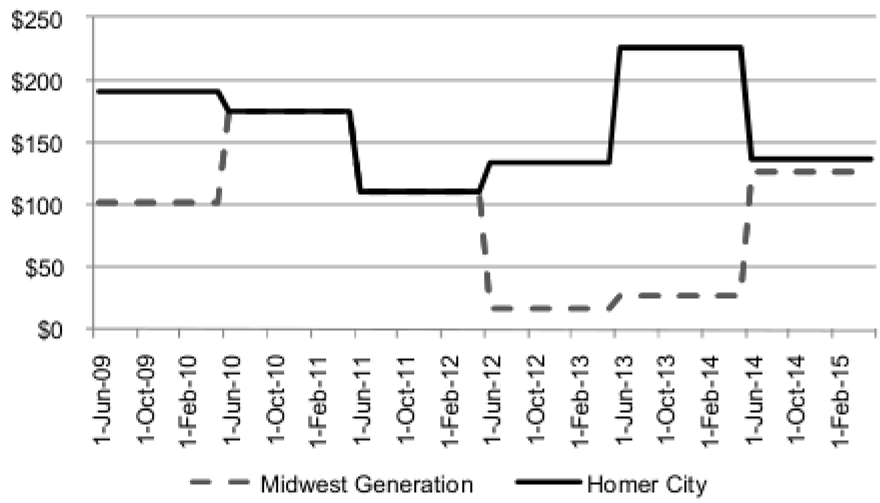
Source: Company reports and [redacted]. Morgan estimates.
Note: NRG is for baseload generation sensitivity only. TCEH adjusted EBITDA is as per the maintenance covenant. CPN data is from 4Q11. Other company data is from 3Q11.

EFTA00606168

PJM capacity auction

As winter winds its wily way through our weary souls wailing its abnormally tepid laments, we believe investors will look forward to that which awaits on the vernal horizon. The PJM Reliability Pricing Model ("RPM") Base Residual Auction is set to open on 7-May-12 and close on 11-May-12. The results are scheduled to be posted on 18-May-12. The RPM capacity period runs from 1-Jun to 31-May of the following year. The May-12 auction will be for the period running from 1-Jun-15 to 31-May-16. In the past few years, prices have varied substantially from one period to the next and within PJM's regions. As we illustrate for Edison Mission in the figure below, a producer with multiple plants can face drastically different prices from one year to the next and from one plant to the next, depending on the settlement price within PJM's regions.

Figure 2: RPM capacity sold in PJM base residual auction - price per MW-day



Source: Company reports.

We believe investors will likely want to know key high yield IPP's exposure to 2015/2016 the auction. In the below table, using data from the 2014/15 auction, we estimated the effect of a $25/MW-day change in the PJM RPM capacity clearing price on Calpine, Dynegy, Edison Mission, GenOn, and NRG Energy (TXU does not have PJM exposure). We sort the table for relative exposure.

EFTA00606169

Table 4: Estimated revenue effect of a $25/MW-day change in PJM capacity 2015/16 auction price

	LTM EBITDA ($mn)	Sensitivity ($mn) for a $25/MW-day move	Sensitivity as a % of LTM EBITDA
NRG Energy Inc	$1,873	$9	0.5%
Calpine	$1,726	$37	2.1%
Dynegy Holdings	$399	$14	3.4%
Edison Mission	$707	$58	8.2%
GenOn Energy	$698	$89	12.8%

Source: Company reports and [redacted]. Morgan estimates.

As can be seen, as a percentage of company EBITDA, GenOn has the most exposure to swings in the settlement price, followed by Edison Mission. We believe NRG Energy has very little exposure to the PJM auction. We believe Calpine also has relatively modest exposure.

Industry news

On 26-Jan-12, FirstEnergy announced that its generation subsidiaries would retire six older coal-fired power plants with total capacity of 2,689 MW located in Ohio, Pennsylvania and Maryland by 1-Sep-12. The company attributed its decision to close the plants to the EPA's Mercury and Air Toxics Standards (MATS), which were recently finalized, and other environmental regulations.

On 3-Feb-12, TVA said that it elected to accelerate the idling schedule of the four units at its Johnsonville plant, with total capacity of 576 MW, "due to operational issues on the remaining units at Johnsonville and to reduce costs."

On 7-Feb-12, the Midwest ISO said new clean air rules will force a shift from a primarily coal-driven generation base to one with more gas-fired power plants and renewables. MISO estimated $31 billion of retrofit and replacement costs that would place significant upward pressure on prices of up to $5/MWh, excluding potential pressure on gas prices. MISO said that in the medium-term, gas infrastructure in the Midwest would require $2 billion investment to meet resource adequacy needs (as much as 10 GW by 2016) in addition to harmonizing with the electricity markets.

On 8-Feb-12, FirstEnergy announced that its Monongahela Power Company subsidiary would be retiring three older coal-fired power plants with total capacity of 660 MW located in West Virginia by 1-Sep-12, citing high cost of compliance with the EPA's mercury rule and other environmental regulations.

On 9-Feb-12, the U.S. Nuclear Regulatory Commission approved Southern Co.'s plan for the first licenses to build two nuclear reactors in Georgia. This is the first approval of a new U.S. nuclear project in more than 30 years. In 2010, the Energy Department in 2010 awarded Southern and its partners conditional approval for an $8.3 billion loan guarantee for the project.

On 12-Feb-12, Public Utility Commission of Texas Chairman Donna Nelson said that the low cost of natural gas and power is removing the incentive to build baseload generation units in ERCOT, creating uncertainty as to whether Texas will have enough power to keep the lights on during peak periods of demand.

Recent company news

- **The AES Corporation (AES)**
  On 3-Jan-12, AES announced that its subsidiary, AES Eastern Energy, had filed for Chapter 11 bankruptcy protection. AES Eastern Energy operates over 1,000 MW of capacity at four facilities in New York. AES Corporation did not expect the bankruptcy filing to impact its previously disclosed FY11 guidance metrics.

  On 5-Jan-12, Moody's said the DPL acquisition had strengthened AES global portfolio by improving the scale, diversity and cash flow quality of its existing North American asset base and was a factor in Moody's upgrade of AES' Corporate Family Rating to Ba3 from B1 on 28-Nov-11. Moody's commented that AES' Ba3 corporate rating reflected its high leverage, the structural subordination of its recourse debt to the significant amount of non-recourse debt in its consolidated capital structure, and the risks associated with the regulatory and legal regimes in the company's countries of operation. These factors were partially offset by AES' large number of subsidiaries, the subsidiaries' wide geographic distribution, the significant proportion of the subsidiaries' cash flows that were subject to stable regulation or long-term contracts, and the company's good liquidity prospects for the next twelve months. The stable rating outlook reflected Moody's expectations for predictable parent operating cash flows over the next several years as the company integrates the DPL acquisition and completes certain construction projects, and that shareholder rewards programs would be neutral to the parent's credit quality. Moody's saw limited prospects for a rating upgrade, but said an upgrade was possible if AES' ratio of parent operating cash flows to parent level recourse debt exceeded 14% and cash coverage of parent interest expense was above 3.0x on a sustained basis. The rating could be downgraded if AES' parent level operating cash flow to parent level recourse debt fell below 10% for an extended period of time and a more aggressive financial policy focused on further increasing shareholder rewards was undertaken.

  On 3-Feb-12, The Valor Economico newspaper reported that Dobreve Energia SA, a Brazilian renewable energy developer, may sell wind projects with 205 MW of total capacity to utilities AES Corp, Energisa SA or EDF SA, citing unidentified financial market participants with knowledge of the negotiations. The newspaper said AES was at the most advanced stage of negotiations. The article also mentioned that the wind farms may receive investments totaling 1 billion reais (around US$581 million).

  On 6-Feb-12, a Bloomberg article, citing radio Horizont in Sofia, said that Bulgaria's Maritsa East coal mines suspended production as the overflowing Maritsa river had flooded access to the mines. According to the radio/article, the three power plants that are serviced by the mines – AES Galabovo AD (run by AES Corp), Maritsa East-2 and ContourGlobal Maritsa East-3 – had reduced their output.

- **Calpine Corporation (CPN)**
  On 27-Jan-12, Santa Rosa Press Democrat reported that Calpine's workers at The Geysers voted against union representation.

On 3-Feb-12, Calpine filed comments with the EPA, objecting to a proposed settlement agreement between the EPA and a group of Demand Response providers that, according to Calpine, would allow emergency backup diesel generators to quadruple their allowed operating hours without having to install appropriate air emissions controls. Calpine asserted that in addition to the direct adverse impact on air quality, allowing these dirtier units to participate in the market as capacity resources would displace investment in far cleaner and more reliable generation.

On the same day, the Sacramento Business Journal reported that Calpine had said it would have to shut down its Yuba City, CA gas-fired power plant if it does not secure financial help because it could not get a contract to sell power to a utility this year. CISO said it could not let the plant retire because it's need for capacity reasons.

On 10-Feb-12, Calpine reported 4Q11 adjusted EBITDA of $379 million, slightly above consensus' forecast of $373 million. Production increased 22% from the prior year to about 25 GWh. Total GWh generation declined 6% y/y in the West region. Generation was up 48% y/y in Texas, 5% y/y in the Southeastern region, and 81% y/y in the North region. We calculate free cash flow burn was $52 million after a $119 million stock repurchase during the quarter. Liquidity decreased $93 million sequentially to $2.0 billion. We estimate gross and net leverage ratios remained steady at 6.0x and 5.3x, respectively. The company tightened its FY12 adjusted EBITDA guidance to $1.6 billion to $1.725 billion from the previous $1.55 billion to $1.75 billion and adjusted free cash flow to $425- $550 million from the previous $375-$575 million. The new EBITDA guidance was in-line with consensus' forecast of $1.66 billion.

- **Dynegy Holdings LLC (DYN)**
  On 11-Jan-12, The U.S. Trustee appointed Susheel Kirpalani, a lawyer at Quinn Emanuel Urquhart & Sullivan LLP as an examiner to investigate the reorganization of Dynegy Inc. The appointment of the examiner followed a hearing last month in which U.S. Bankruptcy Judge Cecelia Morris in Poughkeepsie, New York, agreed that a probe into transactions leading up to the bankruptcy filing, and into whether creditors were harmed, was required.

  On 18-Jan-12, U.S. Bankruptcy Judge Cecelia Morris granted a motion by the court-appointed examiner in the Dynegy Holdings LLC bankruptcy to issue wide-ranging and expedited subpoenas. The examiner, Susheel Kirpalani, chairman of Quinn Emanuel Urquhart & Sulllivan LLP's bankruptcy and restructuring group in New York, has until March 12 to complete his report.

  On 13-Feb-12, The Wall Street Journal reported that the U.S. trustee, Tracy Hope Davis, was objecting to Dynegy's disclosure statement, which must provide lenders and creditors the information they need to make an informed vote accepting or rejecting the Chapter 11 plan, saying "the examiner has not yet completed his investigation and issued his report, without which, the debtor cannot provide adequate disclosure." The trustee said there was not enough information about the reasons for retaining equity holders' interests when creditors were not receiving full payment, the impact on creditors of pending litigation with U.S. Bank and the reason for releasing the liabilities of Dynegy affiliates not in bankruptcy.

- **Edison Mission Energy (EIX)**
  On 23-Jan-12, Edison Mission announced commissioning of the Pinnacle Wind Farm located on Green Mountain, near the Maryland-West Virginia border. The 23-turbine wind farm has a maximum generating capacity of 55 MW. The company said that the project would sell two-thirds of its output to the Maryland Department of General Services and one-third to the University of Maryland system.

  On 6-Jan-12, Edison Mission's subsidiary, Midwest Generation entered into a multi-year agreement for the transport of coal with the Union Pacific Railroad for a specified minimum amount of tons, effective 1-Jan-12. The company did not provide additional information on the agreement's details, which were expected to be provided in EME's 2011 10-K. In 2011, Midwest contracted to ship slightly over 17 million tons of coal around 1,200 miles from PRB mines. Our equity Surface Transportation analyst, Tom Wadewitz, estimates that costs could have increased around 50% from $13.77/ton to $20.40/ton implying around a $115 million increases in the company's expenses. This was in-line with the estimates in our published EME model.

  On 14-Feb-12, The Pittsburgh Post-Gazette reported that a coalition of five environmental groups filed notice on 13-Feb-12 that it would sue Edison International, citing unhealthy concentrations of sulfur dioxide emissions from the Homer City plant. The groups also released a Sierra Club report that questioned whether the $700 million in pollution controls that the company announced for the plant would reduce emissions enough to meet federal health-based limits. It called on Edison to instead invest in renewable wind and solar energy production facilities in central Pennsylvania. The 60-day notice of intent to sue was required by the U.S. Clean Air Act prior to the filing of a lawsuit in federal court and was delivered to the power plant owners Monday.

- **GenOn Energy, Inc. (GEN)**
  On 11-Jan-12, GenOn announced that its board of directors had appointed former Secretary of Energy Spencer Abraham and former Federal Energy Regulatory Commission chair and Deputy Secretary of Energy Betsy Moler to serve as directors.

  On 6-Feb-12, the New Jersey Environmental Protection Department filed a motion in federal court to intervene in GenOn's challenge to the federal Clean Air Act permit regarding the company's Portland, PA plant.

- **NRG Energy (NRG)**
  On 18-Jan-12, NRG said that MidAmerican Energy Holdings Company had completed an acquisition of a 49% interest in NRG's 290 MW Agua Caliente solar project.

  On 2-Feb-12, NRG through its subsidiary, Louisiana Generating, entered into definitive agreements for an 11-year contract extension through 2025 to provide power to the Washington-St. Tammany Electric and Claiborne Electric cooperatives. Both cooperatives filed applications with the Louisiana Public Service Commission on 1-Feb-12 seeking approval of the agreements. Together, the two contracts are for more than 450 MW of electrical load at peak demand.

  On 7-Feb-12, GCL-Poly Energy Holdings Ltd., China's biggest polysilicon

EFTA00606174

maker, set up a venture named Sunora with NRG Solar LLC to build sun-powered projects as it seeks to diversify from producing raw materials. Sunora will build projects using GCL-Poly's photovoltaic system equipment.

Dave Katz, CFA
([redacted]
[redacted]

In Case You Missed It: HY Utilities Reports

Date	Title
13-Dec-11	NRG Energy: Initiating Credit Coverage with an Overweight - A Christmas Treat
04-Nov-11	Edison Mission Energy: The Time Is Nigh to Adjudicate
21-Sep-11	Edison Mission Energy: Go, EME, Go: Initiating with an Overweight

Utilities credit tracker – STW ranked by Δm/m

Bond and JPMorgan HY Index STW	31-Dec-10	13-Jan-12	14-Feb-12	Tightened (widened) by Absolute Δm/m	Tightened (widened) by Absolute ΔYTD
EFH 6.500% 2024	1,664	1,519	1,405	115	259
AES 7.750% 2015	419	470	367	103	52
AES 8.000% 2017	445	506	420	87	26
EFH 10.875% 2017	1,655	1,506	1,432	74	223
EFH 6.550% 2034	1,489	1,261	1,188	73	301
AES 8.000% 2020	397	484	415	70	(18)
NRG 7.625% 2018		749	681	67	
CPN 7.250% 2017	534	563	499	65	35
AES 7.375% 2021		446	387	59	
AES 9.750% 2016	496	482	424	58	72
EFH 12.000% 2017	1,794	1,507	1,449	58	345
AES 7.750% 2014	425	377	323	54	102
EFH 10.000% 2020	667	776	723	54	(56)
EFH 10.000% 2020	667	776	723	54	(56)
EIX 7.750% 2016	913	1,783	1,753	30	(839)
EIX 7.000% 2017	935	1,807	1,778	29	(843)
EFH 9.750% 2019	711	856	831	25	(121)
EFH 9.750% 2019	711	856	831	25	(121)
NRG 8.500% 2019	547	756	734	22	(188)
CPN 7.500% 2021	442	531	510	21	(68)
EIX 7.625% 2027	778	1,277	1,256	21	(478)
NRG 7.375% 2017	496	590	572	17	(76)
NRG 8.250% 2020	511	714	697	17	(186)
EIX 7.200% 2019	863	1,615	1,602	13	(739)
CPN 7.875% 2023		529	517	13	
EFH 7.480% 2017	877	960	949	11	(71)
NRG 7.875% 2021		698	690	9	
EFH 7.460% 2015	780	702	696	7	84
GEN 7.625% 2014	560	755	751	4	(192)
NRG 7.625% 2019		722	724	(2)	
GEN 9.125% 2031	546	791	796	(5)	(251)
CPN 7.875% 2020	498	554	560	(7)	(62)
CPN 8.000% 2019	532	558	574	(16)	(43)
GEN 8.500% 2021	516	774	821	(47)	(304)
GEN 7.875% 2017	611	818	947	(128)	(336)
GEN 9.500% 2018	689	864	998	(134)	(310)
GEN 9.875% 2020	675	845	985	(140)	(310)
TXU 11.250% 2016	2,236	3,781	3,930	(149)	(1,694)
TXU 10.250% 2015	2,489	5,508	5,659	(151)	(3,170)
TXU 10.250% 2015	2,489	5,508	5,659	(151)	(3,170)
TXU 11.500% 2020		1,462	1,660	(198)	
TXU 15.000% 2021	1,435	2,602	3,514	(912)	(2,079)
Max	**2,489**	**5,508**	**5,659**	**115**	**345**
Min	**397**	**377**	**323**	**(912)**	**(3,170)**
Median	**671**	**776**	**774**	**19**	**(98)**
Average	**881**	**1,198**	**1,220**	**(22)**	**(415)**
HY Overall Index	583	710	652	57	(69)
HY - Utility	644	748	724	23	(80)
HY - IPPs	763	941	935	5	(172)
HY - Integrated Utilities	353	409	365	43	(12)
HY Split BBB	333	422	375	47	(42)
HY BB	416	479	438	42	(22)
HY Split BB	484	572	523	49	(39)
HY B	588	734	671	63	(83)
HY Split B	727	922	879	43	(152)
HY CCC	1,009	1,270	1,167	103	(158)

Source: [redacted]

Utilities credit tracker – YTW ranked by Δm/m

Bond and JPMorgan HY Index YTW	30-Dec-11	13-Jan-12	14-Feb-12	Tightened by Absolute Δ m/m	Absolute Δ y/y
EFH 6.500% 2024	17.46%	17.20%	16.14%	106	132
AES 7.750% 2015	5.17%	5.25%	4.25%	100	92
AES 8.000% 2017	5.93%	6.02%	5.17%	85	76
EFH 10.875% 2017	16.15%	16.02%	15.30%	72	85
AES 8.000% 2020	6.44%	6.36%	5.70%	66	74
NRG 7.625% 2018		8.49%	7.84%	65	
CPN 7.250% 2017	5.76%	6.18%	5.57%	62	19
EFH 6.550% 2034	16.06%	15.15%	14.55%	60	151
EFH 12.000% 2017	15.58%	16.03%	15.47%	56	11
AES 9.750% 2016	5.86%	5.47%	4.91%	56	95
AES 7.375% 2021		6.21%	5.67%	54	
EFH 10.000% 2020	8.91%	8.96%	8.45%	51	47
EFH 10.000% 2020	8.91%	8.96%	8.45%	51	47
AES 7.750% 2014	3.84%	4.02%	3.52%	50	32
CPN 7.875% 2020	6.39%	6.44%	6.15%	30	25
EIX 7.750% 2016	16.57%	18.51%	18.23%	28	-166
EIX 7.000% 2017	17.26%	18.93%	18.66%	28	-140
CPN 8.000% 2019	6.76%	6.71%	6.47%	24	29
EFH 9.750% 2019	9.74%	9.51%	9.28%	23	46
EFH 9.750% 2019	9.74%	9.51%	9.28%	23	46
NRG 8.500% 2019	8.15%	8.87%	8.68%	19	-53
CPN 7.500% 2021	6.23%	6.49%	6.30%	19	-7
NRG 8.250% 2020	8.15%	8.71%	8.58%	12	-44
EIX 7.625% 2027	14.27%	14.91%	14.80%	11	-52
NRG 7.375% 2017	4.80%	5.99%	5.89%	11	-109
EIX 7.200% 2019	16.06%	17.44%	17.35%	10	-129
EFH 7.480% 2017	10.42%	10.38%	10.29%	9	14
CPN 7.875% 2023		6.73%	6.64%	9	
NRG 7.875% 2021		8.71%	8.67%	4	
EFH 7.460% 2015	7.43%	7.43%	7.40%	3	3
GEN 7.625% 2014	7.62%	7.85%	7.86%	0	-23
NRG 7.625% 2019		8.51%	8.56%	-6	
GEN 9.125% 2031	10.26%	10.26%	10.43%	-17	-17
EIX 8.560% 2016	8.26%	8.48%	8.87%	-38	-61
GEN 8.500% 2021	9.58%	9.54%	10.06%	-52	-48
GEN 7.875% 2017	8.69%	9.06%	10.36%	-130	-167
GEN 9.500% 2018	9.24%	9.80%	11.17%	-137	-193
GEN 9.875% 2020	9.56%	10.04%	11.49%	-145	-193
TXU 11.250% 2016	35.50%	38.56%	40.07%	-151	-457
TXU 10.250% 2015	49.13%	55.64%	57.18%	-154	-805
TXU 10.250% 2015	49.13%	55.64%	57.18%	-154	-805
TXU 11.500% 2020		16.20%	18.23%	-203	
EIX 7.500% 2013	9.77%	12.68%	16.37%	-369	-660
TXU 15.000% 2021		27.72%	36.89%	-917	
Max	**49.13%**	**55.64%**	**57.18%**	**106**	**151**
Min	**3.84%**	**4.02%**	**3.52%**	**-369**	**-805**
Median	**9.24%**	**8.96%**	**8.87%**	**19**	**-7**
Average	**12.56%**	**12.74%**	**12.82%**	**-8**	**-84**
HY Overall Index	8.14%	7.94%	7.36%	58	78
HY - Utility	8.73%	8.86%	8.66%	20	7
HY - IPPs	10.38%	10.70%	10.67%	3	-29
HY - Integrated Utilities	5.74%	5.61%	5.23%	38	51
HY Split BBB	5.49%	5.35%	4.89%	46	60
HY BB	5.88%	5.73%	5.34%	39	54
HY Split BB	6.67%	6.51%	5.96%	55	71
HY B	8.28%	8.08%	7.44%	64	84
HY Split B	10.50%	10.05%	9.59%	46	91
HY CCC	14.00%	13.48%	12.46%	102	154

Source: [redacted].

Utilities credit tracker – dollar price ranked by Δm/m

Bond dollar price	30-Dec-11	13-Jan-12	14-Feb-12	Price increased by (bp) Absolute Δ m/m	Absolute ΔYTD
AES 8.000% 2020	$110.00	$110.50	$115.00	$4.50	$5.00
AES 8.000% 2017	$110.00	$109.50	$113.75	$4.25	$3.75
AES 7.375% 2021	$107.75	$108.25	$112.25	$4.00	$4.50
EFH 12.000% 2017	$84.00	$82.50	$86.00	$3.50	$2.00
AES 7.750% 2015	$108.75	$108.38	$111.75	$3.38	$3.00
EFH 6.500% 2024	$44.50	$45.25	$48.50	$3.25	$4.00
NRG 7.625% 2018	$100.00	$96.00	$99.00	$3.00	($1.00)
EFH 10.000% 2020	$105.00	$104.75	$107.38	$2.63	$2.38
EFH 10.000% 2020	$105.00	$104.75	$107.38	$2.63	$2.38
EFH 10.875% 2017	$80.50	$81.00	$83.50	$2.50	$3.00
EFH 6.550% 2034	$42.50	$45.25	$47.25	$2.00	$4.75
CPN 7.250% 2017	$105.00	$103.50	$105.50	$2.00	$0.50
AES 9.750% 2016	$114.50	$116.00	$118.00	$2.00	$3.50
CPN 8.000% 2019	$106.50	$106.75	$107.88	$1.13	$1.38
EFH 9.750% 2019	$100.00	$101.00	$102.00	$1.00	$2.00
EFH 9.750% 2019	$100.00	$101.00	$102.00	$1.00	$2.00
NRG 8.500% 2019	$101.50	$98.00	$99.00	$1.00	($2.50)
EIX 7.000% 2017	$65.00	$61.00	$62.00	$1.00	($3.00)
EIX 7.750% 2016	$73.00	$68.50	$69.50	$1.00	($3.50)
CPN 7.500% 2021	$107.00	$105.50	$106.50	$1.00	($0.50)
CPN 7.875% 2020	$107.75	$107.50	$108.50	$1.00	$0.75
NRG 8.250% 2020	$100.50	$97.25	$98.00	$0.75	($2.50)
AES 7.750% 2014	$108.00	$107.50	$108.25	$0.75	$0.25
EIX 7.625% 2027	$59.00	$56.50	$57.00	$0.50	($2.00)
EIX 7.200% 2019	$62.50	$58.50	$59.00	$0.50	($3.50)
CPN 7.875% 2023	$107.50	$107.00	$107.50	$0.50	$0.00
EFH 7.480% 2017	$88.77	$88.99	$89.44	$0.45	$0.66
NRG 7.875% 2021	$97.50	$94.75	$95.00	$0.25	($2.50)
EFH 7.460% 2015	$100.08	$100.08	$100.15	$0.07	$0.07
NRG 7.375% 2017	$103.75	$103.63	$103.63	$0.00	($0.13)
GEN 7.625% 2014	$100.00	$99.50	$99.50	$0.00	($0.50)
NRG 7.625% 2019	$98.00	$95.25	$95.00	($0.25)	($3.00)
TXU 10.250% 2015	$35.50	$31.00	$30.50	($0.50)	($5.00)
TXU 10.250% 2015	$35.50	$31.00	$30.50	($0.50)	($5.00)
TXU 11.250% 2016	$35.75	$32.00	$31.00	($1.00)	($4.75)
GEN 9.125% 2031	$90.50	$90.50	$89.25	($1.25)	($1.25)
EIX 8.560% 2016	$101.00	$100.25	$99.00	($1.25)	($2.00)
GEN 8.500% 2021	$93.25	$93.50	$90.50	($3.00)	($2.75)
EIX 7.500% 2013	$97.00	$93.50	$89.75	($3.75)	($7.25)
GEN 7.875% 2017	$96.50	$95.00	$90.00	($5.00)	($6.50)
GEN 9.500% 2018	$101.25	$98.50	$92.25	($6.25)	($9.00)
TXU 11.500% 2020	$84.88	$78.25	$71.00	($7.25)	($13.88)
GEN 9.875% 2020	$101.50	$99.00	$91.25	($7.75)	($10.25)
TXU 15.000% 2021	$55.00	$58.00	$43.00	($15.00)	($12.00)
Max				**$4.50**	**$5.00**
Min				**($15.00)**	**($13.88)**
Median				**$0.75**	**($0.50)**
Average				**($0.03)**	**($1.33)**

Source: [redacted]. Morgan.

EFTA00606179

Dave Katz, CFA
([redacted]

Comparative company analysis

Company	AES Corp	Calpine	Dynegy	Edison Mission[1]	Energy Future Holdings	Texas Competitive Electric Holdings	GenOn Energy, Inc.[5]	NRG Energy
Equity ticker	AES	CPN	DYN	Private[2]	Private[3]	Private[4]	GEN	NRG
Bond ticker	AES	CPN	DYN	EIX	EFH	TCEH	GEN	NRG
Income statement (LTM)								
Revenues	$18,003	$6,800	$1,798	$2,269	$7,308	$7,308	$3,077	$8,763
EBITDA	$3,645	$1,726	$399	$589	$5,111	$3,488	$698	$1,873
EBITDA margin	20%	25%	22%	26%	70%	48%	23%	21%
Interest expense	$1,554	$760	$376	$306	$3,927	$3,441	$395	$667
Net income	($100)	($189)	($432)	($32)	($1,616)	($1,459)	($737)	$282
Cash Flow (LTM)								
CapEx	$2,614	$683	$248	$772	$503	$481	$418	$1,380
CFO	$3,402	$775	($197)	$569	$1,096	$1,312	$131	$1,150
FCF	$578	($27)	($445)	($203)	$593	$831	($287)	($808)
Capitalization								
Cash	$3,392	$1,252	$768	$1,235	$838	$202	$1,746	$1,127
Restricted cash	$2,089	$194	$797	$15	$0	$0	$0	$441
Recourse senior debt	$1,050	$7,762	$5,614	$4,160	$36,335	$30,172	$3,237	$7,924
Recourse debt	$6,227	$7,762	$5,814	$4,160	$36,335	$30,172	$4,087	$7,924
Total debt	$20,913	$10,425	$5,814	$5,034	$36,335	$30,172	$4,087	$9,298
Minority interest	$3,624	$60	$0	$2	$92	$100	$0	$162
Preferred equity								$248
Shareholder's equity	$6,233	$4,304	$2,487	$2,732	(7,756)	(7,602)	$5,164	$7,770
Capitalization	$30,770	$14,789	$8,301	$7,768	$28,671	$22,670	$9,251	$17,478
Enterprise value and liquidity								
Stock price	$13.43	$15.36	$1.50	Private	Private	Private	$2.26	$16.93
Equity market capitalization	$10,502	$7,393	$184	Private	Private	Private	$1,744	$3,893
Enterprise value	$31,647	$16,626	$5,230	$4,123	$35,777	$24,416	$4,085	$12,474
Liquidity	$2,877	$2,013	$1,069	$2,231	$3,097	$2,461	$2,282	$1,919
Credit Statistics								
EBITDA/Interest Expense	2.3x	2.3x	1.1x	1.9x	1.3x	1.0x	1.8x	2.8x
EBITDA - CapEx / Interest Expense	0.7x	1.4x	0.4x	NM	1.2x	0.9x	0.7x	0.7x
Recourse senior debt leverage	0.3x	4.5x	14.1x	7.1x	7.1x	8.7x	4.6x	4.2x
Recourse debt leverage	1.7x	4.5x	14.6x	7.1x	7.1x	8.7x	5.9x	4.2x
Total debt leverage	5.7x	6.0x	14.6x	8.5x	7.1x	8.7x	5.9x	5.0x
Net debt leverage	4.8x	5.3x	12.6x	6.4x	6.9x	8.6x	3.4x	4.4x
Recourse senior debt/cap	3%	52%	68%	54%	127%	133%	35%	45%
Recourse debt/cap	20%	52%	70%	54%	127%	133%	44%	45%
Total debt/cap	68%	70%	70%	65%	127%	133%	44%	53%
Net debt/cap	57%	62%	61%	49%	124%	132%	25%	47%
EV/EBITDA	8.7x	9.6x	13.1x	7.0x	7.0x	7.0x	5.9x	6.7x
Total Debt/EV	66%	63%	111%	122%	102%	124%	100%	75%
EV/Revenues	176%	245%	291%	182%	490%	334%	133%	142%
Bond One								
Description	Sr Nts	Sr Nts	Sr Nts	Sr Nts	Sr Nts	Sr Nts	Sr Nts	Sr Nts
Coupon	8.000%	7.500%	7.750%	7.200%	9.750%	11.500%	9.500%	7.625%
Maturity	6/1/2020	2/15/2021	6/1/2019	5/15/2019	10/15/2019	10/1/2020	10/15/2018	5/15/2019
Outstanding	$625	$2,000	$1,100	$800	$115	$1,750	$675	$800
Rating	Ba3/BB-	B1/BB-	NR/D	Caa1/B-	Caa3/B-	B2/CCC	B3/B	B1/BB-
Offer price	115.00	106.50	63.75	59.00	102.00	71.00	92.25	95.00
Yield	5.70%	6.30%	16.46%	17.35%	9.28%	18.23%	11.17%	8.56%
STW	415bp	510bp	0bp	1602bp	831bp	1660bp	998bp	724bp
Bond Two								
Description	Sr Nts	Sr Nts	Sr Nts	Sr Nts	Sr Nts	Sr Nts	Sr Nts	Sr Nts
Coupon	7.375%	7.875%	7.625%	7.625%	10.000%	10.250%	9.875%	7.875%
Maturity	7/1/2021	1/15/2023	10/15/2026	5/15/2027	1/15/2020	11/1/2015	10/15/2020	5/15/2021
Outstanding	$1,000	$1,200	$175	$700	$1,061	$1,292	$550	$1,200
Rating	Ba3/BB-	B1/BB-	NR/D	Caa1/B-	Caa3/B-	Caa3/D	B3/B	B1/BB-
Offer price	112.25	107.50	63.00	57.00	107.38	29.75	91.25	95.00
Yield	5.67%	6.64%	13.47%	14.80%	8.39%	58.38%	11.49%	8.67%
STW	387bp	517bp	0bp	1256bp	736bp	5779bp	985bp	690bp

Note: EBITDA is Adjusted EBITDA. Interest Expense is based on LTM values.
1. Midwest Generation pass-through certificates assumed recourse to Edison Mission.
2. Edison Mission subsidiary of Edison International. Enterprise value estimated using a 7.0x EBITDA multiple.
3. Energy Future Holdings enterprise value estimated using a 7.0x EBITDA multiple.
4. Texas Competitive Electric Holdings enterprise value estimated using a 7.0x EBITDA multiple.
5. GenOn Energy debt does not include GenOn Marsh Landing debt.

Sources: Company reports and JPMorgan.

EFTA00606180

Relative value analysis

Coupon	Description	Recommendation	Maturity	Ratings Moody's S&P	Current	Recent Quotes			YTW Date	Next Call Date		EBITDA LTM	EBITDA/ Interest LTM	Recourse Debt/ EBITDA LTM	Debt/ EV[1]
						Offer	Yield	Spread		Date	Price				
AES Corp.															
7.750%	Sr Nts	NR	1-Mar-14	Ba3/BB-	$500	$108.25	3.52%	323bp	1-Mar-14	nc	nc	$3,645	2.3x	1.7x	20%
7.750%	Sr Nts	NR	15-Oct-15	Ba3/BB-	$500	$111.75	4.25%	367bp	15-Oct-15	nc	nc	$3,645	2.3x	1.7x	20%
9.750%	Sr Nts	NR	15-Apr-16	Ba3/BB-	$535	$118.00	4.91%	424bp	15-Apr-16	nc	nc	$3,645	2.3x	1.7x	20%
8.000%	Sr Nts	NR	15-Oct-17	Ba3/BB-	$1500	$113.75	5.17%	420bp	15-Oct-17	nc	nc	$3,645	2.3x	1.7x	20%
8.000%	Sr Nts	NR	1-Jun-20	Ba3/BB-	$625	$115.00	5.70%	415bp	1-Jun-20	nc	nc	$3,645	2.3x	1.7x	20%
7.375%	Sr Nts	NR	1-Jul-21	Ba3/BB-	$1000	$112.25	5.67%	387bp	1-Jul-21	nc	nc	$3,645	2.3x	1.7x	20%
Calpine Corp.															
7.250%	Sr Sec Nts (1st Lien)	NR	15-Oct-17	B1/BB-	$1200	$105.50	5.57%	499bp	15-Oct-15	15-Oct-13	$103.63	$1,726	2.3x	4.5x	47%
8.000%	Sr Sec Nts (1st Lien)	NR	15-Aug-19	B1/NR	$400	$107.88	6.47%	574bp	15-Aug-16	15-Aug-15	$104.00	$1,726	2.3x	4.5x	47%
7.875%	Sr Sec Nts (1st Lien)	NR	31-Jul-20	B1/BB-	$1100	$108.50	6.14%	560bp	31-Jul-15	31-Jul-15	$103.94	$1,726	2.3x	4.5x	47%
7.500%	Sr Sec Nts (1st Lien)	NR	15-Feb-21	B1/BB-	$2000	$106.50	6.30%	510bp	1-Nov-18	1-Nov-15	$103.75	$1,726	2.3x	4.5x	47%
7.875%	Sr Sec Nts	NR	15-Jan-23	B1/BB-	$1200	$107.50	6.64%	517bp	15-Jan-20	15-Jan-17	$103.94	$1,726	2.3x	4.5x	47%
Edison Mission[2]															
7.500%	Sr Nts	**Hold**	15-Jun-13	Caa1/B-	$500	$89.75	16.37%	1617bp	15-Jun-13	nc	nc	$707	2.4x	6.0x	85%
8.560%	P-T Certs	NR	2-Jan-16	Ba3/B+	$404	$99.00	8.87%	825bp	2-Jan-16	nc	nc	$707	2.4x	6.0x	85%
7.750%	Sr Nts	**Hold**	15-Jun-16	Caa1/B-	$500	$69.50	18.23%	1753bp	15-Jun-16	nc	nc	$707	2.4x	6.0x	85%
7.000%	Sr Nts	**Hold**	15-May-17	Caa1/B-	$1200	$62.00	18.66%	1778bp	15-May-17	nc	nc	$707	2.4x	6.0x	85%
7.200%	Sr Nts	**Hold**	15-May-19	Caa1/B-	$800	$59.00	17.35%	1602bp	15-May-19	nc	nc	$707	2.4x	6.0x	85%
7.625%	Sr Nts	**Hold**	15-May-27	Caa1/B-	$700	$57.00	14.80%	1256bp	15-May-27	nc	nc	$707	2.4x	6.0x	85%
Genon Energy															
7.625%	Sr Nts	NR	15-Jun-14	B3/B	$575	$99.50	7.86%	751bp	15-Jun-14	nc	nc	$698	1.8x	5.9x	100%
7.875%	Sr Nts	NR	15-Jun-17	B3/B	$725	$90.00	10.36%	947bp	15-Jun-17	nc	nc	$698	1.8x	5.9x	100%
9.500%	Sr Nts	NR	15-Oct-18	B3/B	$675	$92.25	11.17%	998bp	15-Oct-18	nc	nc	$698	1.8x	5.9x	100%
9.875%	Sr Nts	NR	15-Oct-20	B3/B	$550	$91.25	11.49%	985bp	15-Oct-20	15-Oct-15	$104.94	$698	1.8x	5.9x	100%
8.500%	Sr Nts	NR	1-Oct-21	B3/BB-	$450	$90.50	10.06%	821bp	1-Oct-21	nc	nc	$698	1.8x	5.9x	100%
9.125%	Sr Nts	NR	1-May-31	B3/BB-	$400	$89.25	10.43%	796bp	1-May-31	nc	nc	$698	1.8x	5.9x	100%
NRG Energy, Inc.															
7.375%	Sr Nts	**Hold**	15-Jan-17	B1/BB-	$1100	$103.63	5.89%	572bp	15-Jan-13	15-Jan-13	$102.46	$1,873	2.8x	4.2x	63%
7.625%	Sr Nts	**Buy**	15-Jan-18	B1/BB-	$1200	$99.00	7.84%	681bp	15-Jan-18	nc	nc	$1,873	2.8x	4.2x	63%
8.500%	Sr Nts	**Buy**	15-Jun-19	B1/BB-	$700	$99.00	8.68%	734bp	15-Jun-19	15-Jun-14	$104.25	$1,873	2.8x	4.2x	63%
7.625%	Sr Nts	**Buy**	15-May-19	B1/BB-	$800	$95.00	8.56%	724bp	15-May-19	15-May-14	$103.81	$1,873	2.8x	4.2x	63%
8.250%	Guar Nts	**Buy**	1-Sep-20	B1/BB-	$1100	$98.00	8.58%	697bp	1-Sep-20	1-Sep-15	$104.13	$1,873	2.8x	4.2x	63%
7.875%	Sr Nts	**Buy**	15-May-21	B1/BB-	$1200	$95.00	8.67%	690bp	15-May-21	15-May-16	$103.94	$1,873	2.8x	4.2x	63%
Texas Competitive Electric Holdings Company LLC[3]															
10.250%	Sr Nts	NR	1-Nov-15	Caa3/D	$1873	$30.50	57.18%	5659bp	1-Nov-15	nc	nc	$3,488	1.0x	8.7x	124%
10.250%	Sr Nts	NR	1-Nov-15	Caa3/D	$1292	$29.75	58.38%	5779bp	1-Nov-15	1-Nov-12	$102.56	$3,488	1.0x	8.7x	124%
11.250%	Sr Toggle Nts	NR	1-Nov-16	Caa3/D	$1567	$31.00	40.07%	3930bp	1-Nov-16	1-Nov-12	$105.25	$3,488	1.0x	8.7x	124%
11.500%	Sr Sec Nts (1st Lien)	NR	1-Oct-20	B2/CCC	$1750	$71.00	18.23%	1660bp	1-Oct-20	1-Apr-16	$105.75	$3,488	1.0x	8.7x	124%
15.000%	Sr Sec Nts (2nd Lien)	NR	1-Apr-21	Caa3/CC	$1186	$43.00	36.88%	3514bp	1-Apr-21	1-Oct-15	$107.50	$3,488	1.0x	8.7x	124%
Energy Future Holdings Corp.[4]															
5.550%	Sr Nts	NR	15-Nov-14	Ca/D	$398	$72.00	19.12%	1870bp	15-Nov-14	nc	nc	$5,111	1.3x	7.1x	102%
7.460%	Sec Nts (1st Lien)	NR	1-Jan-15	Caa3/CC	$14	$100.15	7.40%	696bp	1-Jan-15	nc	nc	$5,111	1.3x	7.1x	102%
12.000%	Sr Toggle Nts	NR	1-Nov-17	Ca/D	$399	$86.00	15.47%	1449bp	1-Nov-17	1-Nov-12	$105.63	$5,111	1.3x	7.1x	102%
10.875%	Sr Nts	NR	1-Nov-17	Ca/D	$181	$83.50	15.30%	1432bp	1-Nov-17	1-Nov-12	$105.44	$5,111	1.3x	7.1x	102%
7.480%	Sec Nts (1st Lien)	NR	1-Jan-17	Caa3/NR	$55	$89.44	10.29%	949bp	1-Jan-17	nc	nc	$5,111	1.3x	7.1x	102%
9.750%	Sr Sec Nts	NR	15-Oct-19	Caa3/B-	$115	$102.00	9.28%	831bp	15-Oct-17	15-Oct-14	$104.88	$5,111	1.3x	7.1x	102%
10.000%	Sr Sec Nts	NR	15-Jan-20	Caa3/B-	$1061	$107.38	8.39%	736bp	15-Jan-18	15-Jan-15	$105.00	$5,111	1.3x	7.1x	102%
6.500%	Sr Nts	NR	15-Nov-24	Ca/CC	$740	$48.50	16.14%	1405bp	15-Nov-24	nc	nc	$5,111	1.3x	7.1x	102%
6.550%	Sr Nts	NR	15-Nov-34	Ca/CC	$744	$47.25	14.55%	1188bp	15-Nov-34	nc	nc	$5,111	1.3x	7.1x	102%

Note: EBITDA is Adjusted EBITDA. Interest Expense is based on LTM values.
1. Enterprise value calculated on total debt value, not just through recourse debt.
2. For Edision Mission, an assumed 7.0x EV/EBITDA multiple was used. Midwest Generation pass-through certificates are recourse to Edison Mission.
3. For Texas Competitive Electric Holdings Company LLC enterprise value estimated using a 7.0x EBITDA multiple.
4. For Energy Future Holdings enterprise value estimated using a 7.0x EBITDA multiple.

Sources: Company reports and [redacted]. Morgan.

Relative value analysis: ranked by YTW

Issuer	Coupon	Maturity	Outstanding	Moody's	[redacted]	Price	YTW	STW	YTW Date	LTM EBITDA	Enterprise Value	EBITDA/ Interest	Debt/ EBITDA	Debt/ EV
Texas Competitive Electric Holdings	10.250%	1-Nov-15	1,292	Caa3	D	29.75	58.38%	5,779bp	1-Nov-15	$3,488	$24,416	1.0x	8.7x	124%
Texas Competitive Electric Holdings	10.250%	1-Nov-15	1,873	Caa3	D	30.50	57.18%	5,659bp	1-Nov-15	$3,488	$24,416	1.0x	8.7x	124%
Texas Competitive Electric Holdings	11.250%	1-Nov-16	1,567	Caa3	D	31.00	40.07%	3,930bp	1-Nov-16	$3,488	$24,416	1.0x	8.7x	124%
Texas Competitive Electric Holdings	15.000%	1-Apr-21	1,186	Caa3	CC	43.00	36.88%	3,514bp	1-Apr-21	$3,488	$24,416	1.0x	8.7x	124%
Energy Future Holdings	5.550%	15-Nov-14	398	Ca	D	72.00	19.12%	1,870bp	15-Nov-14	$5,111	$35,777	1.3x	7.1x	102%
Edison Mission	7.000%	15-May-17	1,200	Caa1	B-	62.00	18.66%	1,778bp	15-May-17	$589	$4,123	1.9x	7.1x	101%
Texas Competitive Electric Holdings	11.500%	1-Oct-20	1,750	B2	CCC	71.00	18.23%	1,660bp	1-Oct-20	$3,488	$24,416	1.0x	8.7x	124%
Edison Mission	7.750%	15-Jun-16	500	Caa1	B-	69.50	18.23%	1,753bp	15-Jun-16	$589	$4,123	1.9x	7.1x	101%
Edison Mission	7.200%	15-May-19	800	Caa1	B-	59.00	17.35%	1,602bp	15-May-19	$589	$4,123	1.9x	7.1x	101%
Edison Mission	7.500%	15-Jun-13	500	Caa1	B-	89.75	16.37%	1,617bp	15-Jun-13	$589	$4,123	1.9x	7.1x	101%
Energy Future Holdings	6.500%	15-Nov-24	740	Ca	CC	48.50	16.14%	1,405bp	15-Nov-24	$5,111	$35,777	1.3x	7.1x	102%
Energy Future Holdings	12.000%	1-Nov-17	399	Ca	D	86.00	15.47%	1,449bp	1-Nov-17	$5,111	$35,777	1.3x	7.1x	102%
Energy Future Holdings	10.875%	1-Nov-17	181	Ca	D	83.50	15.30%	1,432bp	1-Nov-17	$5,111	$35,777	1.3x	7.1x	102%
Edison Mission	7.625%	15-May-27	700	Caa1	B-	57.00	14.80%	1,256bp	15-May-27	$589	$4,123	1.9x	7.1x	101%
Energy Future Holdings	6.550%	15-Nov-34	744	Ca	CC	47.25	14.55%	1,188bp	15-Nov-34	$5,111	$35,777	1.3x	7.1x	102%
GenOn Energy	9.875%	15-Oct-20	550	B3	B	91.25	11.49%	985bp	15-Oct-20	$698	$4,077	1.8x	5.9x	100%
GenOn Energy	9.500%	15-Oct-18	675	B3	B	92.25	11.17%	998bp	15-Oct-18	$698	$4,077	1.8x	5.9x	100%
Mirant Americas Generation	9.125%	1-May-31	400	B3	BB-	89.25	10.43%	796bp	1-May-31	$698	$4,077	1.8x	5.9x	100%
GenOn Energy	7.875%	15-Jun-17	725	B3	B	90.00	10.36%	947bp	15-Jun-17	$698	$4,077	1.8x	5.9x	100%
Energy Future Holdings	7.480%	1-Jan-17	55	Caa3	NR	89.44	10.29%	949bp	1-Jan-17	$5,111	$35,777	1.3x	7.1x	102%
Mirant Americas Generation	8.500%	1-Oct-21	450	B3	BB-	90.50	10.06%	821bp	1-Oct-21	$698	$4,077	1.8x	5.9x	100%
Energy Future Holdings	9.750%	15-Oct-19	115	Caa3	B-	102.00	9.28%	831bp	15-Oct-17	$5,111	$35,777	1.3x	7.1x	102%
Midwest Generation	8.560%	2-Jan-16	404	Ba3	B+	99.00	8.87%	825bp	2-Jan-16	$589	$4,123	1.9x	7.1x	101%
NRG Energy Inc	8.500%	15-Jun-19	700	B1	BB-	99.00	8.68%	734bp	15-Jun-19	$1,873	$12,495	2.8x	4.2x	63%
NRG Energy Inc	7.875%	15-May-21	1,200	B1	BB-	95.00	8.67%	690bp	15-May-21	$1,873	$12,495	2.8x	4.2x	63%
NRG Energy Inc	8.250%	1-Sep-20	1,100	B1	BB-	98.00	8.58%	697bp	1-Sep-20	$1,873	$12,495	2.8x	4.2x	63%
NRG Energy Inc	7.625%	15-May-19	800	B1	BB-	95.00	8.56%	724bp	15-May-19	$1,873	$12,495	2.8x	4.2x	63%
Energy Future Holdings	10.000%	15-Jan-20	1,061	Caa3	B-	107.38	8.39%	736bp	15-Jan-18	$5,111	$35,777	1.3x	7.1x	102%
GenOn Energy	7.625%	15-Jun-14	575	B3	B	99.50	7.86%	751bp	15-Jun-14	$698	$4,077	1.8x	5.9x	100%
NRG Energy Inc	7.625%	15-Jan-18	1,200	B1	BB-	99.00	7.84%	681bp	15-Jan-18	$1,873	$12,495	2.8x	4.2x	63%
Energy Future Holdings	7.460%	1-Jan-15	14	Caa3	CC	100.15	7.40%	696bp	1-Jan-15	$5,111	$35,777	1.3x	7.1x	102%
Calpine	7.875%	15-Jan-23	1,200	B1	BB-	107.50	6.64%	517bp	15-Jan-20	$1,726	$16,597	2.3x	4.5x	47%
Calpine	8.000%	15-Aug-19	400	B1	NR	107.88	6.47%	574bp	15-Aug-16	$1,726	$16,597	2.3x	4.5x	47%
Calpine	7.500%	15-Feb-21	2,000	B1	BB-	106.50	6.30%	510bp	1-Nov-18	$1,726	$16,597	2.3x	4.5x	47%
Calpine	7.875%	31-Jul-20	1,100	B1	BB-	108.50	6.14%	560bp	31-Jul-15	$1,726	$16,597	2.3x	4.5x	47%
NRG Energy Inc	7.375%	15-Jan-17	1,100	B1	BB-	103.63	5.89%	572bp	15-Jan-13	$1,873	$12,495	2.8x	4.2x	63%
AES	8.000%	1-Jun-20	625	Ba3	BB-	115.00	5.70%	415bp	1-Jun-20	$3,645	$31,628	2.3x	1.7x	20%
AES	7.375%	1-Jul-21	1,000	Ba3	BB-	112.25	5.67%	387bp	1-Jul-21	$3,645	$31,628	2.3x	1.7x	20%
Calpine	7.250%	15-Oct-17	1,200	B1	BB-	105.50	5.57%	499bp	15-Oct-15	$1,726	$16,597	2.3x	4.5x	47%
AES	8.000%	15-Oct-17	1,500	Ba3	BB-	113.75	5.17%	420bp	15-Oct-17	$3,645	$31,628	2.3x	1.7x	20%
AES	9.750%	15-Apr-16	535	Ba3	BB-	118.00	4.91%	424bp	15-Apr-16	$3,645	$31,628	2.3x	1.7x	20%
AES	7.750%	15-Oct-15	500	Ba3	BB-	111.75	4.25%	367bp	15-Oct-15	$3,645	$31,628	2.3x	1.7x	20%
AES	7.750%	1-Mar-14	500	Ba3	BB-	108.25	3.52%	323bp	1-Mar-14	$3,645	$31,628	2.3x	1.7x	20%

Sources: Company reports and [redacted]. Morgan.

Dave Katz, CFA
([redacted]

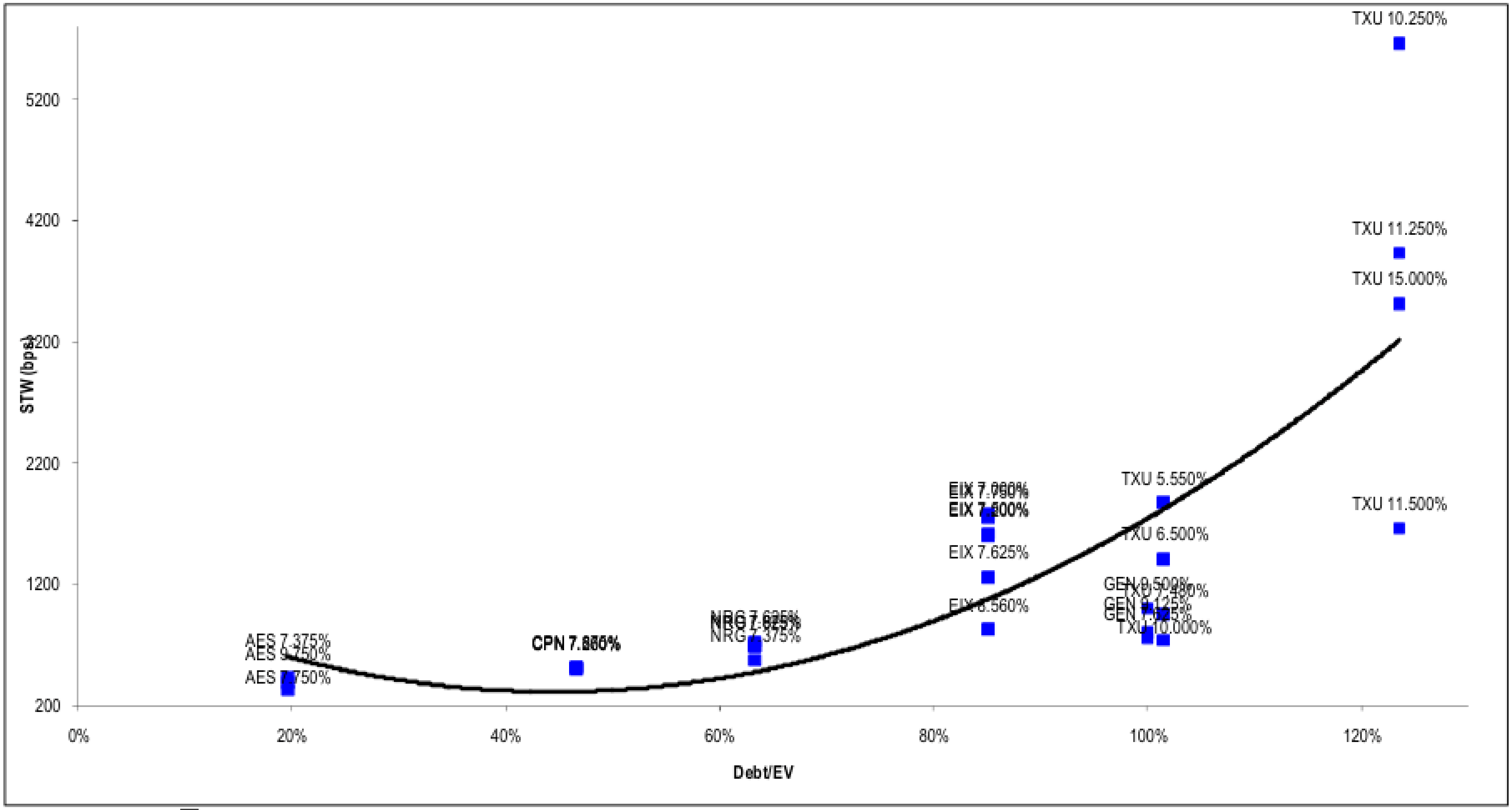
Relative value analysis: ranked by Debt/EV

Issuer	Coupon	Maturity	Outstanding	Moody's	[redacted]	Price	YTW	STW	YTW Date	LTM EBITDA	Enterprise Value	EBITDA/ Interest	Debt/ EBITDA	Debt/ EV
Texas Competitive Electric Holdings	10.250%	1-Nov-15	1,873	Caa3	D	30.50	57.18%	5,659bp	1-Nov-15	$3,488	$24,416	1.0x	8.7x	124%
Texas Competitive Electric Holdings	10.250%	1-Nov-15	1,292	Caa3	D	29.75	58.38%	5,779bp	1-Nov-15	$3,488	$24,416	1.0x	8.7x	124%
Texas Competitive Electric Holdings	11.250%	1-Nov-16	1,567	Caa3	D	31.00	40.07%	3,930bp	1-Nov-16	$3,488	$24,416	1.0x	8.7x	124%
Texas Competitive Electric Holdings	11.500%	1-Oct-20	1,750	B2	CCC	71.00	18.23%	1,660bp	1-Oct-20	$3,488	$24,416	1.0x	8.7x	124%
Texas Competitive Electric Holdings	15.000%	1-Apr-21	1,186	Caa3	CC	43.00	36.88%	3,514bp	1-Apr-21	$3,488	$24,416	1.0x	8.7x	124%
Energy Future Holdings	5.550%	15-Nov-14	398	Ca	D	72.00	19.12%	1,870bp	15-Nov-14	$5,111	$35,777	1.3x	7.1x	102%
Energy Future Holdings	7.460%	1-Jan-15	14	Caa3	CC	100.15	7.40%	696bp	1-Jan-15	$5,111	$35,777	1.3x	7.1x	102%
Energy Future Holdings	12.000%	1-Nov-17	399	Ca	D	86.00	15.47%	1,449bp	1-Nov-17	$5,111	$35,777	1.3x	7.1x	102%
Energy Future Holdings	10.875%	1-Nov-17	181	Ca	D	83.50	15.30%	1,432bp	1-Nov-17	$5,111	$35,777	1.3x	7.1x	102%
Energy Future Holdings	7.480%	1-Jan-17	55	Caa3	NR	89.44	10.29%	949bp	1-Jan-17	$5,111	$35,777	1.3x	7.1x	102%
Energy Future Holdings	9.750%	15-Oct-19	115	Caa3	B-	102.00	9.28%	831bp	15-Oct-17	$5,111	$35,777	1.3x	7.1x	102%
Energy Future Holdings	10.000%	15-Jan-20	1,061	Caa3	B-	107.38	8.39%	736bp	15-Jan-18	$5,111	$35,777	1.3x	7.1x	102%
Energy Future Holdings	6.500%	15-Nov-24	740	Ca	CC	48.50	16.14%	1,405bp	15-Nov-24	$5,111	$35,777	1.3x	7.1x	102%
Energy Future Holdings	6.550%	15-Nov-34	744	Ca	CC	47.25	14.55%	1,188bp	15-Nov-34	$5,111	$35,777	1.3x	7.1x	102%
Edison Mission	7.500%	15-Jun-13	500	Caa1	B-	89.75	16.37%	1,617bp	15-Jun-13	$589	$4,123	1.9x	7.1x	101%
Midwest Generation	8.560%	2-Jan-16	404	Ba3	B+	99.00	8.87%	825bp	2-Jan-16	$589	$4,123	1.9x	7.1x	101%
Edison Mission	7.750%	15-Jun-16	500	Caa1	B-	69.50	18.23%	1,753bp	15-Jun-16	$589	$4,123	1.9x	7.1x	101%
Edison Mission	7.000%	15-May-17	1,200	Caa1	B-	62.00	18.66%	1,778bp	15-May-17	$589	$4,123	1.9x	7.1x	101%
Edison Mission	7.200%	15-May-19	800	Caa1	B-	59.00	17.35%	1,602bp	15-May-19	$589	$4,123	1.9x	7.1x	101%
Edison Mission	7.625%	15-May-27	700	Caa1	B-	57.00	14.80%	1,256bp	15-May-27	$589	$4,123	1.9x	7.1x	101%
GenOn Energy	7.625%	15-Jun-14	575	B3	B	99.50	7.86%	751bp	15-Jun-14	$698	$4,077	1.8x	5.9x	100%
GenOn Energy	7.875%	15-Jun-17	725	B3	B	90.00	10.36%	947bp	15-Jun-17	$698	$4,077	1.8x	5.9x	100%
GenOn Energy	9.500%	15-Oct-18	675	B3	B	92.25	11.17%	998bp	15-Oct-18	$698	$4,077	1.8x	5.9x	100%
GenOn Energy	9.875%	15-Oct-20	550	B3	B	91.25	11.49%	985bp	15-Oct-20	$698	$4,077	1.8x	5.9x	100%
Mirant Americas Generation	8.500%	1-Oct-21	450	B3	BB-	90.50	10.06%	821bp	1-Oct-21	$698	$4,077	1.8x	5.9x	100%
Mirant Americas Generation	9.125%	1-May-31	400	B3	BB-	89.25	10.43%	796bp	1-May-31	$698	$4,077	1.8x	5.9x	100%
NRG Energy Inc	7.375%	15-Jan-17	1,100	B1	BB-	103.63	5.89%	572bp	15-Jan-13	$1,873	$12,495	2.8x	4.2x	63%
NRG Energy Inc	7.625%	15-Jan-18	1,200	B1	BB-	99.00	7.84%	681bp	15-Jan-18	$1,873	$12,495	2.8x	4.2x	63%
NRG Energy Inc	8.500%	15-Jun-19	700	B1	BB-	99.00	8.68%	734bp	15-Jun-19	$1,873	$12,495	2.8x	4.2x	63%
NRG Energy Inc	7.625%	15-May-19	800	B1	BB-	95.00	8.56%	724bp	15-May-19	$1,873	$12,495	2.8x	4.2x	63%
NRG Energy Inc	8.250%	1-Sep-20	1,100	B1	BB-	98.00	8.58%	697bp	1-Sep-20	$1,873	$12,495	2.8x	4.2x	63%
NRG Energy Inc	7.875%	15-May-21	1,200	B1	BB-	95.00	8.67%	690bp	15-May-21	$1,873	$12,495	2.8x	4.2x	63%
Calpine	7.250%	15-Oct-17	1,200	B1	BB-	105.50	5.57%	499bp	15-Oct-15	$1,726	$16,597	2.3x	4.5x	47%
Calpine	8.000%	15-Aug-19	400	B1	NR	107.88	6.47%	574bp	15-Aug-16	$1,726	$16,597	2.3x	4.5x	47%
Calpine	7.875%	31-Jul-20	1,100	B1	BB-	108.50	6.14%	560bp	31-Jul-15	$1,726	$16,597	2.3x	4.5x	47%
Calpine	7.500%	15-Feb-21	2,000	B1	BB-	106.50	6.30%	510bp	1-Nov-18	$1,726	$16,597	2.3x	4.5x	47%
Calpine	7.875%	15-Jan-23	1,200	B1	BB-	107.50	6.64%	517bp	15-Jan-20	$1,726	$16,597	2.3x	4.5x	47%
AES	7.750%	1-Mar-14	500	Ba3	BB-	108.25	3.52%	323bp	1-Mar-14	$3,645	$31,628	2.3x	1.7x	20%
AES	7.750%	15-Oct-15	500	Ba3	BB-	111.75	4.25%	367bp	15-Oct-15	$3,645	$31,628	2.3x	1.7x	20%
AES	9.750%	15-Apr-16	535	Ba3	BB-	118.00	4.91%	424bp	15-Apr-16	$3,645	$31,628	2.3x	1.7x	20%
AES	8.000%	15-Oct-17	1,500	Ba3	BB-	113.75	5.17%	420bp	15-Oct-17	$3,645	$31,628	2.3x	1.7x	20%
AES	8.000%	1-Jun-20	625	Ba3	BB-	115.00	5.70%	415bp	1-Jun-20	$3,645	$31,628	2.3x	1.7x	20%
AES	7.375%	1-Jul-21	1,000	Ba3	BB-	112.25	5.67%	387bp	1-Jul-21	$3,645	$31,628	2.3x	1.7x	20%

Sources: Company reports and [redacted]. Morgan.

EFTA00606183

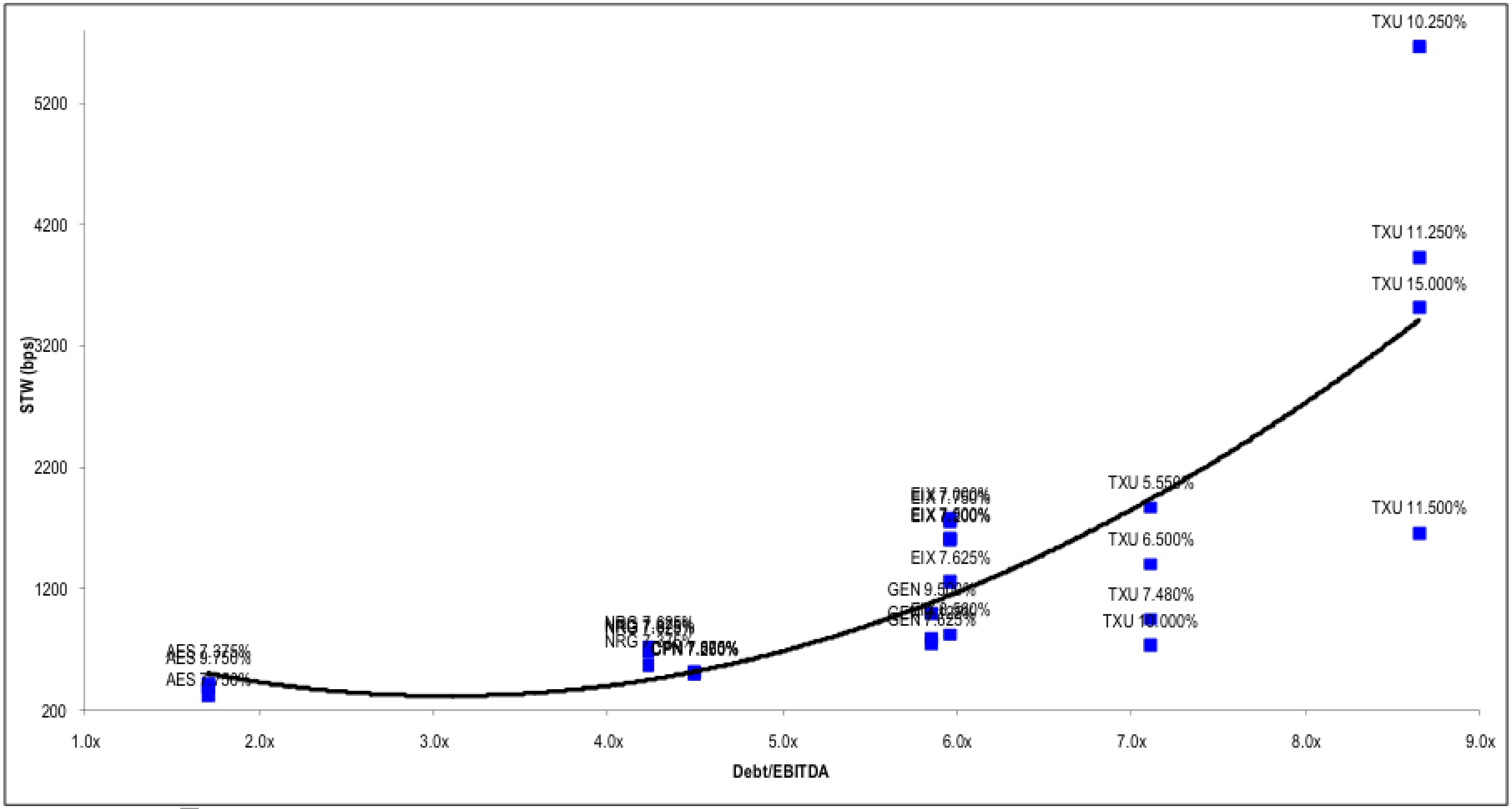
Relative value analysis: STW vs debt/EV



Sources: Company reports and [redacted]. Morgan.

EFTA00606184

Relative value analysis: STW vs debt/EBITDA



Sources: Company reports and [redacted]. Morgan.

EFTA00606185

Fuel Mix by Company

Domestic generation capacity (MW) by fuel type (30-Sep-11)

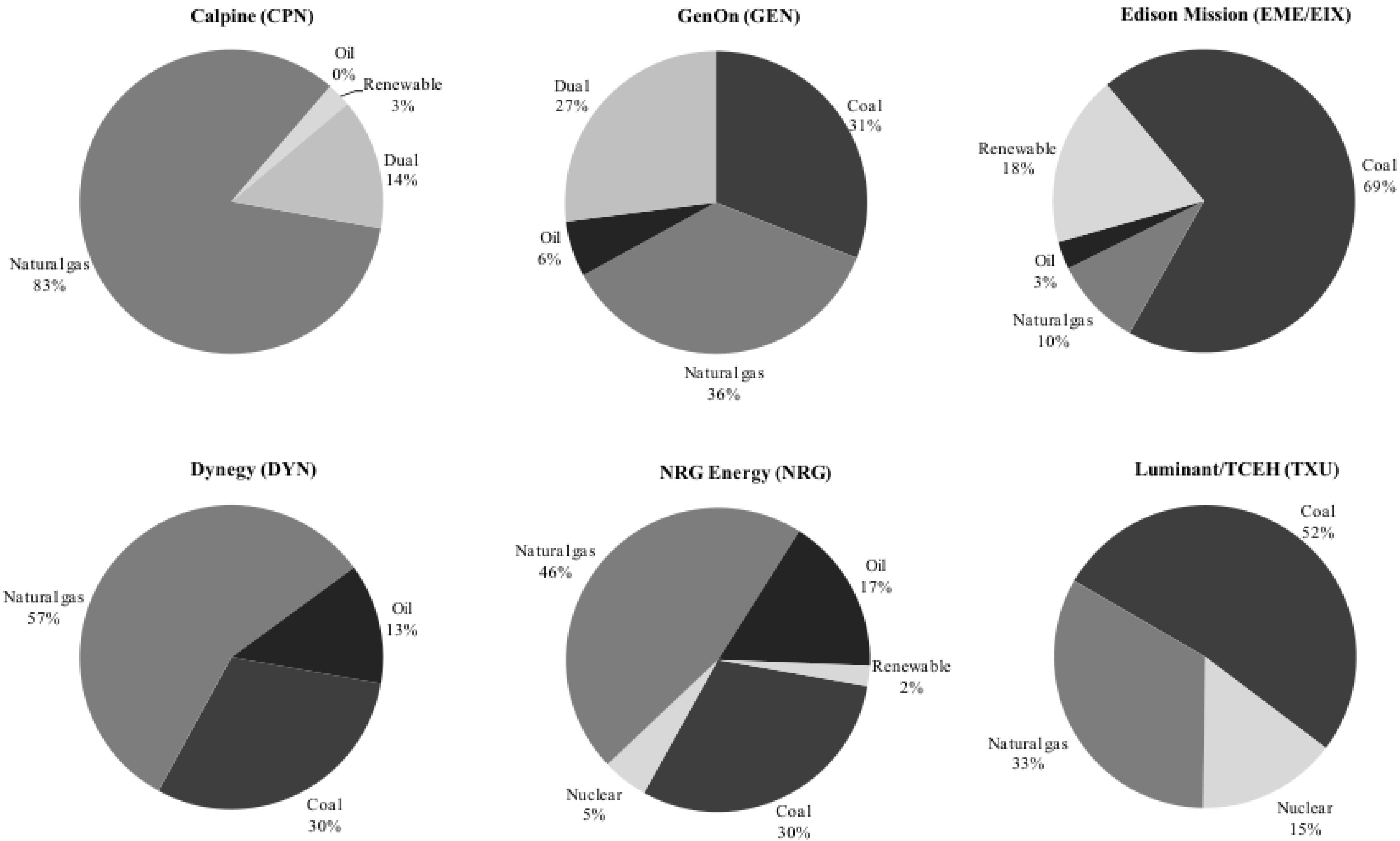
Generation capacity (MW)	CPN	GEN	NRG	TCEH	DYN	EME
Coal	-	7,513	7,300	8,000	3,502	7,056
Nuclear	-	-	1,175	2,300	-	-
Natural gas	23,483	8,725	11,090	5,100	6,606	964
Oil	12	1,454	4,015	-	1,488	305
Renewable	729	-	520	-	-	1,856
Dual	3,910	6,544	-	-	-	-
Total	**28,134**	**24,237**	**24,100**	**15,400**	**11,596**	**10,181**

Sources: SNL Energy, Company reports and [redacted]. Morgan.

EFTA00606186

Dave Katz, CFA
([redacted]

Domestic generation capacity rankings

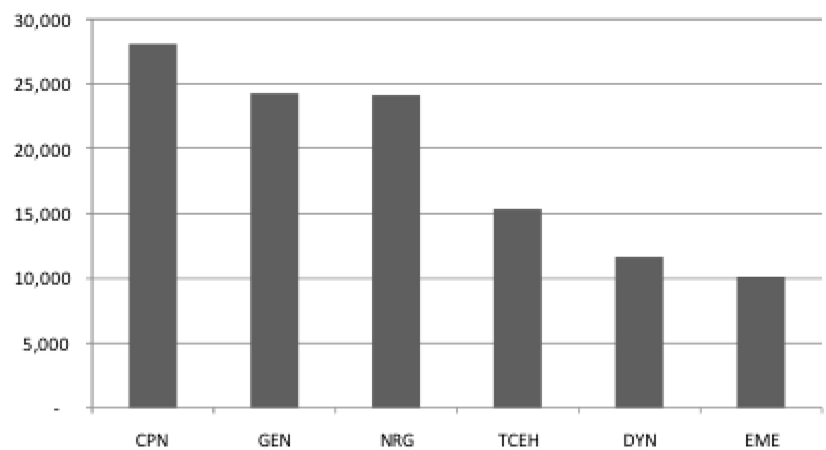


Source: Company reports and [redacted] Morgan estimates. Note: As of 30-Sep-11.

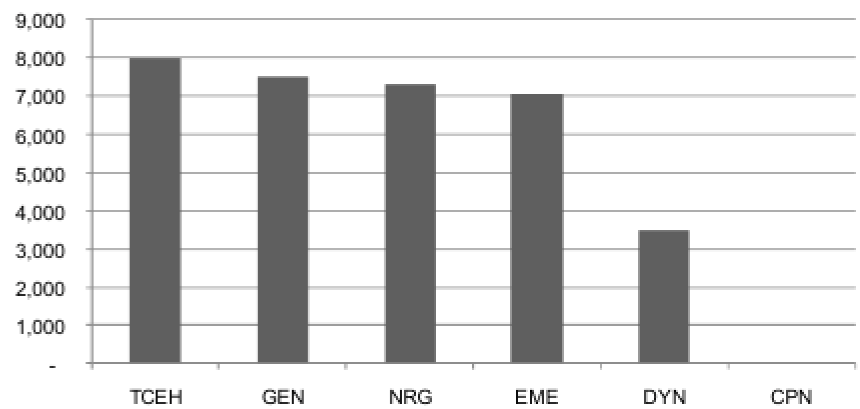
EFTA00606187

Domestic generation capacity rankings

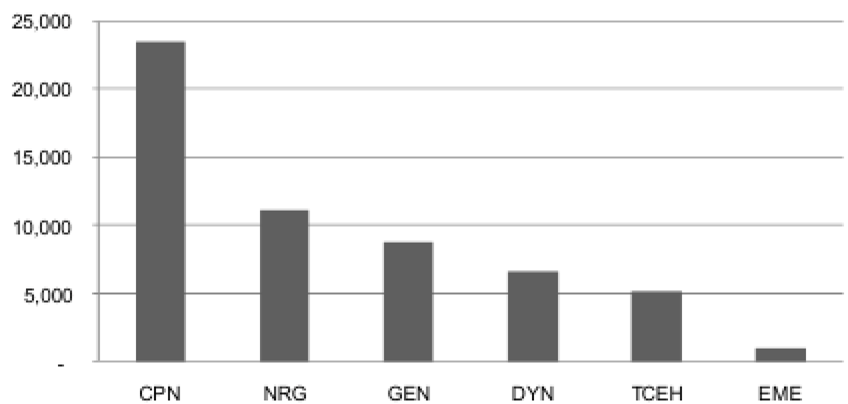
Total generation capacity (MW)



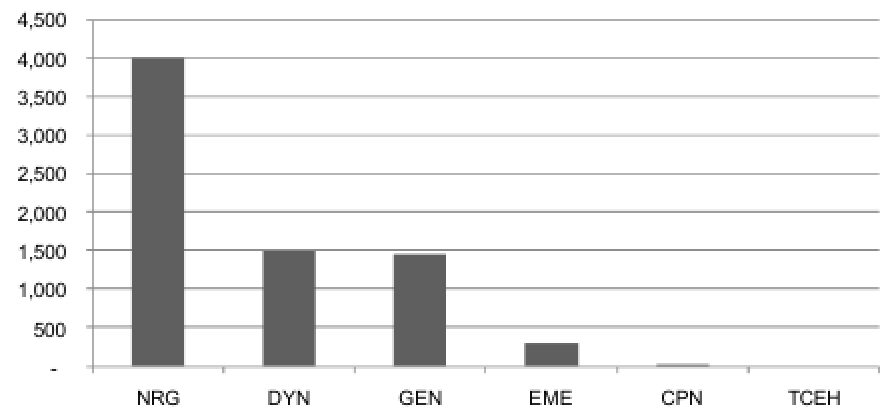
Coal - generation capacity (MW)



Natural gas - generation capacity (MW)



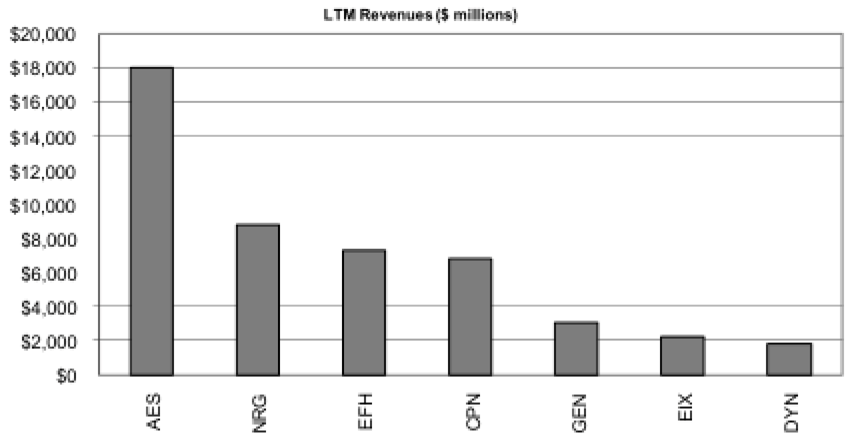
Oil - generation capacity (MW)

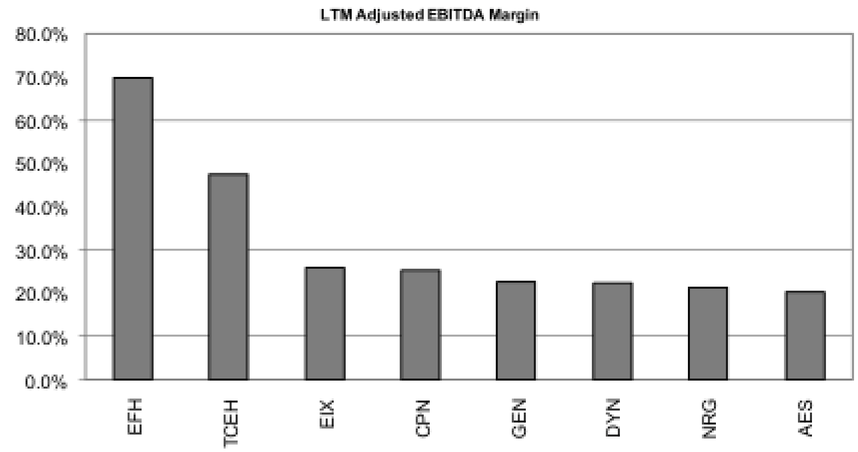


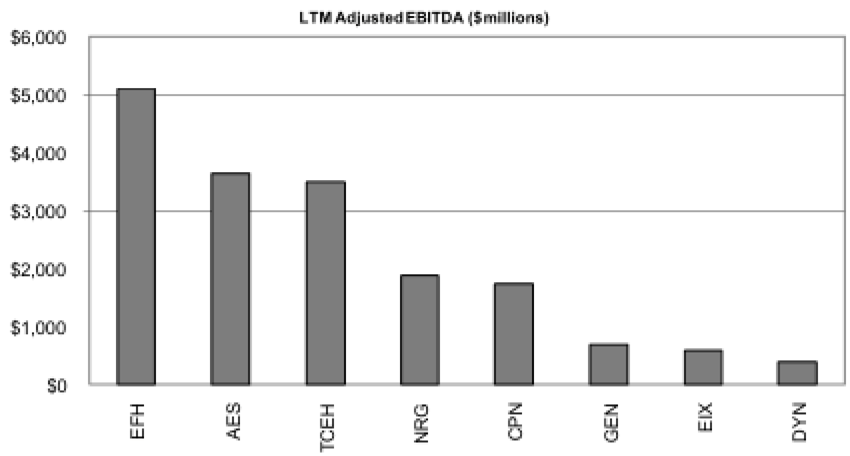
Source: [redacted]. Morgan and company reports. Note: Energy Future Holdings and Texas Competitive Energy Holdings Generation Capacity data is the same. Note: As of 30-Sep-11.

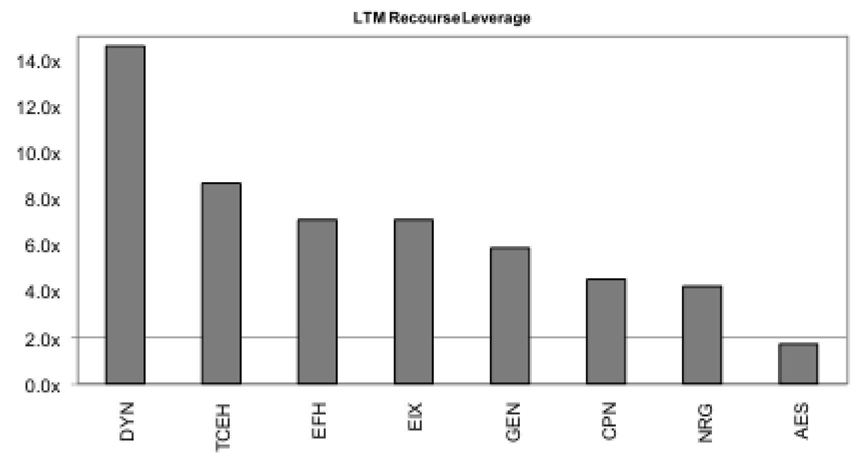
EFTA00606188

Rankings





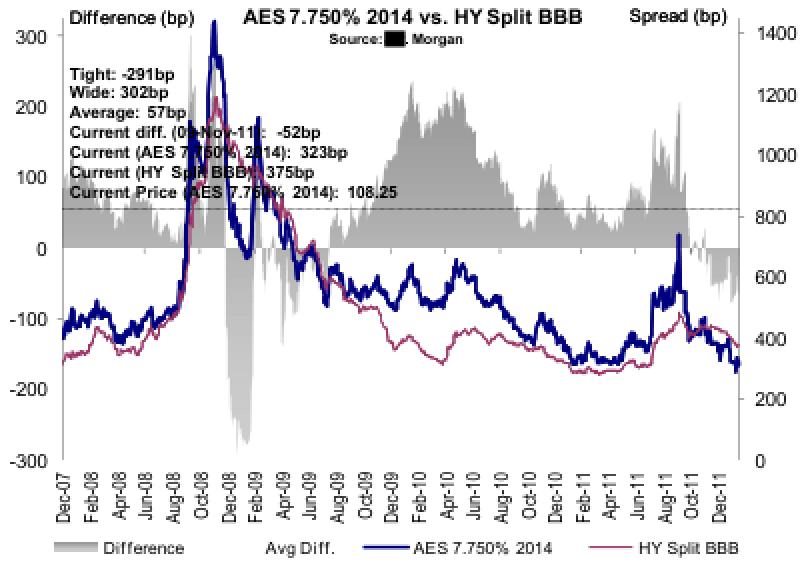


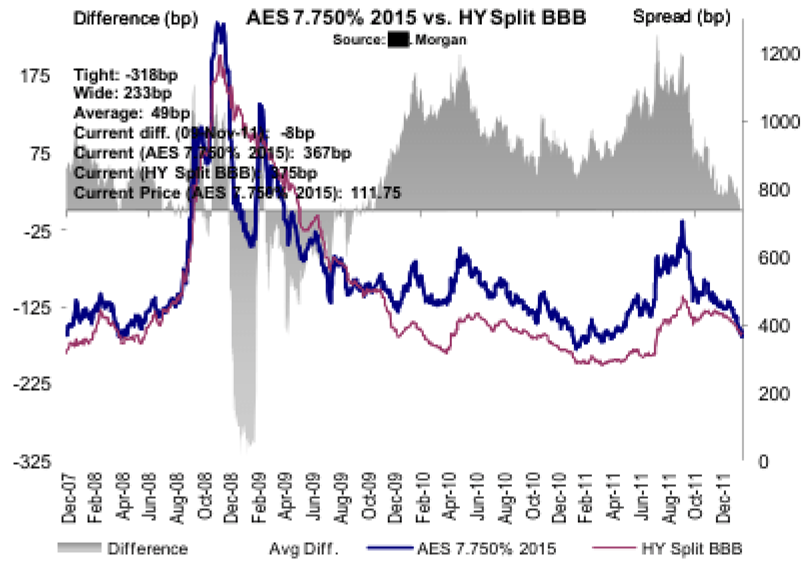


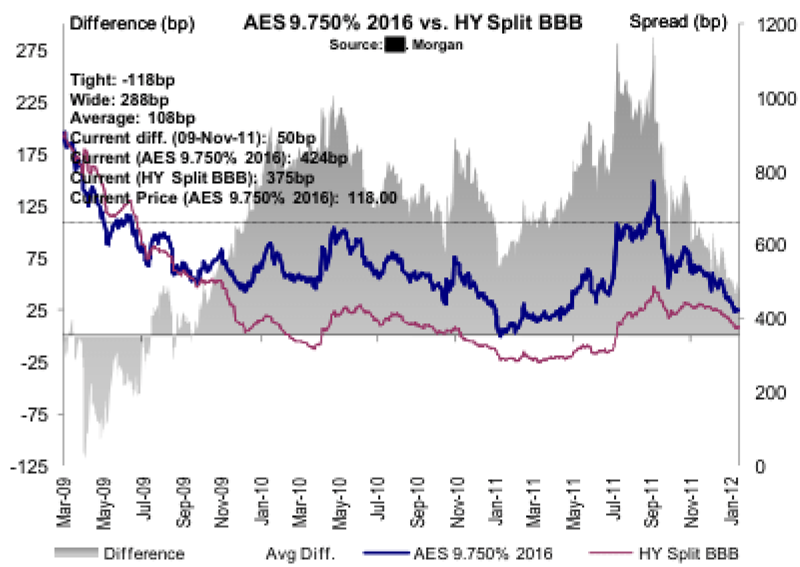
Source: [redacted]. Morgan and company reports. Note: Energy Future Holdings and Texas Competitive Energy Holdings Revenues are the same.

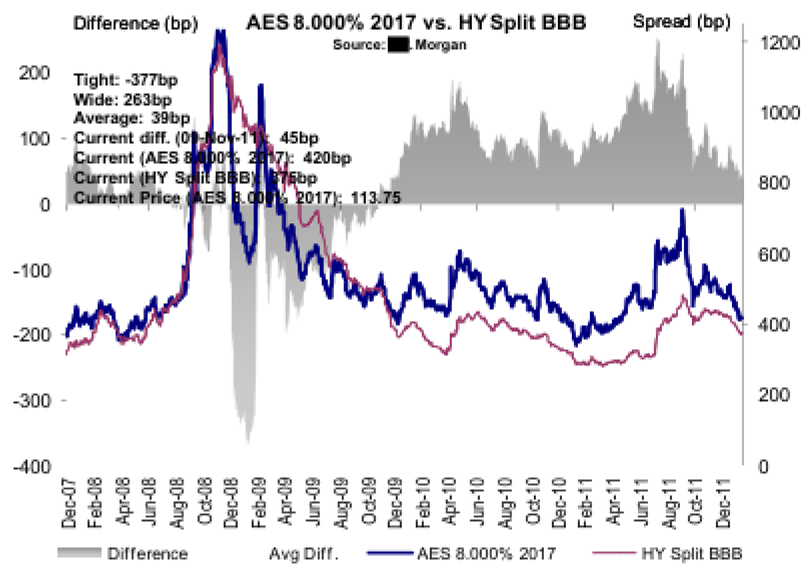
Dave Katz, CFA
([redacted]
[redacted]

Individual bond trading history



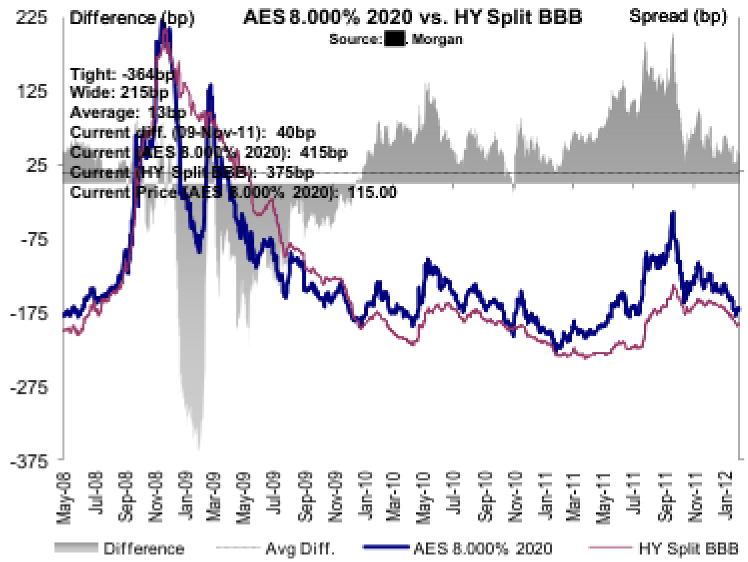


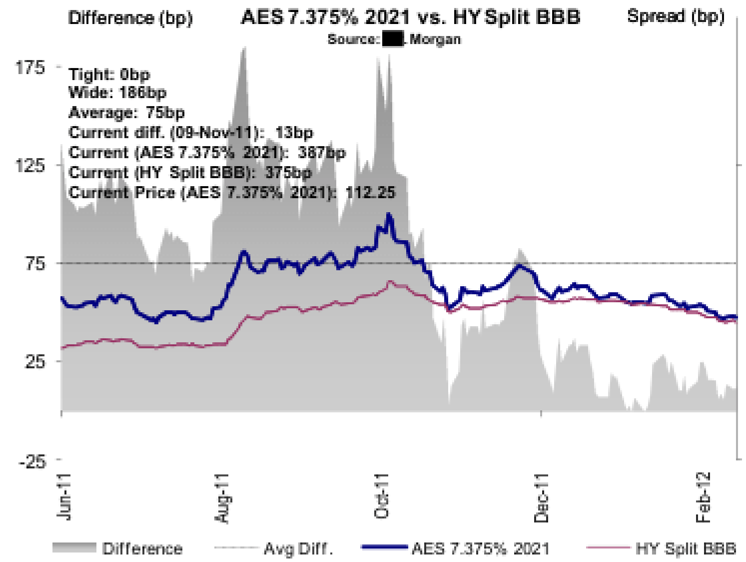


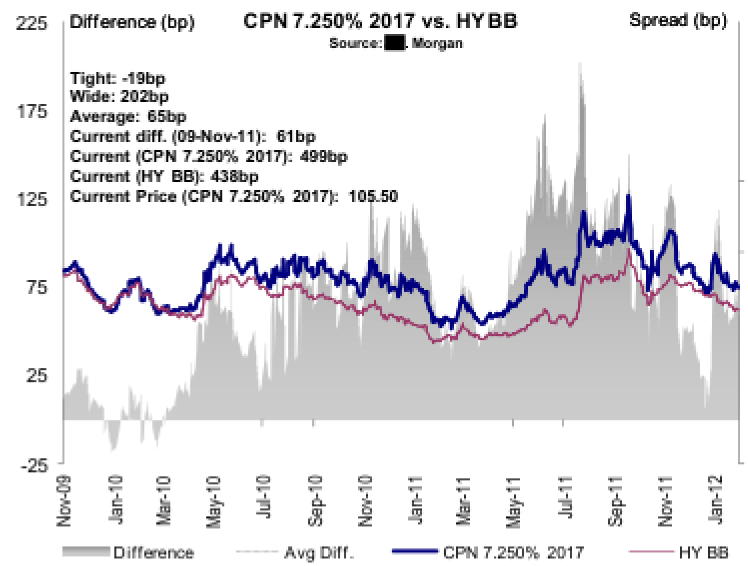


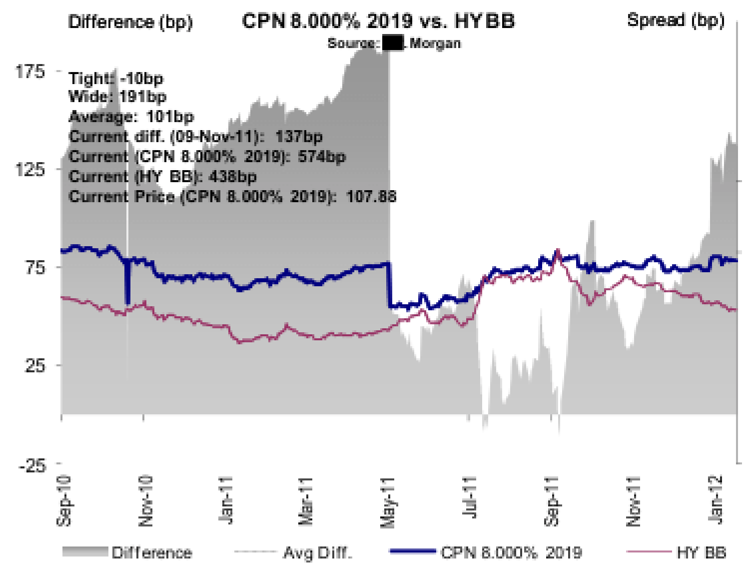
Dave Katz, CFA
([redacted]

Individual bond trading history (continued)

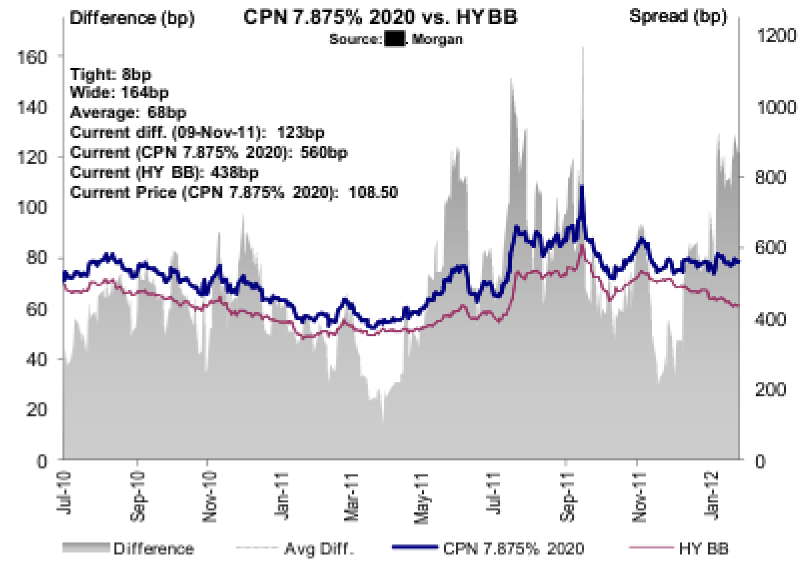


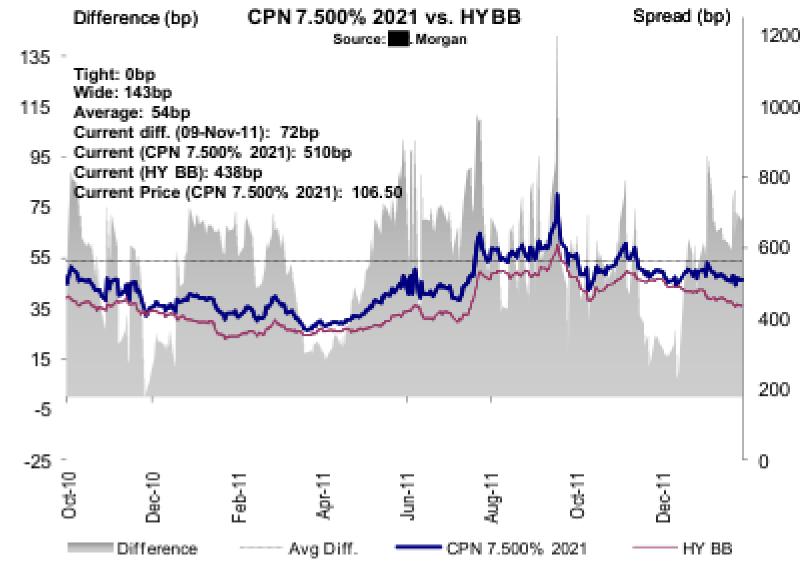


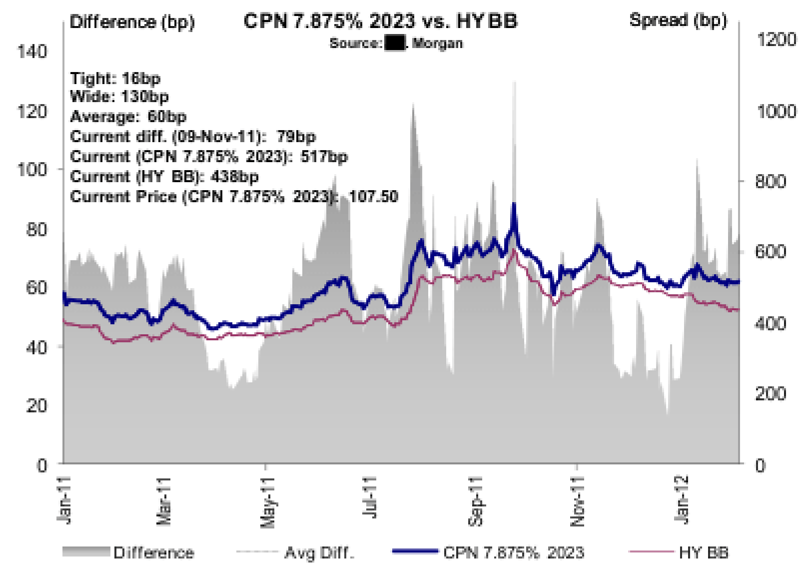


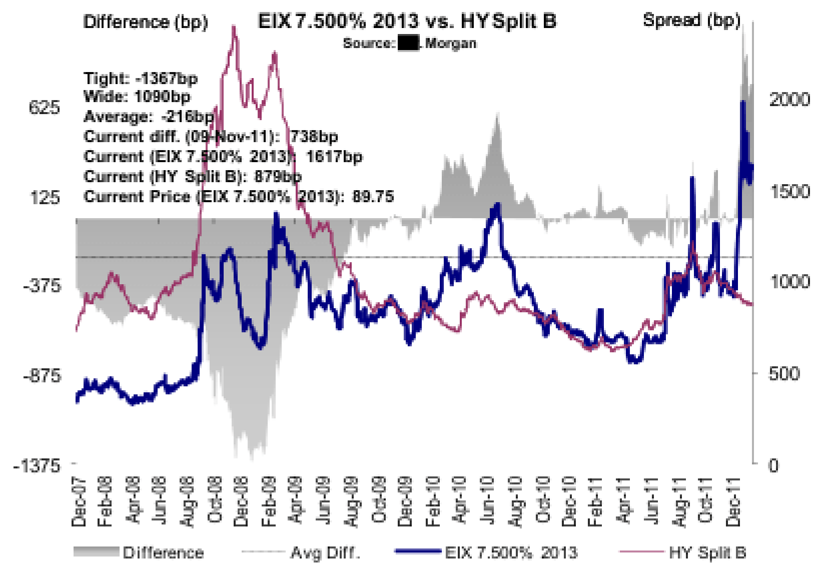


Individual bond trading history (continued)



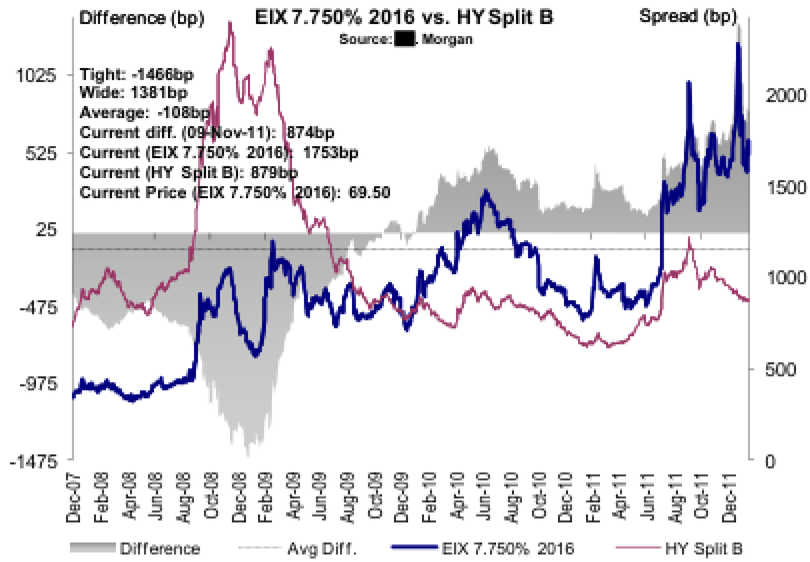


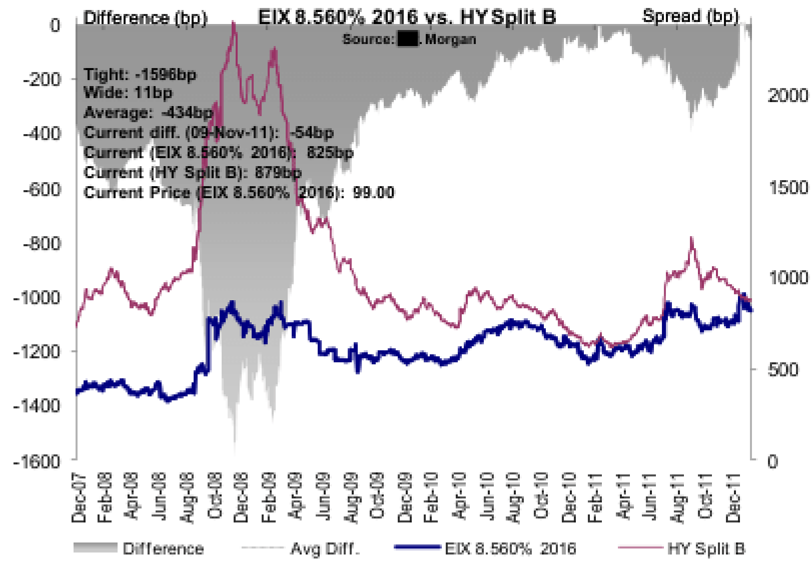


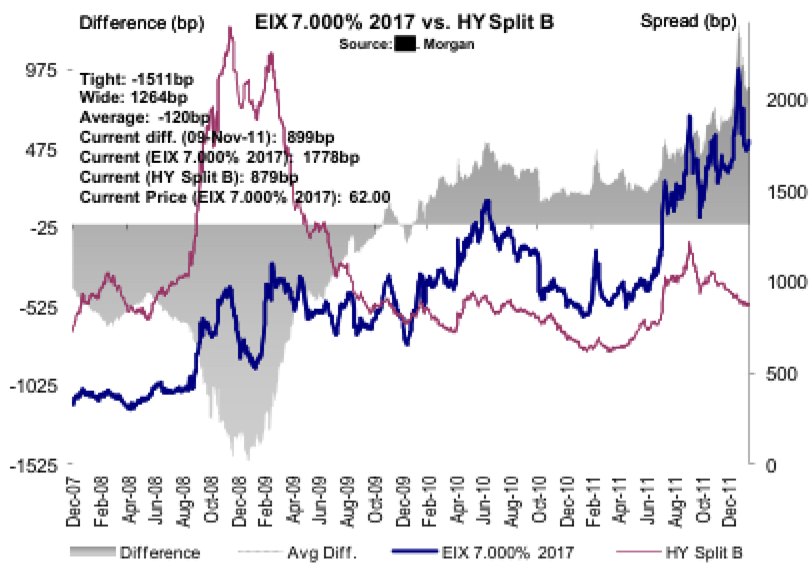


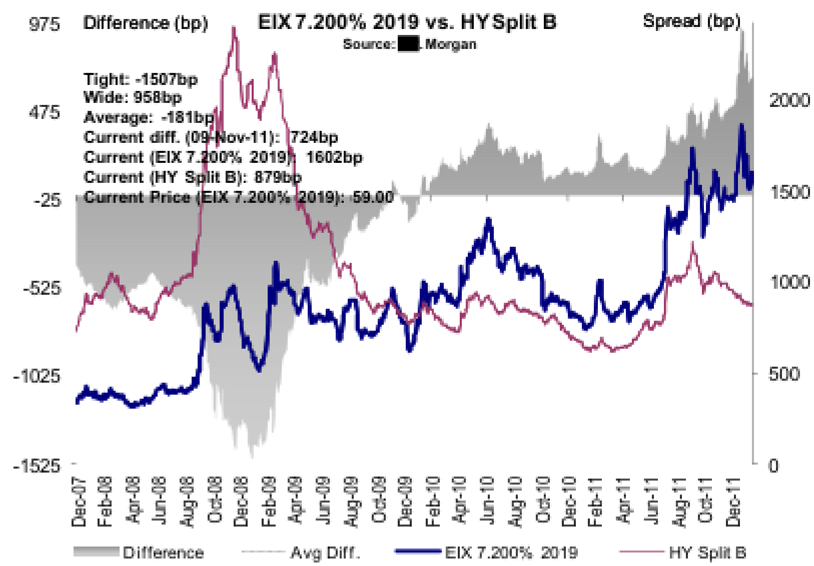
EFTA00606192

Individual bond trading history (continued)

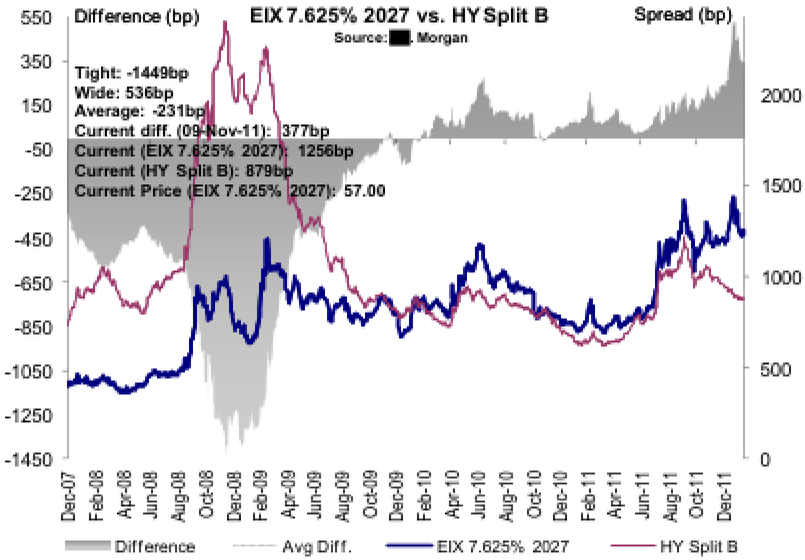


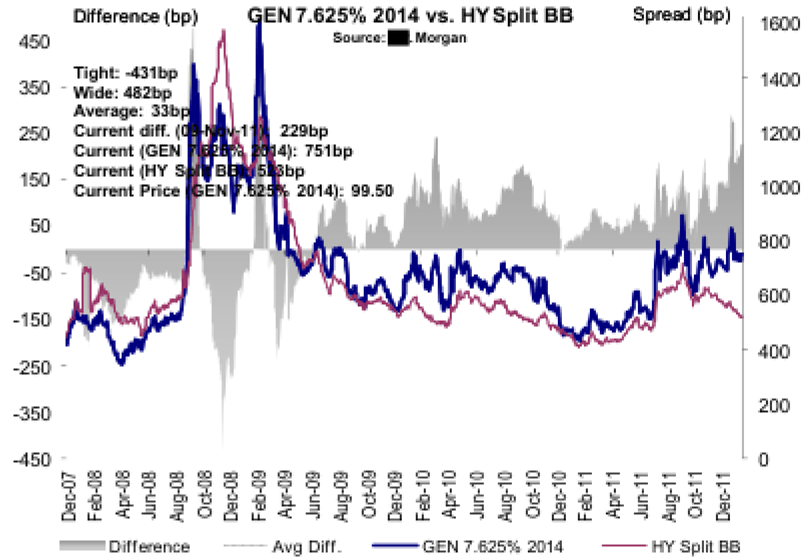


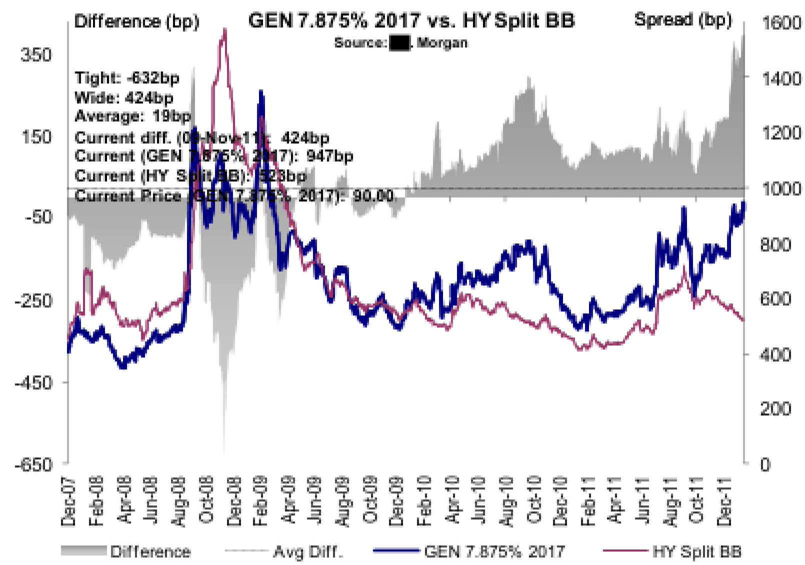


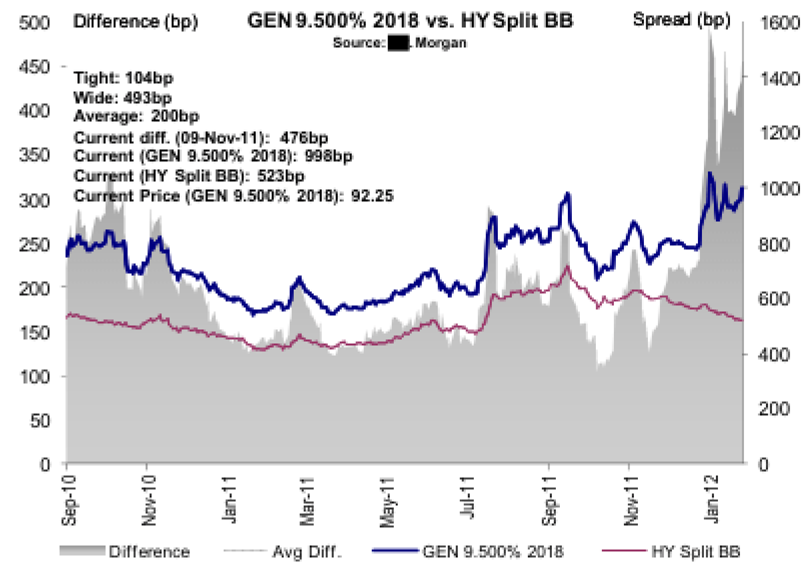


EFTA00606193

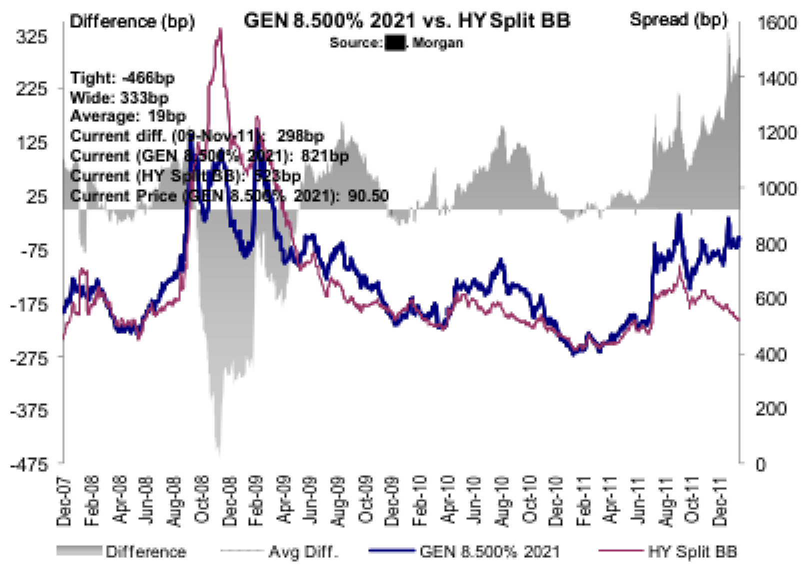


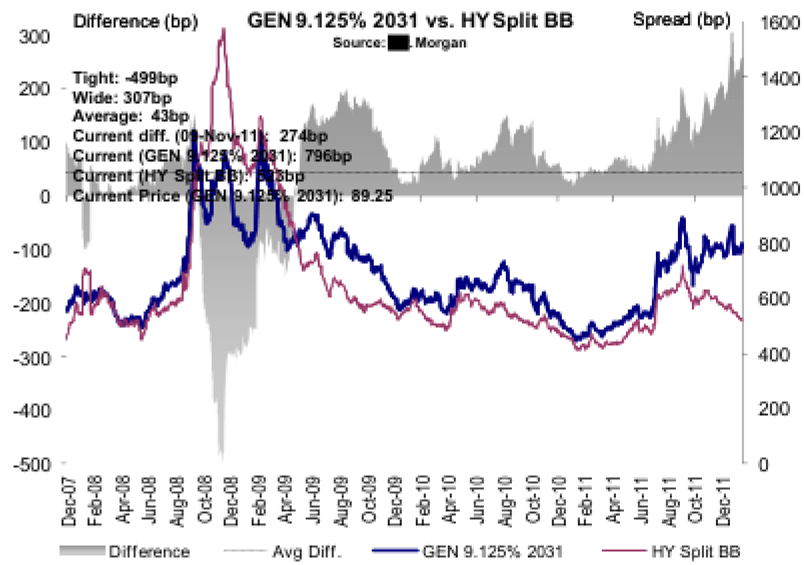


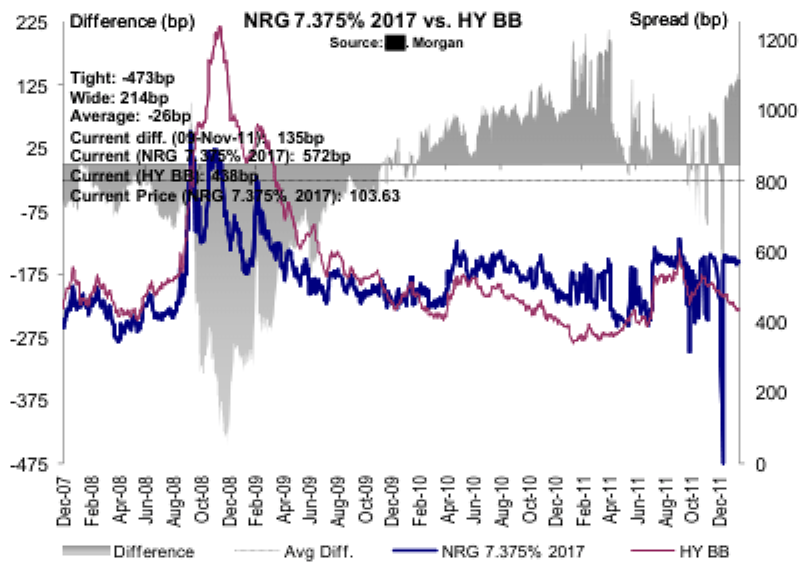


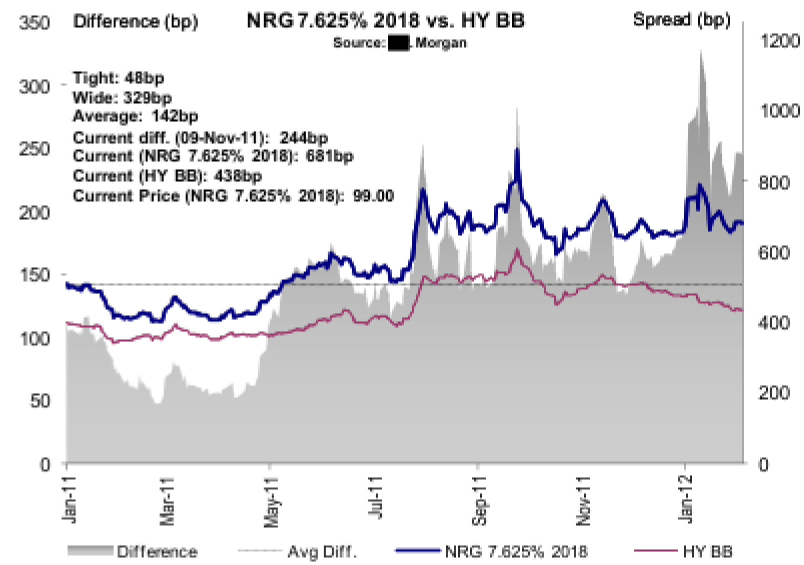


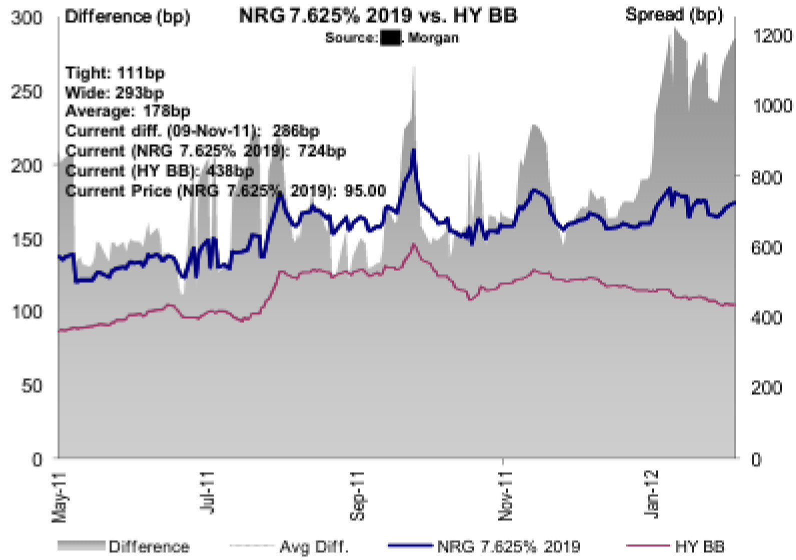
EFTA00606194

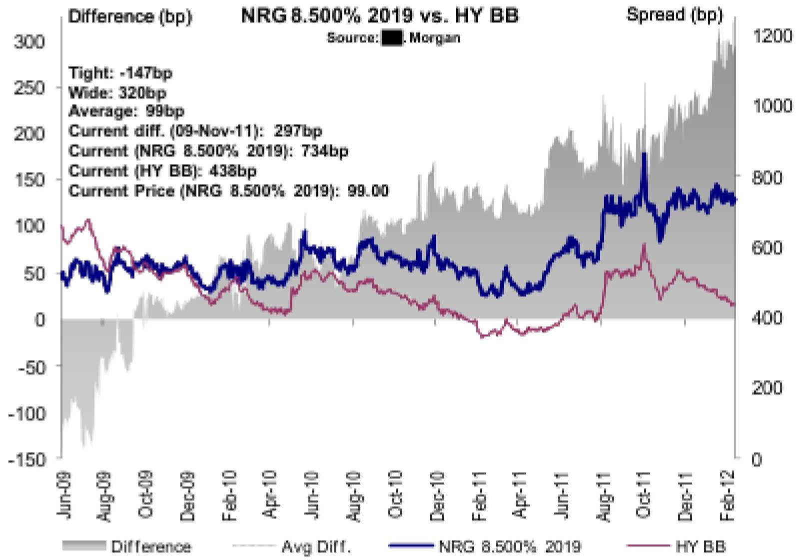

Difference (bp)
GEN 8.500% 2021 vs. HY Split BB
Spread (bp)
Source: [redacted]. Morgan
Tight: -466bp
Wide: 333bp
Average: 19bp
Current diff. (09-Nov-11): 298bp
Current (GEN 8.500% 2021): 821bp
Current Price (GEN 8.500% 2021): 90.50
Difference
Avg Diff.
GEN 8.500% 2021
HY Split BB

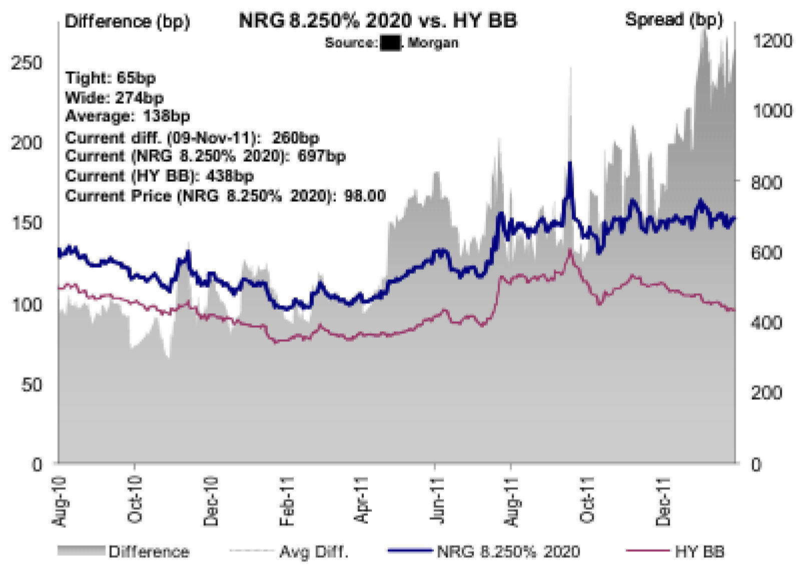

Difference (bp)
GEN 9.125% 2031 vs. HY Split BB
Spread (bp)
Source: [redacted]. Morgan
Tight: -499bp
Wide: 307bp
Average: 43bp
Current diff. (09-Nov-11): 274bp
Current (GEN 9.125% 2031): 796bp
Current Price (GEN 9.125% 2031): 89.25
Difference
Avg Diff.
GEN 9.125% 2031
HY Split BB

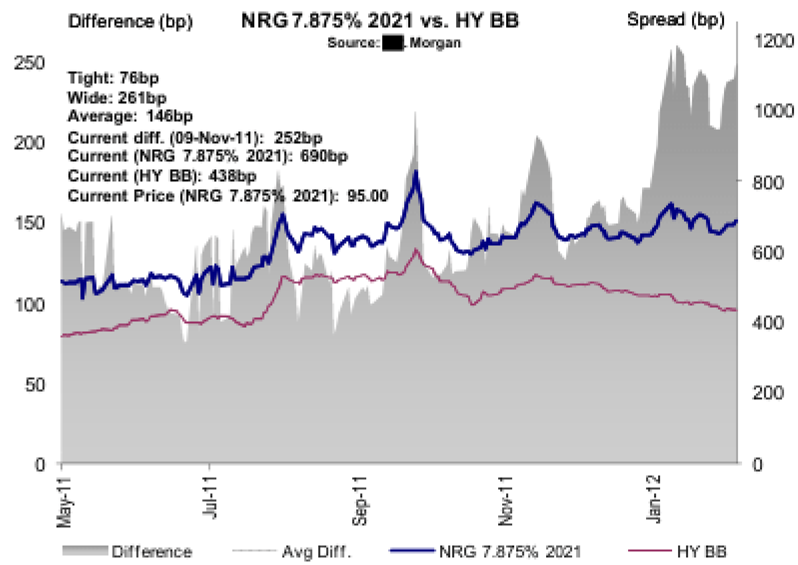

Difference (bp)
NRG 7.375% 2017 vs. HY BB
Spread (bp)
Source: [redacted]. Morgan
Tight: -473bp
Wide: 214bp
Average: -26bp
Current diff. (09-Nov-11): 135bp
Current (NRG 7.375% 2017): 572bp
Current (HY BB): 438bp
Current Price (NRG 7.375% 2017): 103.63
Difference
Avg Diff.
NRG 7.375% 2017
HY BB


Difference (bp)
NRG 7.625% 2018 vs. HY BB
Spread (bp)
Source: [redacted]. Morgan
Tight: 48bp
Wide: 329bp
Average: 142bp
Current diff. (09-Nov-11): 244bp
Current (NRG 7.625% 2018): 681bp
Current (HY BB): 438bp
Current Price (NRG 7.625% 2018): 99.00
Difference
Avg Diff.
NRG 7.625% 2018
HY BB

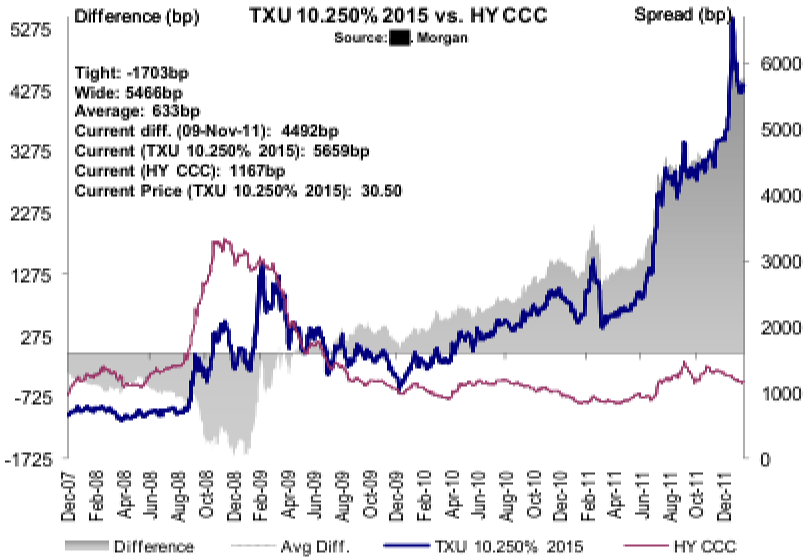


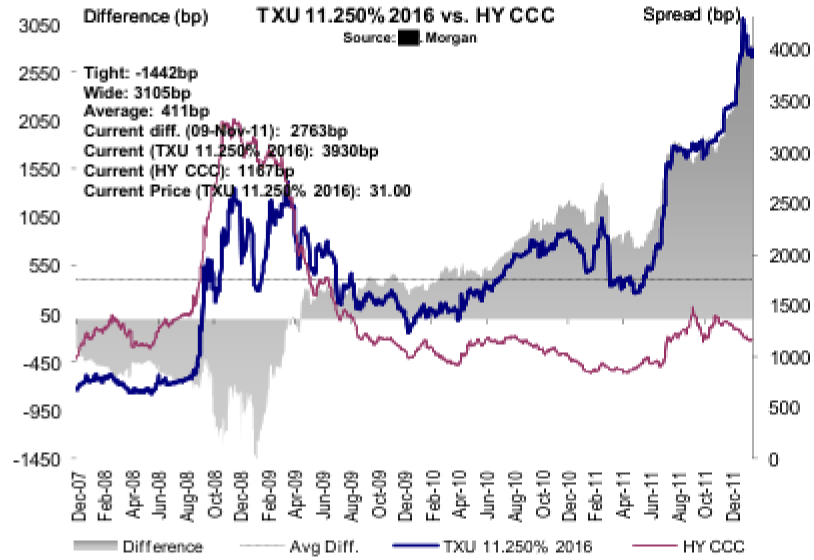


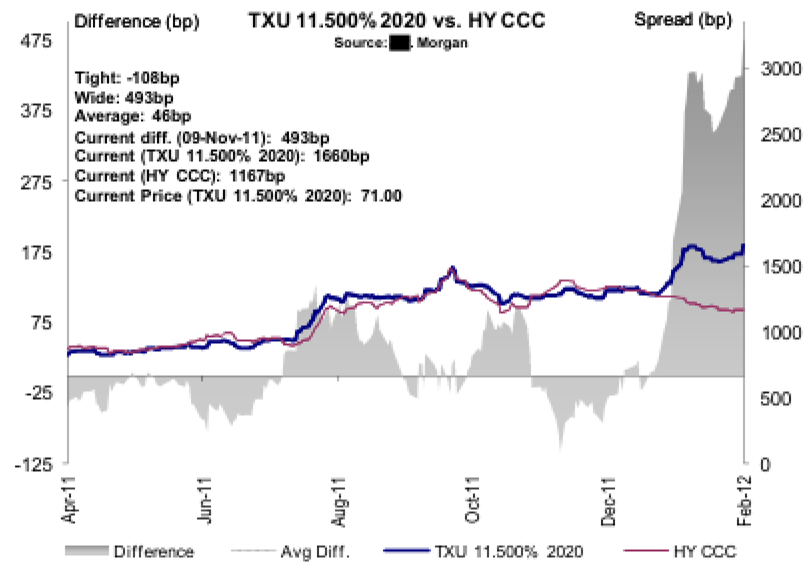


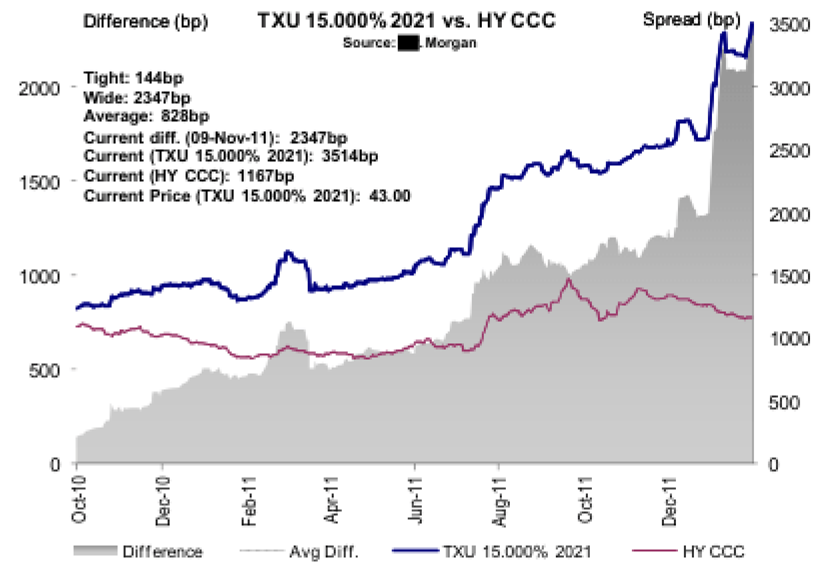


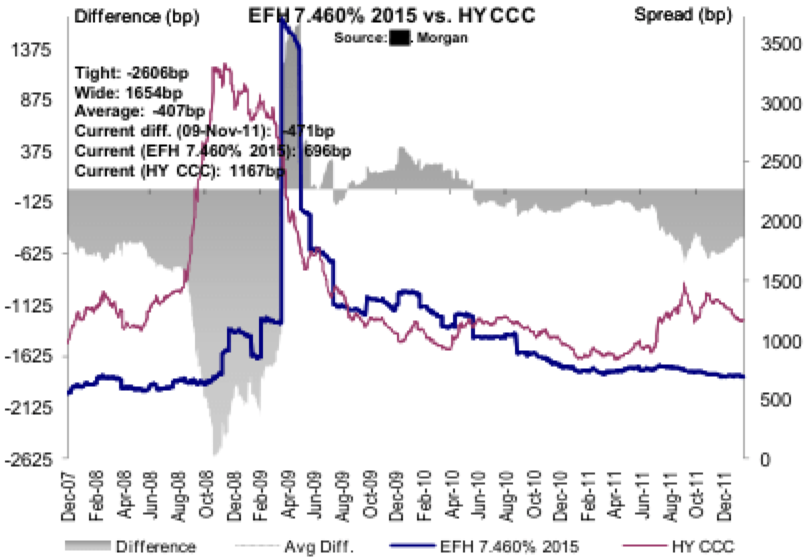
EFTA00606196

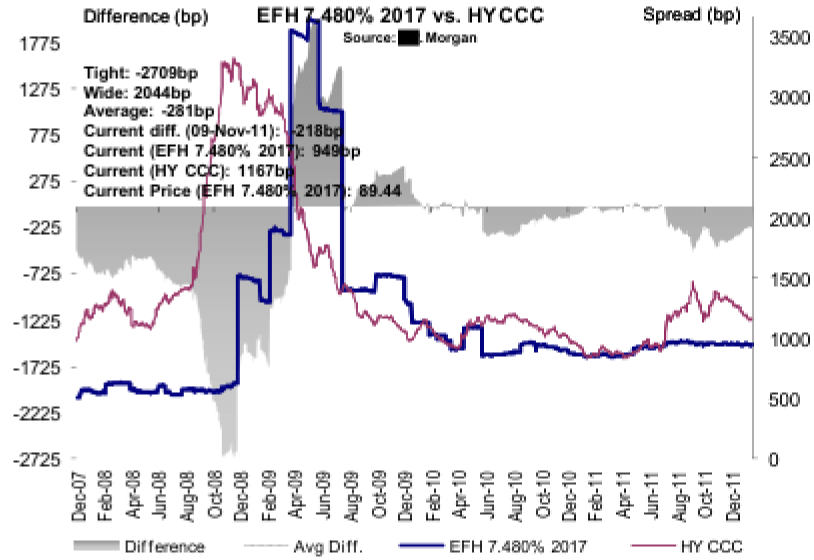

Difference (bp)
TXU 10.250% 2015 vs. HY CCC
Spread (bp)
Source: [redacted] Morgan
Tight: -1703bp
Wide: 5466bp
Average: 633bp
Current diff. (09-Nov-11): 4492bp
Current (TXU 10.250% 2015): 5659bp
Current (HY CCC): 1167bp
Current Price (TXU 10.250% 2015): 30.50
Difference
Avg Diff.
TXU 10.250% 2015
HY CCC

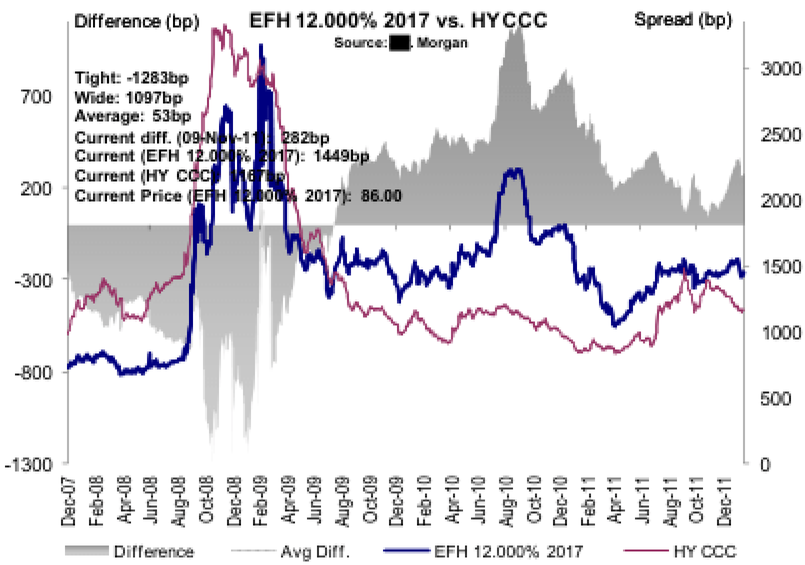

Difference (bp)
TXU 11.250% 2016 vs. HY CCC
Spread (bp)
Source: [redacted] Morgan
Tight: -1442bp
Wide: 3105bp
Average: 411bp
Current diff. (09-Nov-11): 2763bp
Current (TXU 11.250% 2016): 3930bp
Current (HY CCC): 1167bp
Current Price (TXU 11.250% 2016): 31.00
Difference
Avg Diff.
TXU 11.250% 2016
HY CCC

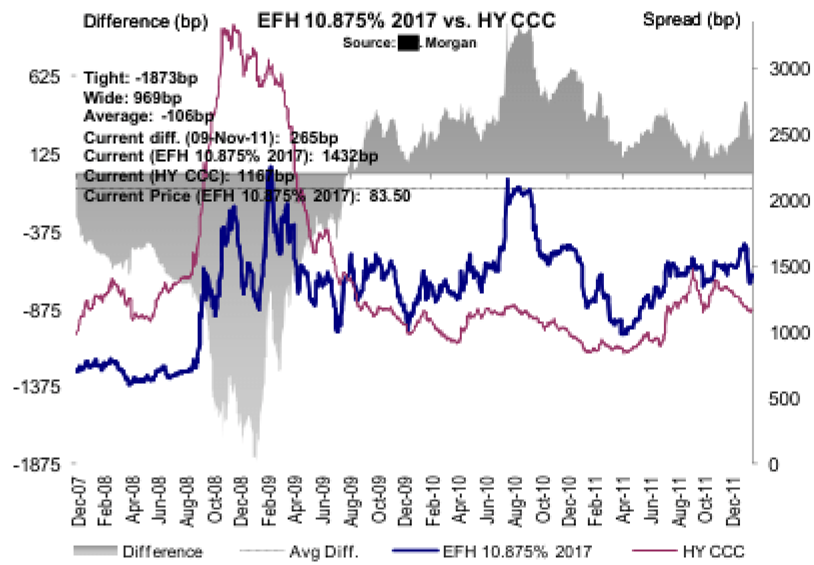

Difference (bp)
TXU 11.500% 2020 vs. HY CCC
Spread (bp)
Source: [redacted] Morgan
Tight: -108bp
Wide: 493bp
Average: 46bp
Current diff. (09-Nov-11): 493bp
Current (TXU 11.500% 2020): 1660bp
Current (HY CCC): 1167bp
Current Price (TXU 11.500% 2020): 71.00
Difference
Avg Diff.
TXU 11.500% 2020
HY CCC


Difference (bp)
TXU 15.000% 2021 vs. HY CCC
Spread (bp)
Source: [redacted] Morgan
Tight: 144bp
Wide: 2347bp
Average: 828bp
Current diff. (09-Nov-11): 2347bp
Current (TXU 15.000% 2021): 3514bp
Current (HY CCC): 1167bp
Current Price (TXU 15.000% 2021): 43.00
Difference
Avg Diff.
TXU 15.000% 2021
HY CCC

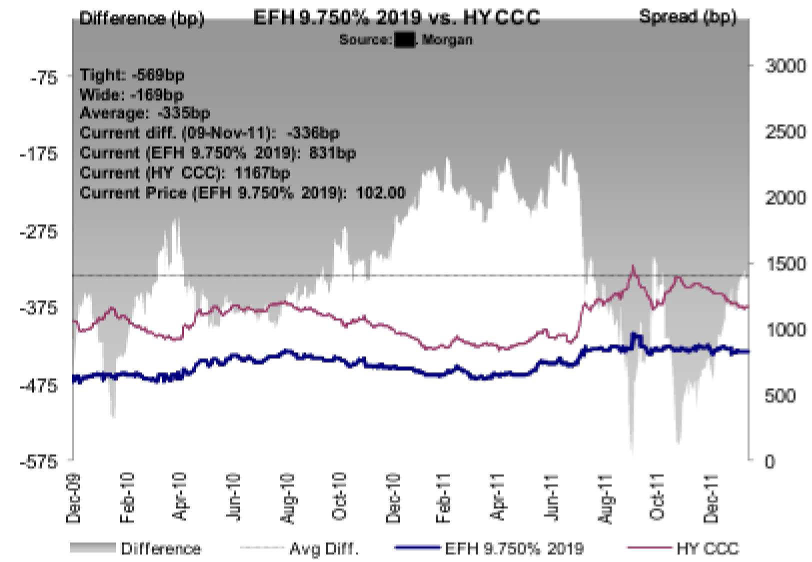


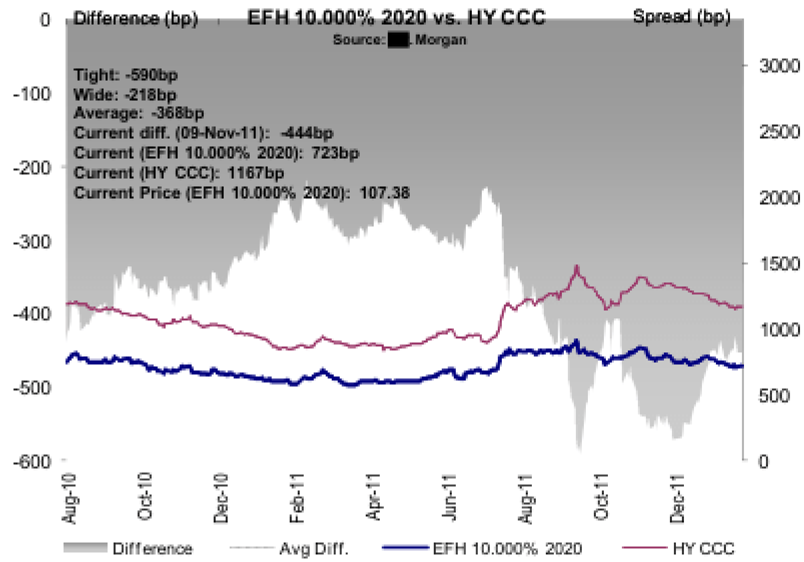


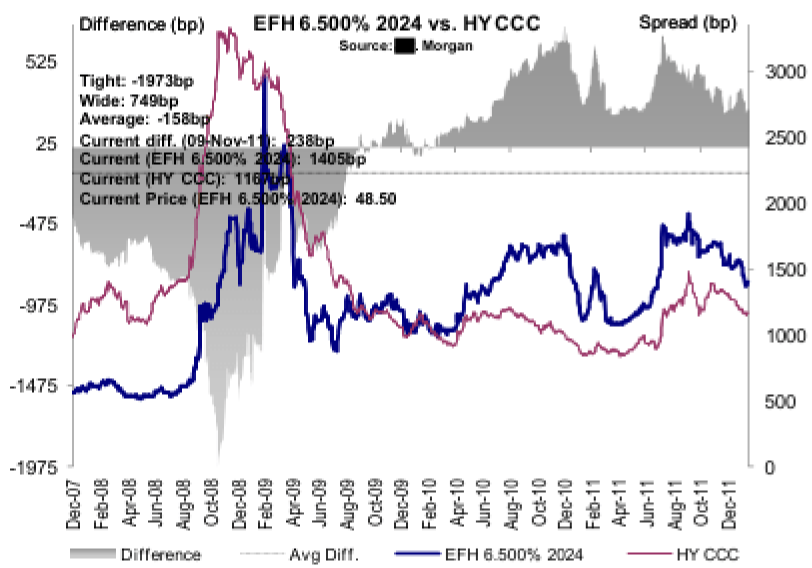




EFTA00606198

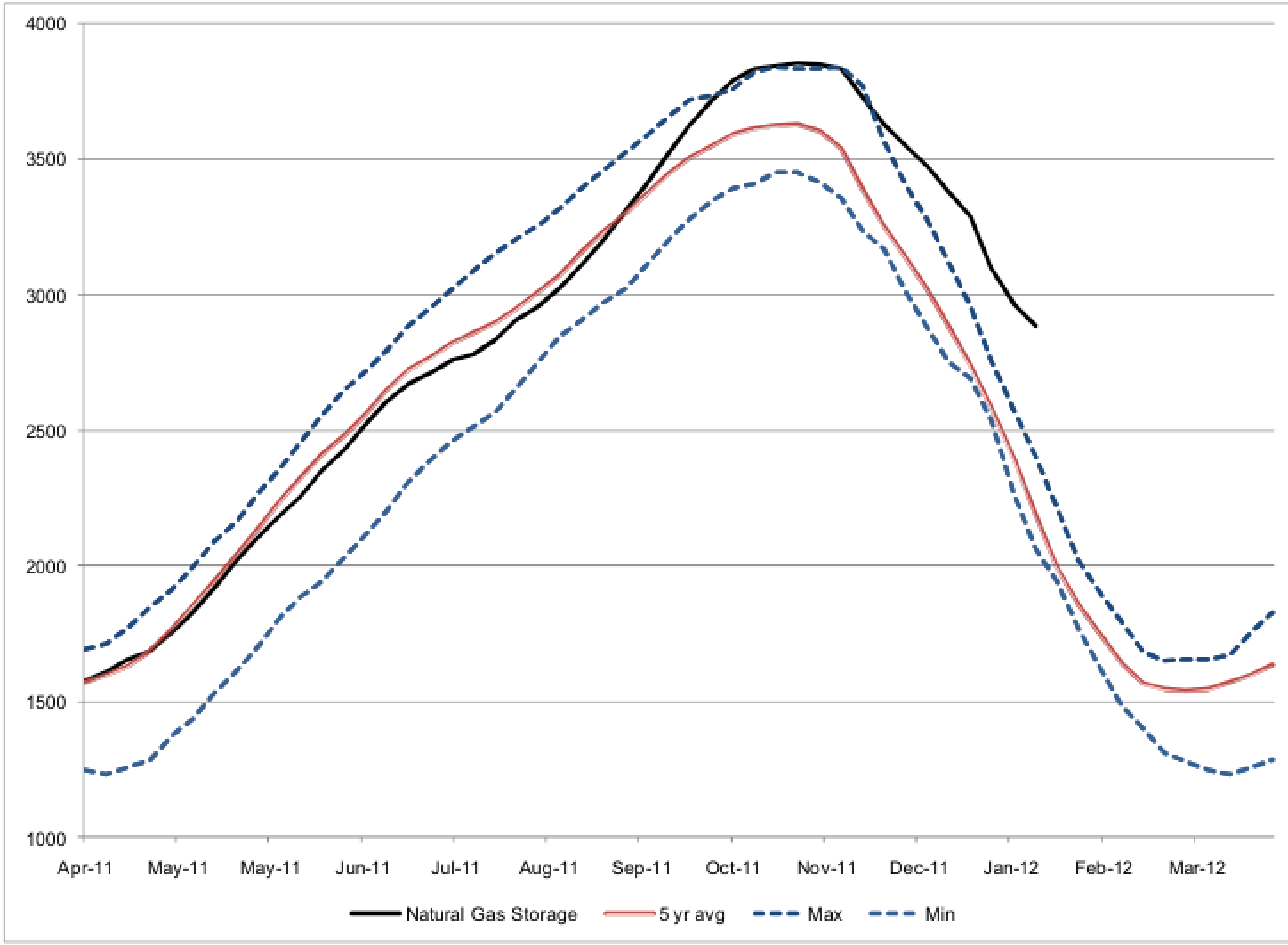






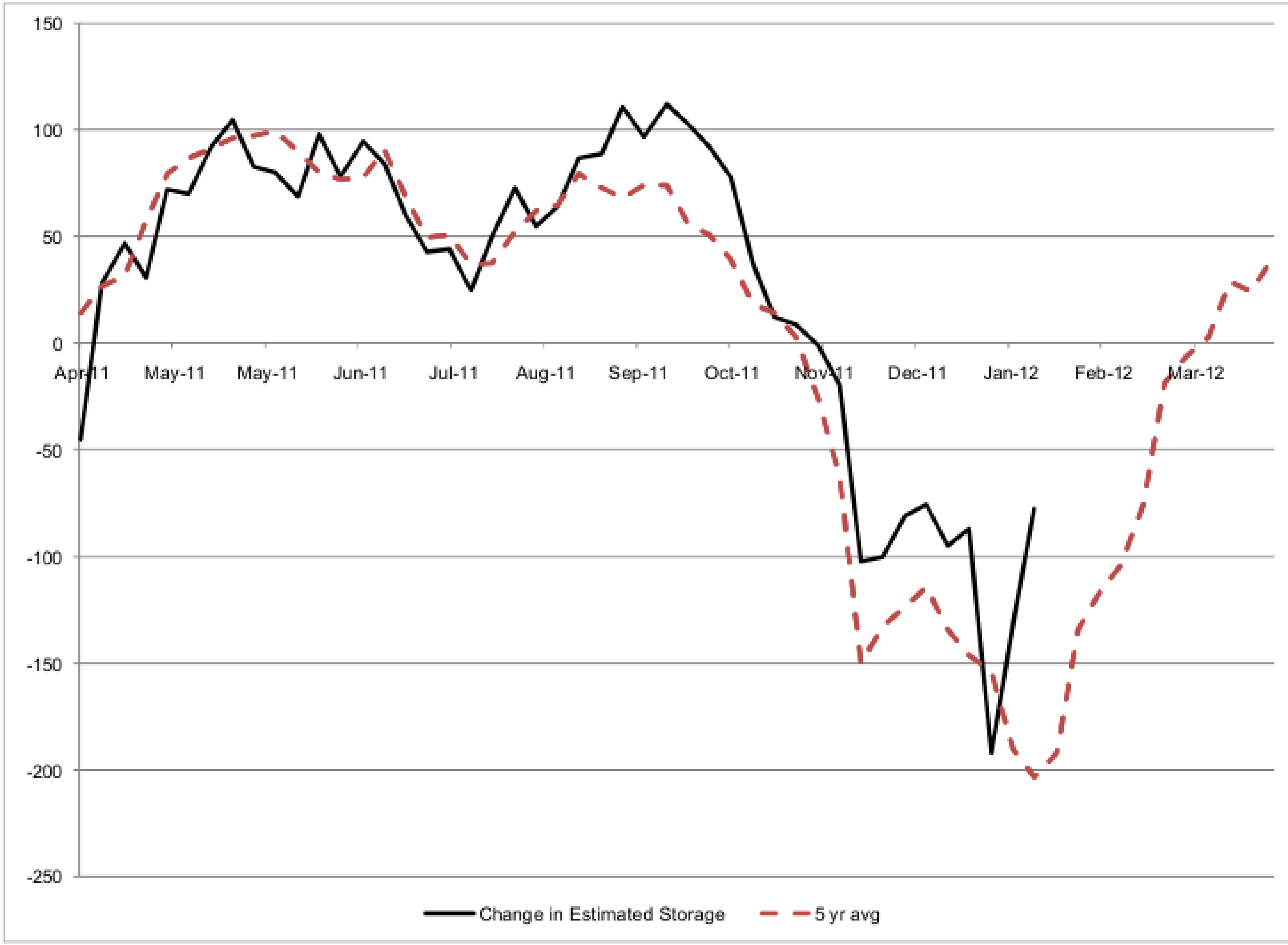
EFTA00606199

Working Natural Gas Total Estimated Storage



Source: Bloomberg and [redacted]. Morgan.

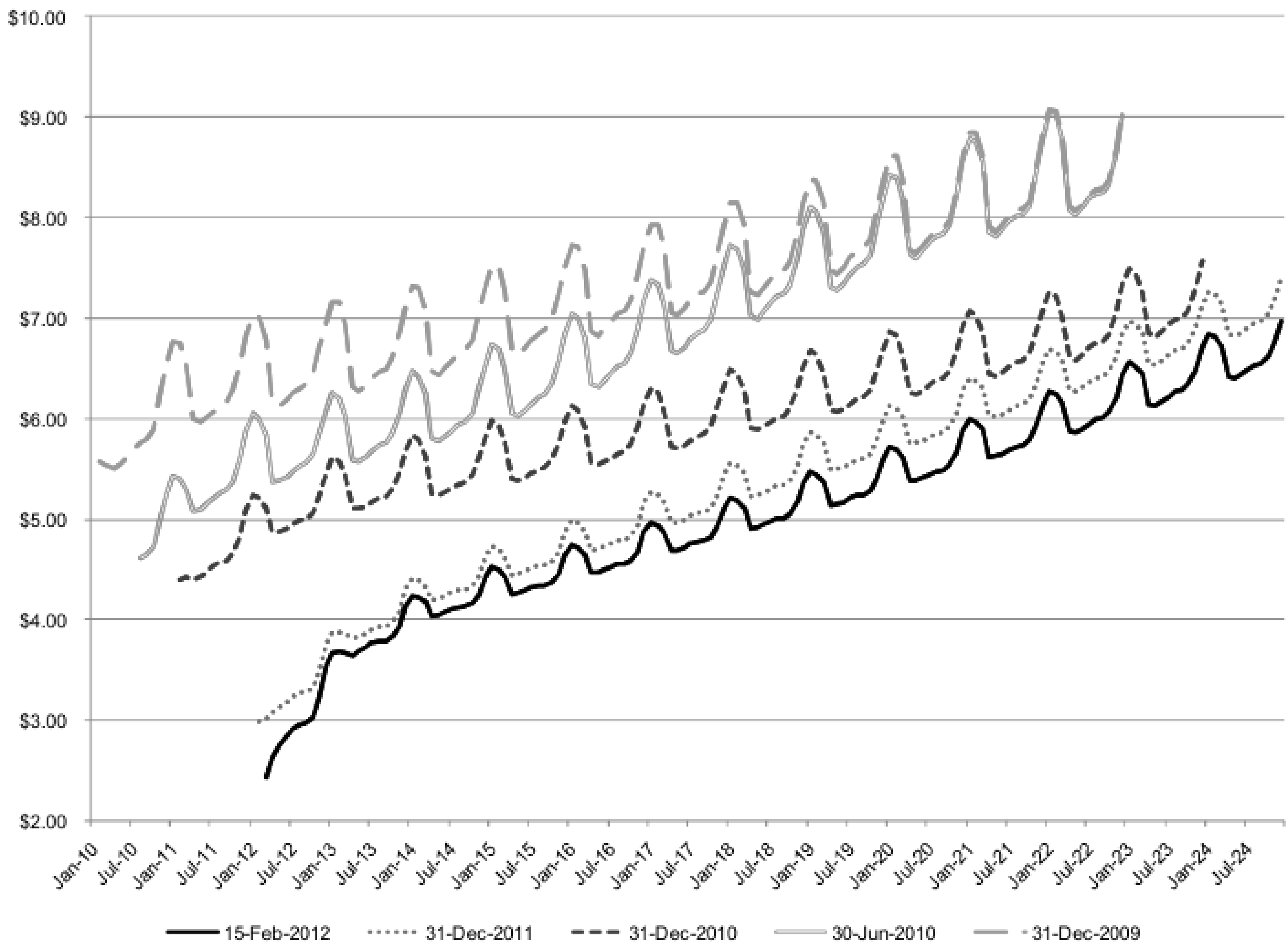
Working Natural Gas Change in Estimated Storage Data



Source: Bloomberg and [redacted]. Morgan.

EFTA00606201

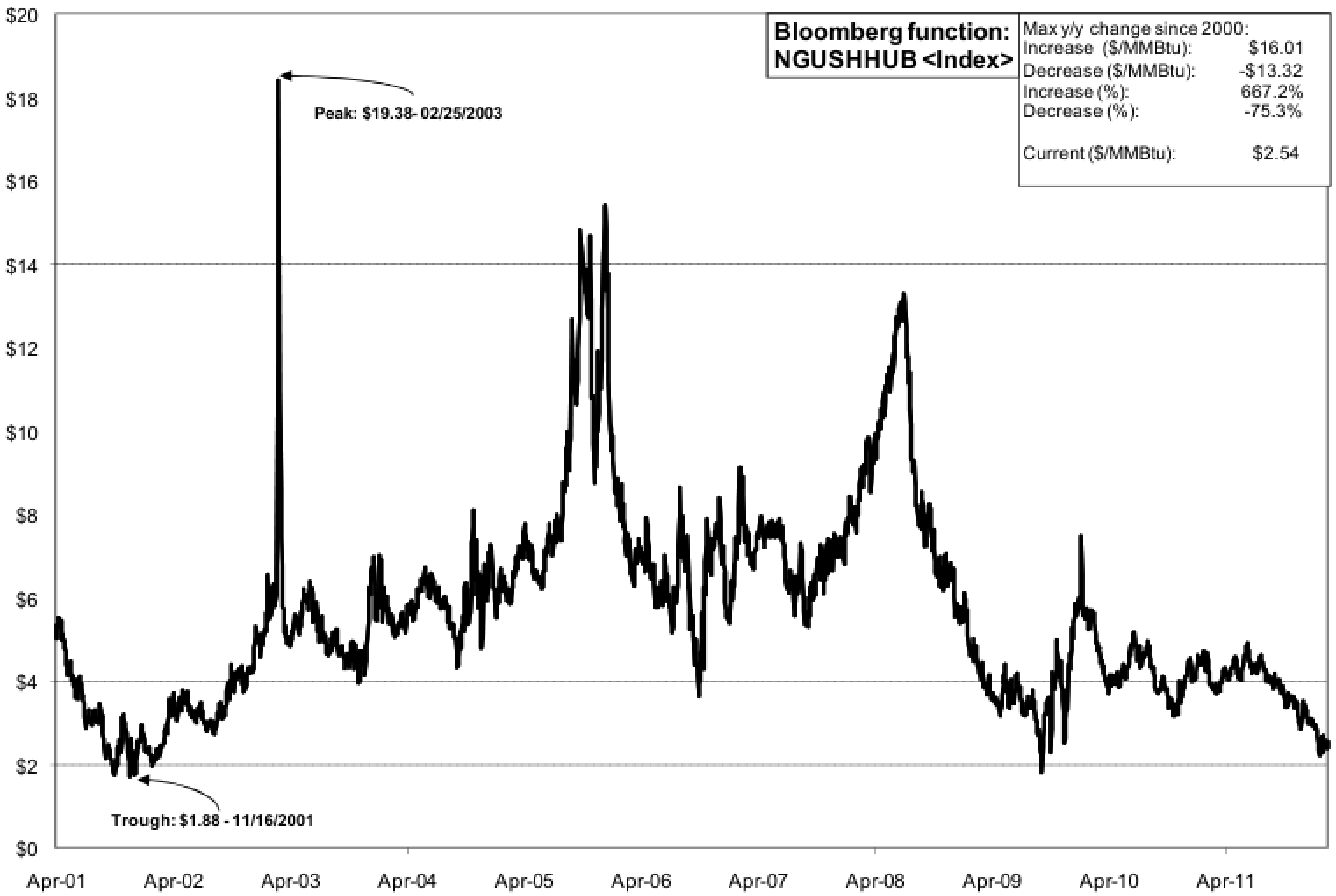
Natural gas futures prices ($/MMBtu)



Source: Bloomberg

EFTA00606202

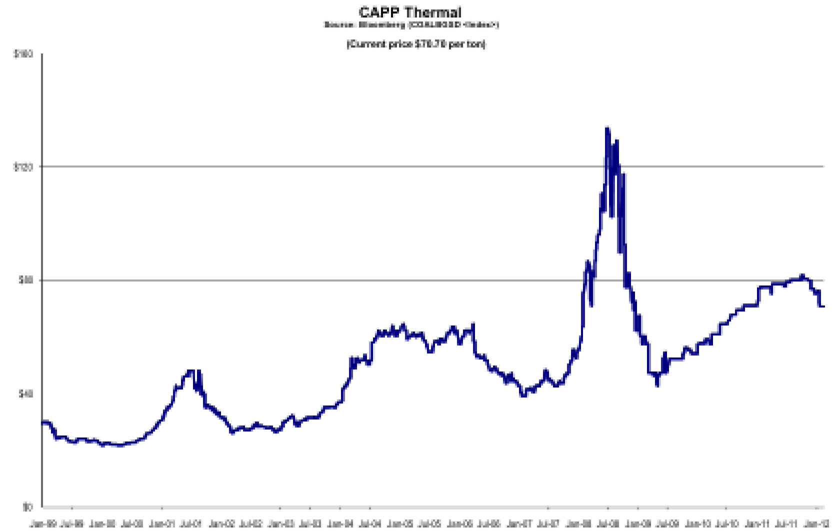
Henry Hub Natural Gas Spot Price (USD/MMBtu)

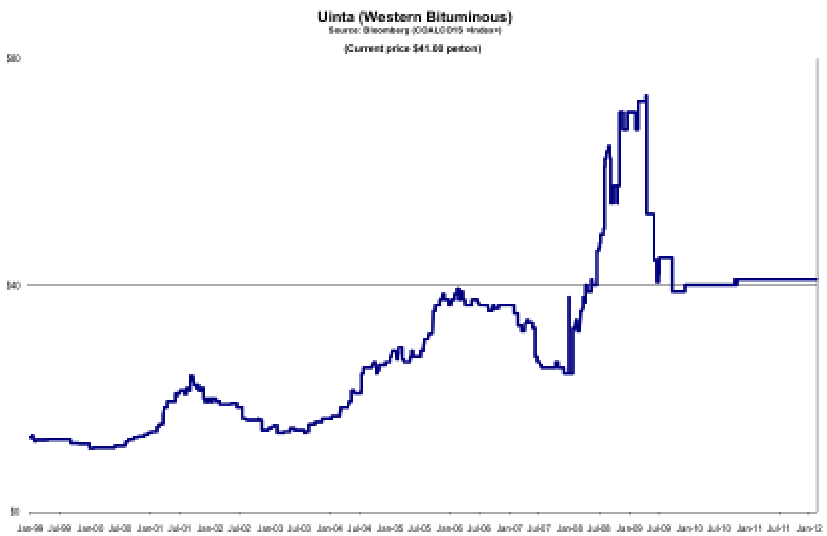


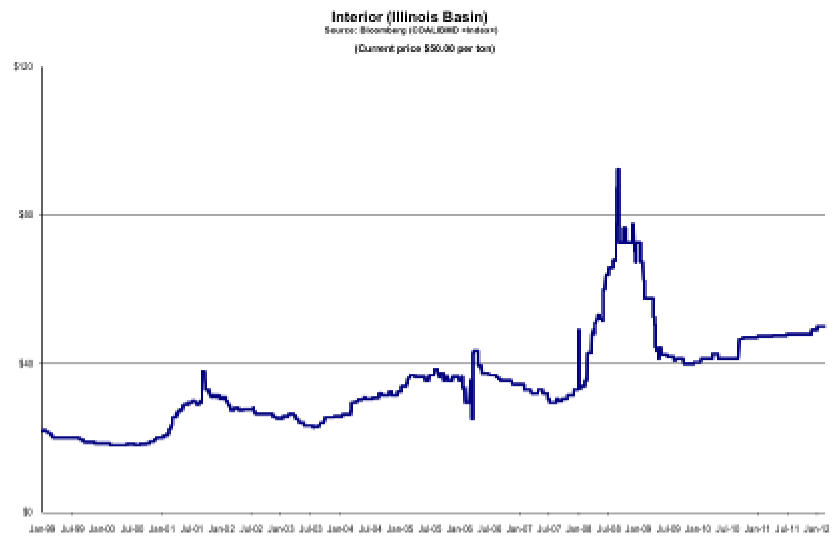
Source: Bloomberg.

EFTA00606203

Coal spot prices ($/ton)

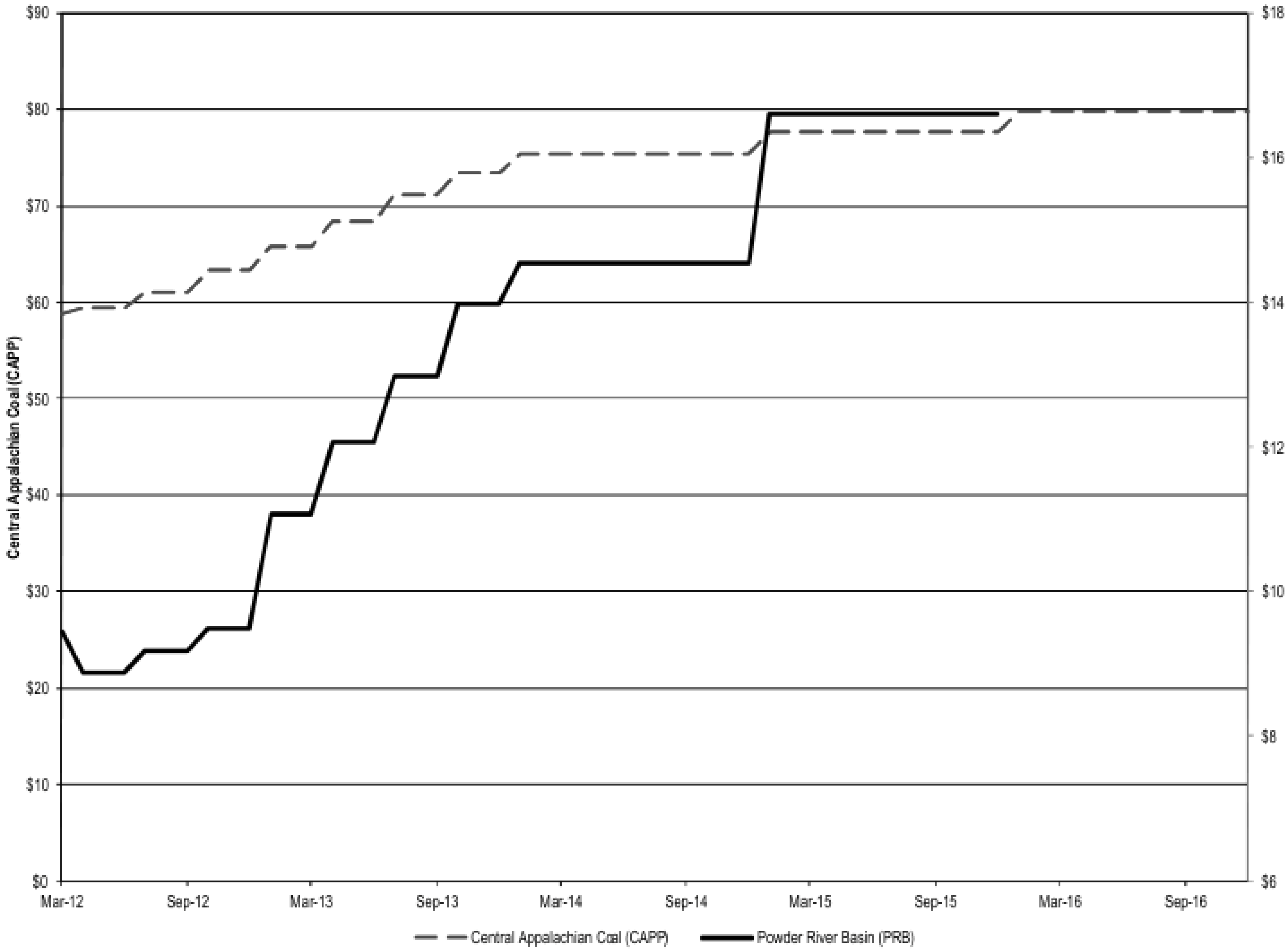






EFTA00606204

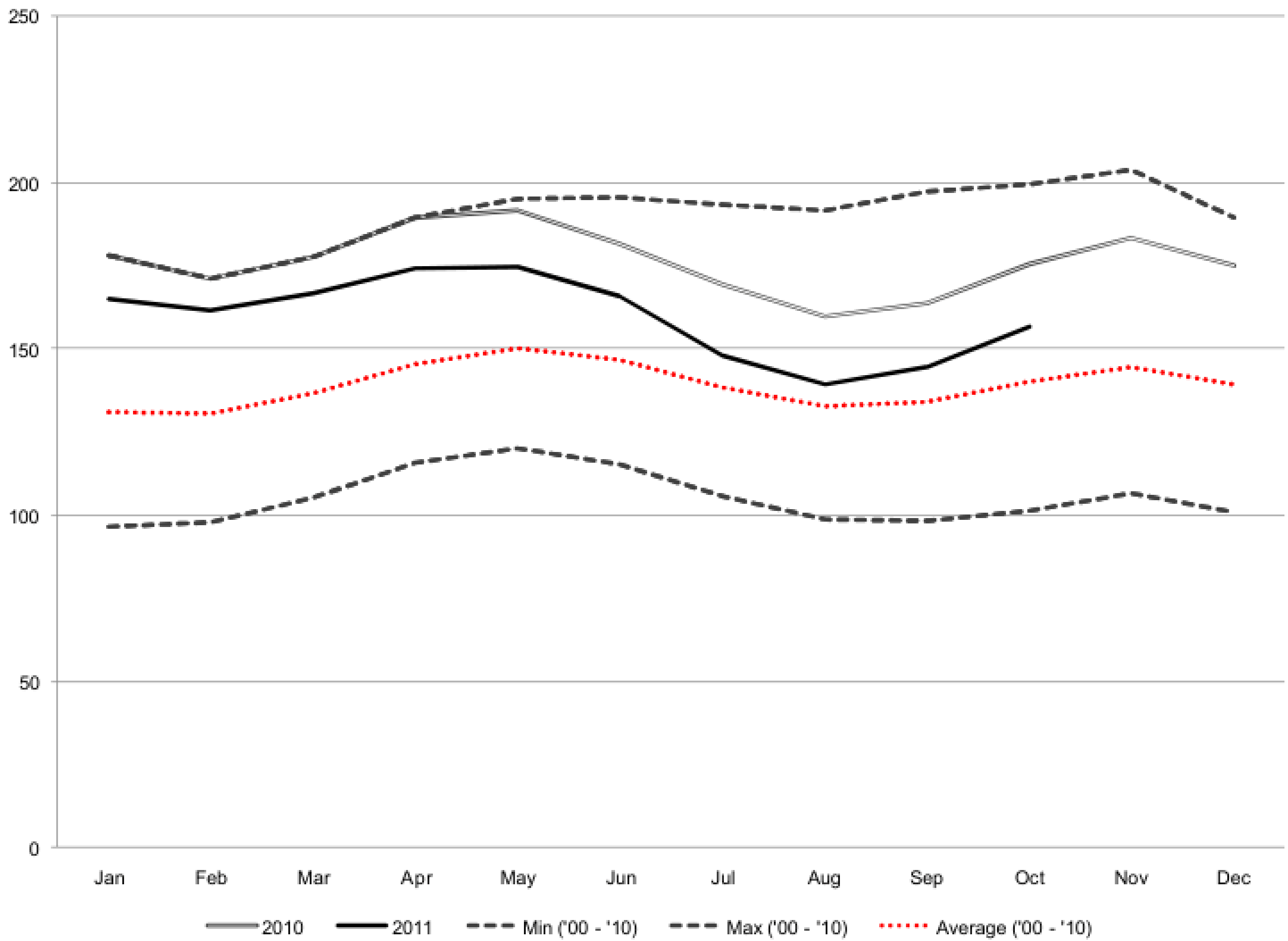
Coal futures



Source: Bloomberg (NYMEX).

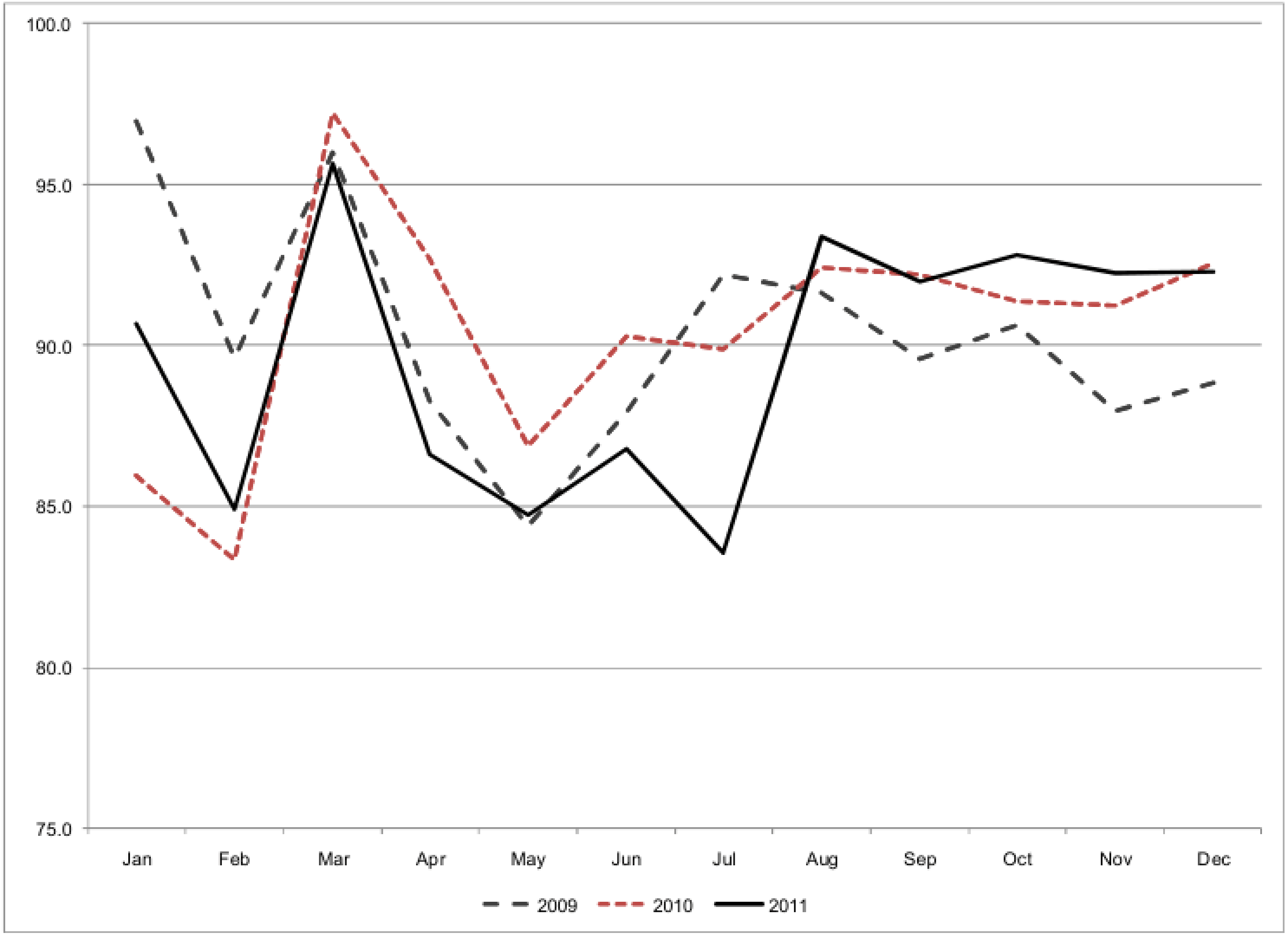
EFTA00606205

Coal Stockpiles in the Electric Sector



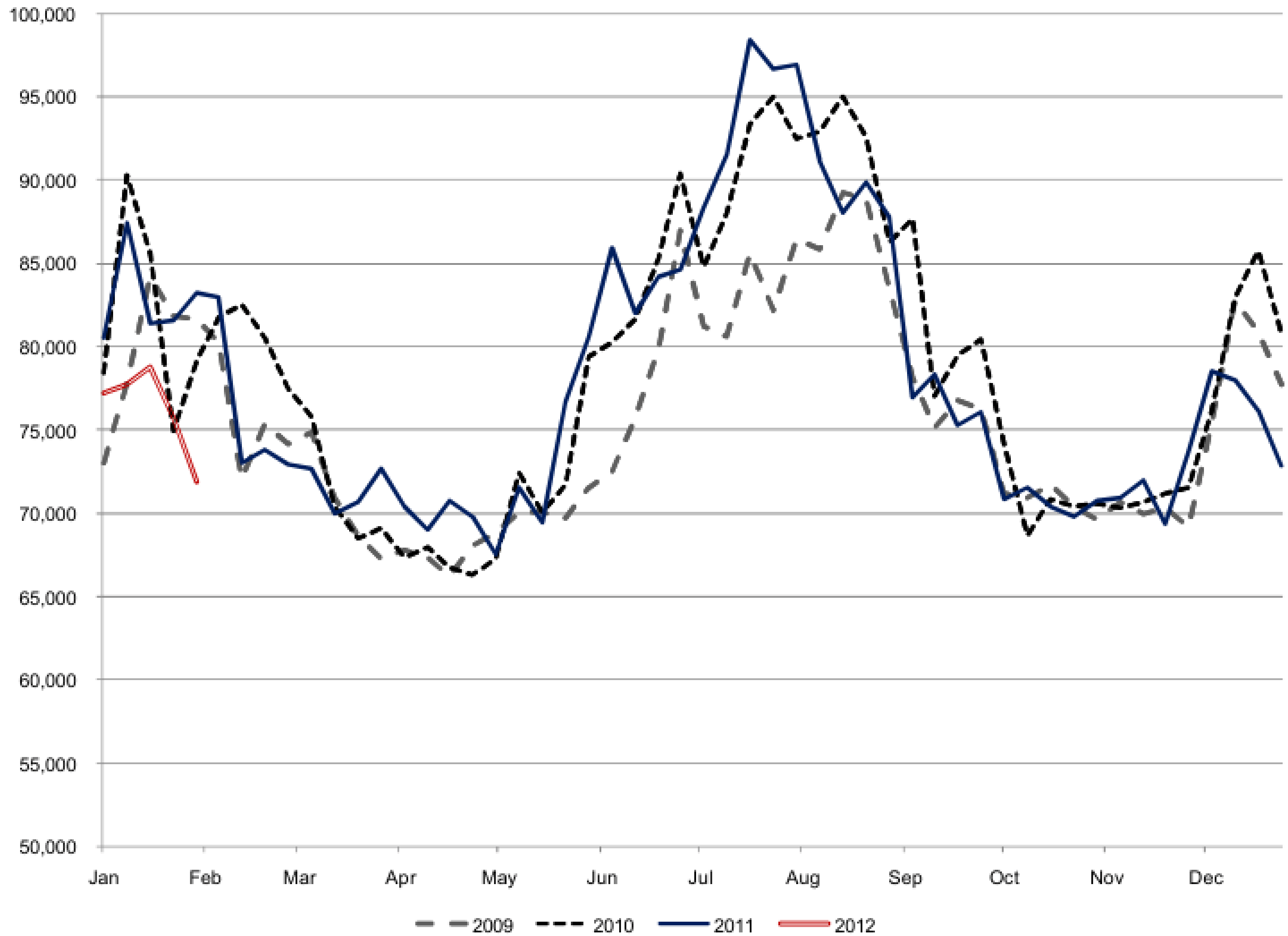
Source: Bloomberg.

Coal Production



Source: Energy Information Agency.

Weekly Electricity Output



Source: Bloomberg.

Electricity Output

The last update as of	3-Feb-12				Trailing 52 weeks		
Region	**Weekly**	**Y/Y change**	**QTD**	**YTD**	**Current**	**Y/Y change**	**Relevant to**
New England	2,463	-9.1%	12,728	12,728	129,027	-1.9%	AES, CPN, DYN, GEN, NRG
Mid-Atlantic	8,312	-10.4%	43,376	43,376	450,502	-2.1%	AES, CPN, DYN, EIX, GEN, NRG
Central Industrial	12,784	-13.4%	68,999	68,999	701,812	-2.1%	AES, CPN, DYN, EIX, GEN , NRC
Southeast	18,593	-10.8%	97,944	97,944	1,013,038	-5.0%	AES, CPN, DYN, EIX, GEN, NRG
South Central	10,937	-23.9%	57,397	57,397	682,785	2.5%	AES, CPN, EIX, NRG, TXU
Rocky Mountain	4,954	-7.5%	25,209	25,209	268,956	0.4%	AES, EIX, DYN, NRG
West Central	5,267	0.0%	31,243	31,243	335,548	-1.4%	AES, EIX
Pacific Southwest	5,196	-2.1%	26,261	26,261	290,006	0.1%	AES, DYN, CPN, EIX, GEN, NRG
Pacific Northwest	3,411	-7.1%	18,202	18,202	160,668	3.3%	CPN, EIX, NRG,
Total Electricity Output	**71,917**	**-13.5%**	**381,359**	**381,359**	**4,032,347**	**-1.5%**	

Source: Bloomberg. Units: GWh.

EFTA00606209

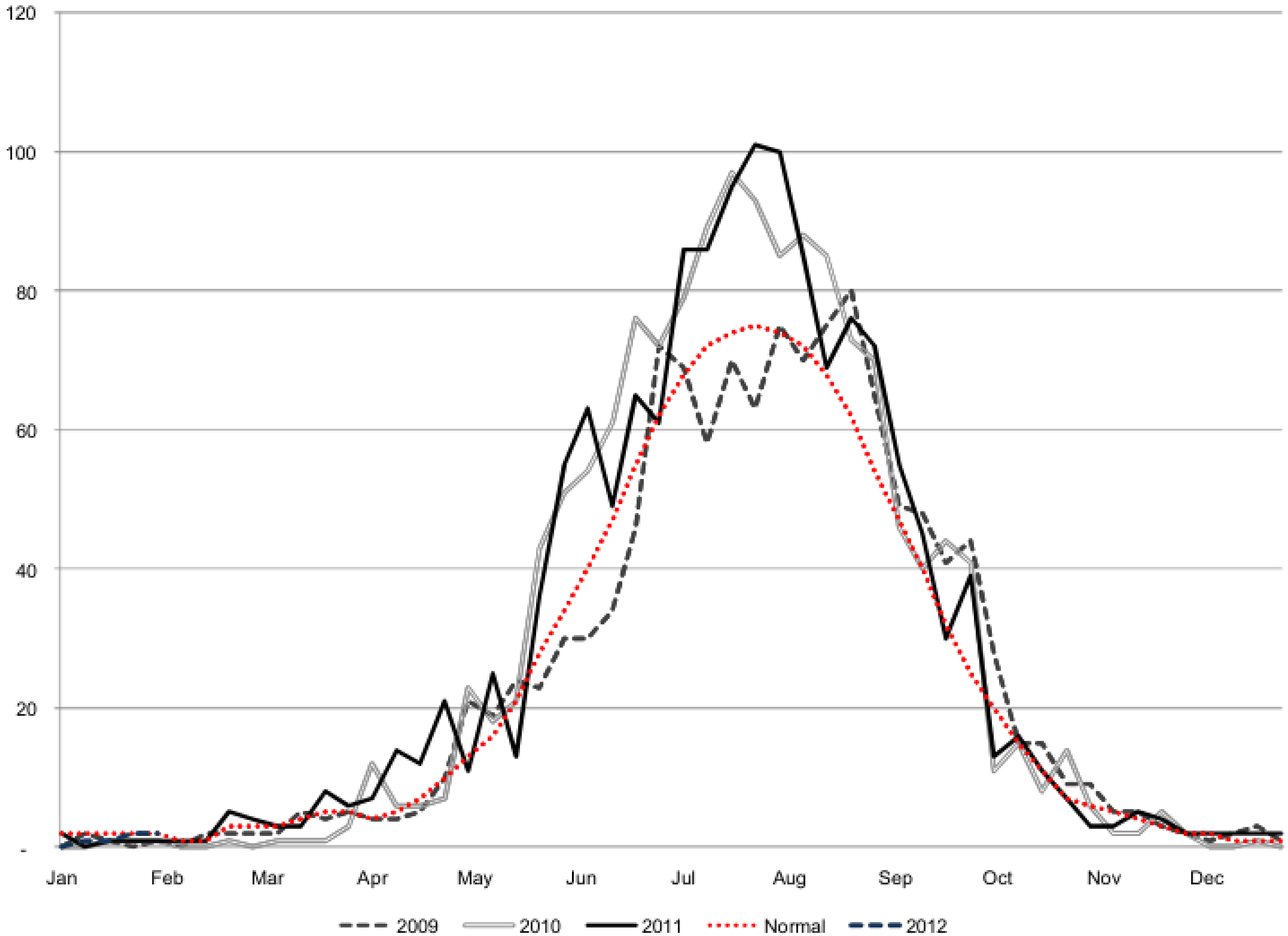
Total Degree Days

Region	Total Degree Days YTD 2012	YTD 2011	Normal	YoY	vs Normal	Company (As of 11-Feb-12)
New England	2,170	2,741	2,572	-20.8%	-15.6%	AES, CPN, DYN, GEN, NRG
Mid Atlantic	2,083	2,612	2,459	-20.3%	-15.3%	AES, DYN, EIX, GEN, NRG
E. North Central	2,265	2,917	2,772	-22.4%	-18.3%	DYN, EIX, GEN, NRG
W. North Central	2,341	3,163	2,954	-26.0%	-20.8%	AES, CPN, GEN, NRG, TXU
South Atlantic	1,395	1,897	1,750	-26.5%	-20.3%	CPN, DYN,
E. South Central	1,284	1,919	1,767	-33.1%	-27.3%	CPN, GEN
W. South Central	904	1,440	1,329	-37.2%	-32.0%	CPN, NRG, GEN
Mountain	1,867	2,209	2,180	-15.5%	-14.4%	CPN, DYN,
Pacific	952	1,028	1,130	-7.4%	-15.8%	AES, CPN, DYN, EIX, GEN, NRG

Region	Total Degree Days 2011	2010	Normal	YoY	vs Normal	Company (As of 31-Dec-11)
New England	1,790	2,205	2,195	-18.8%	-18.5%	AES, CPN, DYN, GEN, NRG
Mid Atlantic	1,711	2,082	2,062	-17.8%	-17.0%	AES, DYN, EIX, GEN, NRG
E. North Central	1,946	2,356	2,326	-17.4%	-16.3%	DYN, EIX, GEN, NRG
W. North Central	2,173	2,438	2,526	-10.9%	-14.0%	AES, CPN, GEN, NRG, TXU
South Atlantic	1,361	1,700	1,572	-19.9%	-13.4%	CPN, DYN,
E. South Central	1,263	1,542	1,455	-18.1%	-13.2%	CPN, GEN
W. South Central	1,073	1,066	1,106	0.7%	-3.0%	CPN, NRG, GEN
Mountain	2,180	2,003	2,205	8.8%	-1.1%	CPN, DYN,
Pacific	1,114	1,088	1,097	2.4%	1.5%	AES, CPN, DYN, EIX, GEN, NRG

Source: National Oceanic and Atmospheric Administration. Note: Gas home heating customer weighted.

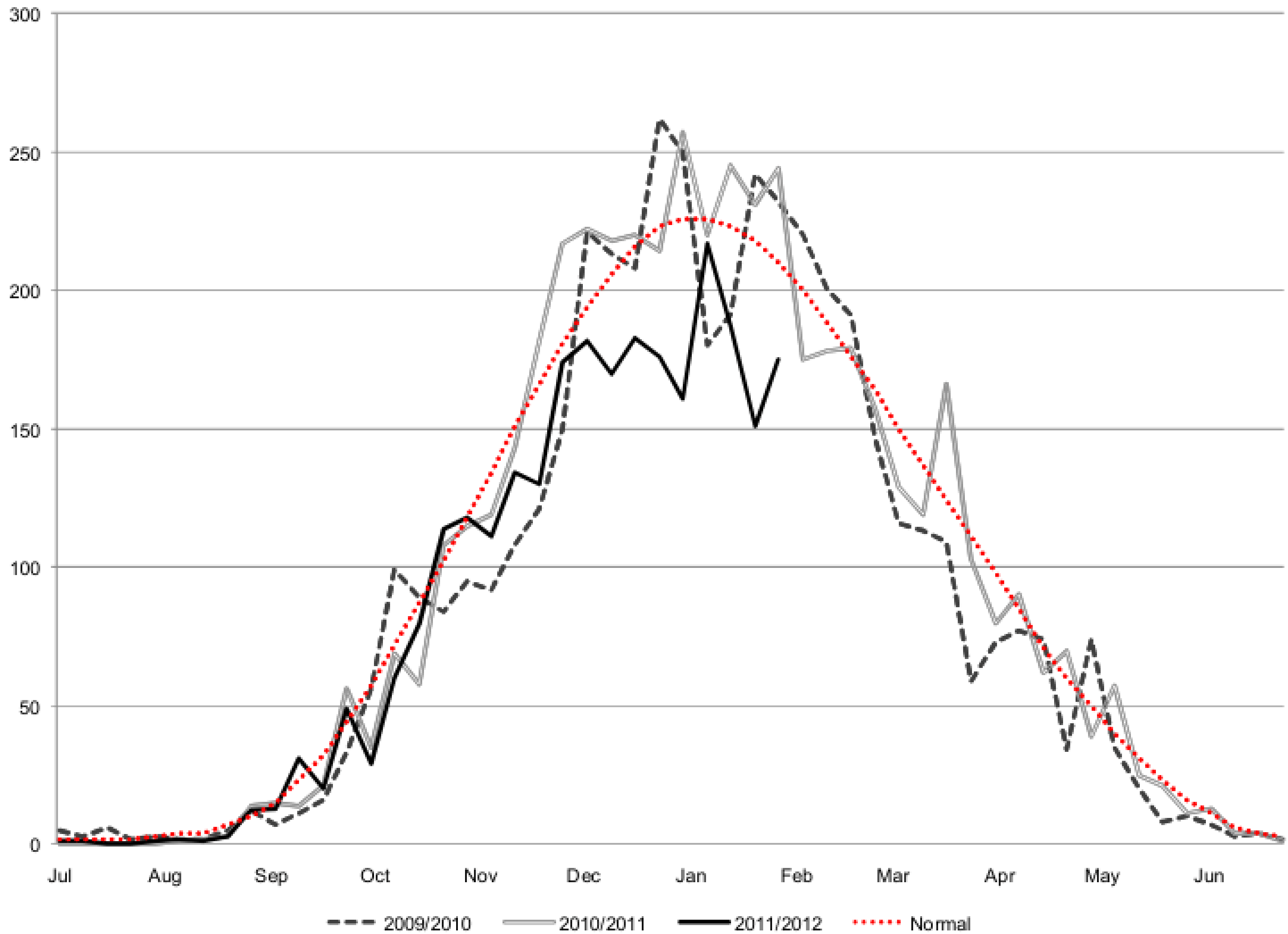
Average Cooling Degree Days



Source: National Oceanic and Atmospheric Administration (NOAA).

EFTA00606211

Average Heating Degree Days



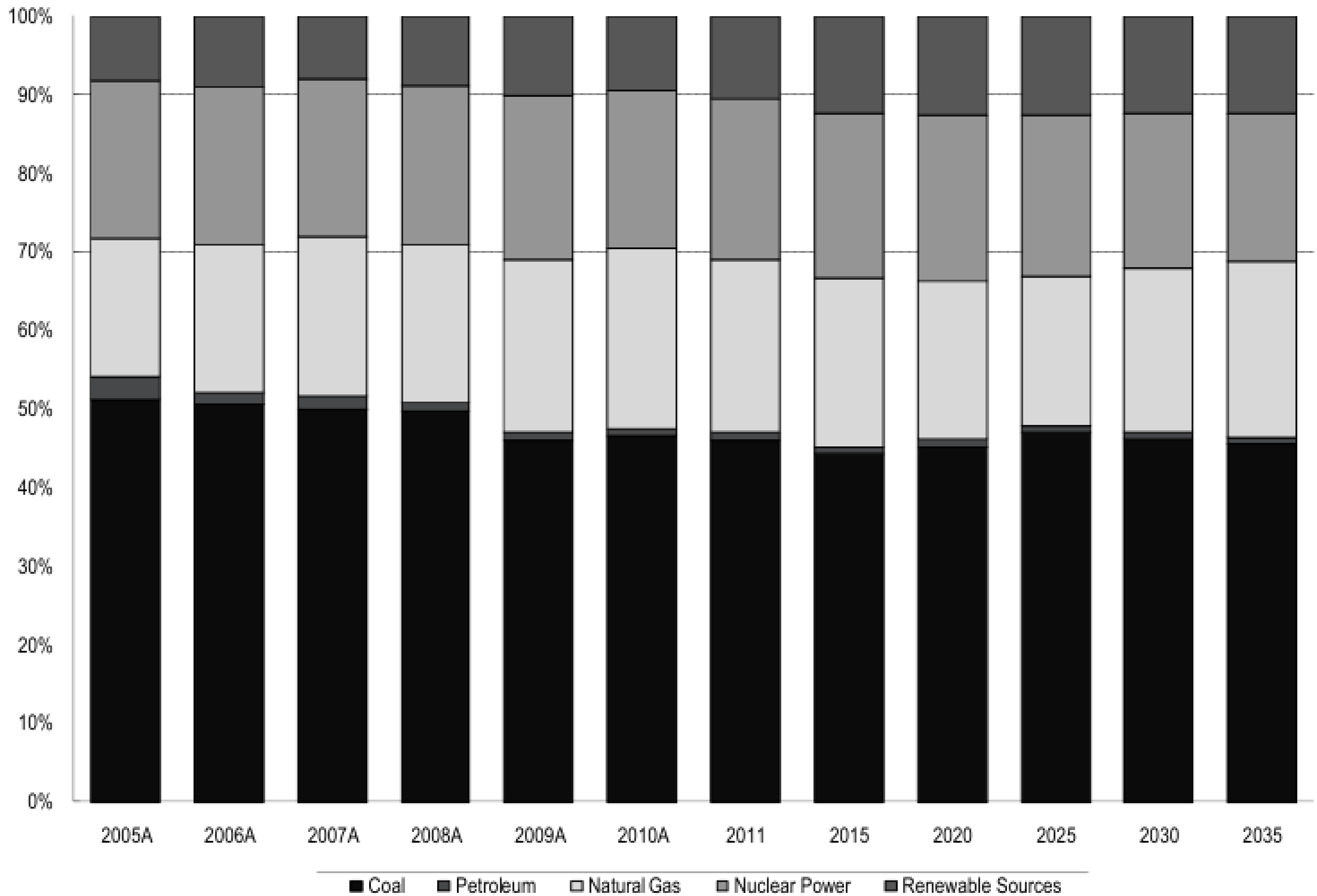
Source: National Oceanic and Atmospheric Administration (NOAA).

Generation Share Forecasts and Implied Capacity Factors

	2005A	2006A	2007A	2008A	2009A	2010A	2011E	2015E	2020E	2025E	2030E	2035E
Coal	51.1%	50.4%	49.9%	49.5%	45.9%	46.5%	46.0%	44.2%	45.1%	46.9%	46.0%	45.5%
Petroleum	3.0%	1.5%	1.5%	1.1%	0.9%	1.0%	1.0%	0.9%	0.9%	0.9%	0.9%	0.9%
Natural Gas	17.5%	18.8%	20.3%	20.2%	22.1%	22.9%	22.0%	21.5%	20.2%	19.1%	21.0%	22.3%
Nuclear Power	20.0%	20.1%	20.1%	20.3%	20.9%	20.3%	20.6%	21.0%	21.1%	20.4%	19.6%	18.9%
Pumped Storage/Other	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Renewable Sources	8.3%	9.0%	8.0%	8.8%	10.1%	9.4%	10.5%	12.4%	12.6%	12.7%	12.5%	12.3%
Distributed Generation (Natural Gas)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%
Implied coal plant capacity factor	73.4%	72.6%	73.8%	72.7%	63.8%	66.1%	64.2%	63.7%	67.4%	72.5%	74.0%	75.7%
Implied gas/oil plant capacity factor	21.7%	21.2%	23.1%	22.0%	22.3%	24.0%	22.5%	23.0%	22.8%	21.4%	22.6%	23.2%
Implied nuke plant capacity factor	89.1%	89.7%	91.5%	91.5%	90.3%	90.7%	90.6%	90.6%	90.6%	90.6%	90.6%	90.3%
Implied renewable plant capacity factor	39.5%	41.8%	36.0%	36.3%	37.5%	34.7%	36.8%	41.3%	43.7%	43.9%	43.7%	43.9%

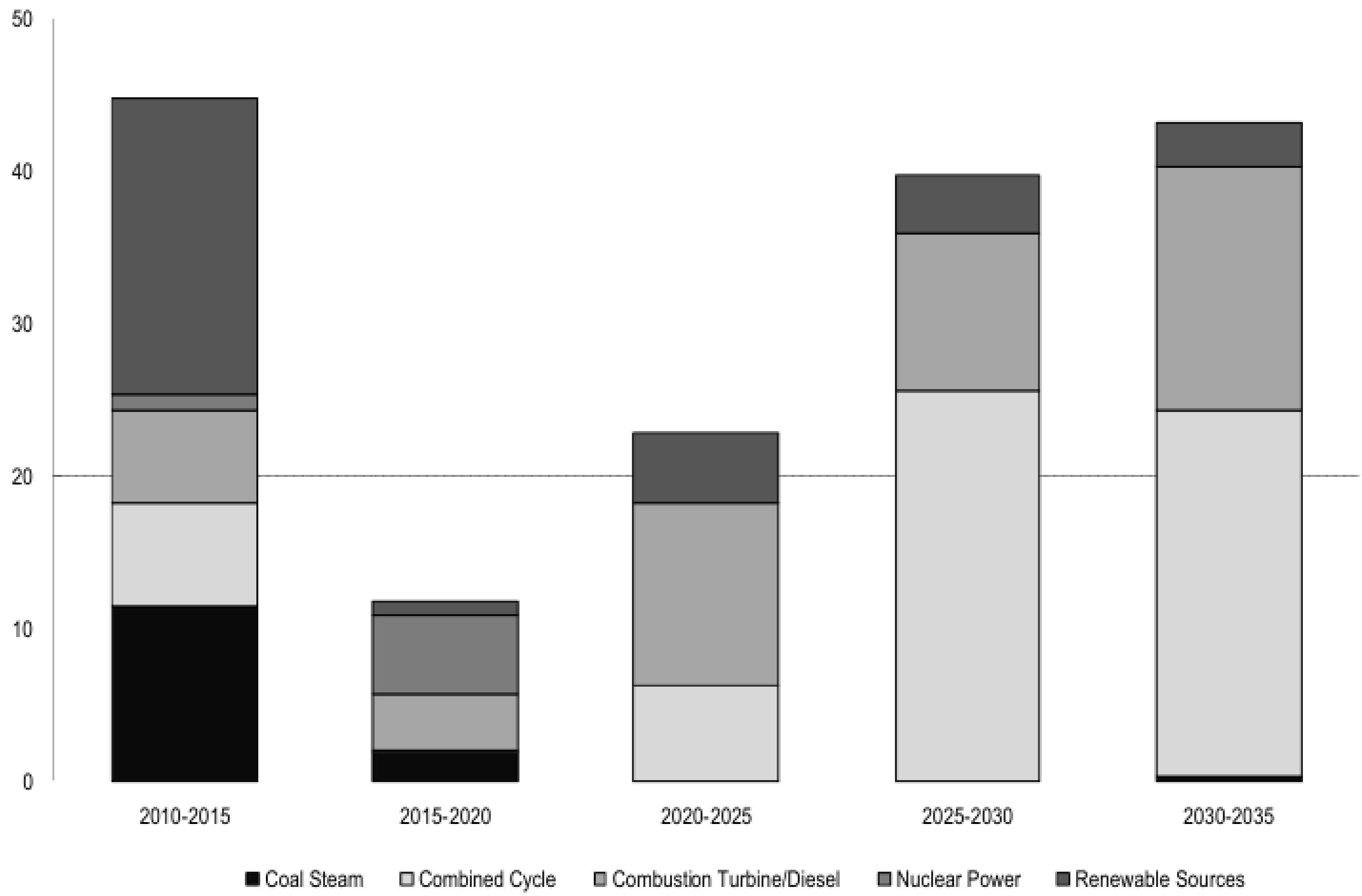
Source: Energy Information Agency.

Estimated Generation by Fuel Type



Source: Energy Information Agency.

Estimated Capacity Additions, 2007-2030



Source: Energy Information Agency.

Analyst Certification: The research analyst(s) denoted by an "AC" on the cover of this report certifies (or, where multiple research analysts are primarily responsible for this report, the research analyst denoted by an "AC" on the cover or within the document individually certifies, with respect to each security or issuer that the research analyst covers in this research) that: (1) all of the views expressed in this report accurately reflect his or her personal views about any and all of the subject securities or issuers; and (2) no part of any of the research analyst's compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed by the research analyst(s) in this report.

Conflict of Interest

This research contains the views, opinions and recommendations of [redacted]. Morgan credit research analysts. Research analysts routinely consult with [redacted]. Morgan trading desk personnel in formulating views, opinions and recommendations in preparing research. Trading desks may trade, or have traded, as principal on the basis of the research analyst(s) views and report(s). Therefore, this research may not be independent from the proprietary interests of [redacted]. Morgan trading desks which may conflict with your interests. In addition, research analysts receive compensation based, in part, on the quality and accuracy of their analysis, client feedback, trading desk and firm revenues and competitive factors. As a general matter, [redacted]. Morgan and/or its affiliates normally make a market and trade as principal in fixed income securities discussed in research reports.

Important Disclosures

- **Lead or Co-manager:** [redacted]. Morgan acted as lead or co-manager in a public offering of equity and/or debt securities for AES Corp, Edison Mission Energy, Edison International, NRG Energy within the past 12 months.

Explanation of Credit Research Ratings:
Ratings System: [redacted]. Morgan uses the following sector/issuer portfolio weightings: Overweight (over the next three months, the recommended risk position is expected to outperform the relevant index, sector, or benchmark), Neutral (over the next three months, the recommended risk position is expected to perform in line with the relevant index, sector, or benchmark), and Underweight (over the next three months, the recommended risk position is expected to underperform the relevant index, sector, or benchmark). [redacted]. Morgan's Emerging Market research uses a rating of Marketweight, which is equivalent to a Neutral rating.

Valuation & Methodology: In [redacted]. Morgan's credit research, we assign a rating to each issuer (Overweight, Underweight or Neutral) based on our credit view of the issuer and the relative value of its securities, taking into account the ratings assigned to the issuer by credit rating agencies and the market prices for the issuer's securities. Our credit view of an issuer is based upon our opinion as to whether the issuer will be able service its debt obligations when they become due and payable. We assess this by analyzing, among other things, the issuer's credit position using standard credit ratios such as cash flow to debt and fixed charge coverage (including and excluding capital investment). We also analyze the issuer's ability to generate cash flow by reviewing standard operational measures for comparable companies in the sector, such as revenue and earnings growth rates, margins, and the composition of the issuer's balance sheet relative to the operational leverage in its business.

Other Disclosures

[redacted]. Morgan ("JPM") is the global brand name for [redacted]. Morgan Securities LLC ("JPMS") and its affiliates worldwide. [redacted]. Morgan Cazenove is a marketing name for the U.K. investment banking businesses and EMEA cash equities and equity research businesses of JPMorgan Chase & Co. and its subsidiaries.

Options related research: If the information contained herein regards options related research, such information is available only to persons who have received the proper option risk disclosure documents. For a copy of the Option Clearing Corporation's Characteristics and Risks of Standardized Options, please contact your [redacted]. Morgan Representative or visit the OCC's website at [redacted]

Legal Entities Disclosures
U.S.: JPMS is a member of NYSE, FINRA, SIPC and the NFA. JPMorgan Chase Bank, [redacted]. is a member of FDIC and is authorized and regulated in the UK by the Financial Services Authority. **U.K.:** [redacted]. Morgan Securities Ltd. (JPMSL) is a member of the London Stock Exchange and is authorized and regulated by the Financial Services Authority. Registered in England & Wales No. 2711006. Registered Office 125 London Wall, London EC2Y 5AJ. **South Africa:** [redacted]. Morgan Equities Limited is a member of the Johannesburg Securities Exchange and is regulated by the FSB. **Hong Kong:** [redacted]. Morgan Securities (Asia Pacific) Limited (CE number AAJ321) is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission in Hong Kong. **Korea:** [redacted]. Morgan Securities (Far East) Ltd, Seoul Branch, is regulated by the Korea Financial Supervisory Service. **Australia:** [redacted]. Morgan Australia Limited (ABN 52 002 888 011/AFS Licence No: 238188) is regulated by ASIC and [redacted]. Morgan Securities Australia Limited (ABN 61 003 245 234/AFS Licence No: 238066) is a Market Participant with the ASX and regulated by ASIC. **Taiwan:** [redacted] Securities (Taiwan) Limited is a participant of the Taiwan Stock Exchange (company-type) and regulated by the Taiwan Securities and Futures Bureau. **India:** [redacted]. Morgan India Private Limited, having its registered office at [redacted]. Morgan Tower, Off. C.S.T. Road, Kalina, Santacruz East, Mumbai - 400098, is a member of the National Stock Exchange of India Limited (SEBI Registration Number - INB 230675231/INF 230675231/INE 230675231) and Bombay Stock Exchange Limited (SEBI Registration Number - INB 010675237/INF 010675237) and is regulated by Securities and Exchange Board of India. **Thailand:** JPMorgan Securities (Thailand) Limited is a member of the Stock Exchange of Thailand and is regulated by the Ministry of Finance and the Securities and Exchange Commission. **Indonesia:** PT [redacted]. Morgan Securities Indonesia is a member of the Indonesia Stock Exchange and is regulated by the BAPEPAM LK. **Philippines:** [redacted]. Morgan Securities Philippines Inc. is a member of the Philippine Stock Exchange and is regulated by the Securities and Exchange Commission. **Brazil:** Banco [redacted]. Morgan S.A. is regulated by the Comissao de Valores Mobiliarios (CVM) and by the Central Bank of Brazil. **Mexico:** [redacted].

Morgan Casa de Bolsa, S.A. de C.V., [redacted]. Morgan Grupo Financiero is a member of the Mexican Stock Exchange and authorized to act as a broker dealer by the National Banking and Securities Exchange Commission. **Singapore:** This material is issued and distributed in Singapore by [redacted]. Morgan Securities Singapore Private Limited (JPMSS) [MICA (P) 032/01/2012 and Co. Reg. No.: 199405335R] which is a member of the Singapore Exchange Securities Trading Limited and is regulated by the Monetary Authority of Singapore (MAS) and/or JPMorgan Chase Bank, [redacted]., Singapore branch (JPMCB Singapore) which is regulated by the MAS. **Malaysia:** This material is issued and distributed in Malaysia by JPMorgan Securities (Malaysia) Sdn Bhd (18146-X) which is a Participating Organization of Bursa Malaysia Berhad and a holder of Capital Markets Services License issued by the Securities Commission in Malaysia. **Pakistan:** J. P. Morgan Pakistan Broking (Pvt.) Ltd is a member of the Karachi Stock Exchange and regulated by the Securities and Exchange Commission of Pakistan. **Saudi Arabia:** [redacted]. Morgan Saudi Arabia Ltd. is authorized by the Capital Market Authority of the Kingdom of Saudi Arabia (CMA) to carry out dealing as an agent, arranging, advising and custody, with respect to securities business under licence number 35-07079 and its registered address is at 8th Floor, Al-Faisaliyah Tower, King Fahad Road, [redacted]. Box 51907, Riyadh 11553, Kingdom of Saudi Arabia. **Dubai:** JPMorgan Chase Bank, [redacted]., Dubai Branch is regulated by the Dubai Financial Services Authority (DFSA) and its registered address is Dubai International Financial Centre - Building 3, Level 7, PO Box 506551, Dubai, UAE.

Country and Region Specific Disclosures

U.K. and European Economic Area (EEA): Unless specified to the contrary, issued and approved for distribution in the U.K. and the EEA by JPMSL. Investment research issued by JPMSL has been prepared in accordance with JPMSL's policies for managing conflicts of interest arising as a result of publication and distribution of investment research. Many European regulators require a firm to establish, implement and maintain such a policy. This report has been issued in the U.K. only to persons of a kind described in Article 19 (5), 38, 47 and 49 of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (all such persons being referred to as "relevant persons"). This document must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this document relates is only available to relevant persons and will be engaged in only with relevant persons. In other EEA countries, the report has been issued to persons regarded as professional investors (or equivalent) in their home jurisdiction. **Australia:** This material is issued and distributed by JPMSAL in Australia to "wholesale clients" only. JPMSAL does not issue or distribute this material to "retail clients". The recipient of this material must not distribute it to any third party or outside Australia without the prior written consent of JPMSAL. For the purposes of this paragraph the terms "wholesale client" and "retail client" have the meanings given to them in section 761G of the Corporations Act 2001. **Germany:** This material is distributed in Germany by [redacted]. Morgan Securities Ltd., Frankfurt Branch and [redacted] Chase Bank, [redacted]., Frankfurt Branch which are regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht. **Hong Kong:** The 1% ownership disclosure as of the previous month end satisfies the requirements under Paragraph 16.5(a) of the Hong Kong Code of Conduct for Persons Licensed by or Registered with the Securities and Futures Commission. (For research published within the first ten days of the month, the disclosure may be based on the month end data from two months prior.) [redacted]. Morgan Broking (Hong Kong) Limited is the liquidity provider/market maker for derivative warrants, callable bull bear contracts and stock options listed on the Stock Exchange of Hong Kong Limited. An updated list can be found on HKEx website: [redacted]. **Japan:** There is a risk that a loss may occur due to a change in the price of the shares in the case of share trading, and that a loss may occur due to the exchange rate in the case of foreign share trading. In the case of share trading, JPMorgan Securities Japan Co., Ltd., will be receiving a brokerage fee and consumption tax (shouhizei) calculated by multiplying the executed price by the commission rate which was individually agreed between JPMorgan Securities Japan Co., Ltd., and the customer in advance. Financial Instruments Firms: JPMorgan Securities Japan Co., Ltd., Kanto Local Finance Bureau (kinsho) No. 82 Participating Association / Japan Securities Dealers Association, The Financial Futures Association of Japan, Type II Financial Instruments Firms Association and Japan Securities Investment Advisers Association. **Korea:** This report may have been edited or contributed to from time to time by affiliates of [redacted]. Morgan Securities (Far East) Ltd, Seoul Branch. **Singapore:** JPMSS and/or its affiliates may have a holding in any of the securities discussed in this report; for securities where the holding is 1% or greater, the specific holding is disclosed in the Important Disclosures section above. **India:** For private circulation only, not for sale. **Pakistan:** For private circulation only, not for sale. **New Zealand:** This material is issued and distributed by JPMSAL in New Zealand only to persons whose principal business is the investment of money or who, in the course of and for the purposes of their business, habitually invest money. JPMSAL does not issue or distribute this material to members of "the public" as determined in accordance with section 3 of the Securities Act 1978. The recipient of this material must not distribute it to any third party or outside New Zealand without the prior written consent of JPMSAL. **Canada:** The information contained herein is not, and under no circumstances is to be construed as, a prospectus, an advertisement, a public offering, an offer to sell securities described herein, or solicitation of an offer to buy securities described herein, in Canada or any province or territory thereof. Any offer or sale of the securities described herein in Canada will be made only under an exemption from the requirements to file a prospectus with the relevant Canadian securities regulators and only by a dealer properly registered under applicable securities laws or, alternatively, pursuant to an exemption from the dealer registration requirement in the relevant province or territory of Canada in which such offer or sale is made. The information contained herein is under no circumstances to be construed as investment advice in any province or territory of Canada and is not tailored to the needs of the recipient. To the extent that the information contained herein references securities of an issuer incorporated, formed or created under the laws of Canada or a province or territory of Canada, any trades in such securities must be conducted through a dealer registered in Canada. No securities commission or similar regulatory authority in Canada has reviewed or in any way passed judgment upon these materials, the information contained herein or the merits of the securities described herein, and any representation to the contrary is an offence. **Dubai:** This report has been issued to persons regarded as professional clients as defined under the DFSA rules.

General: Additional information is available upon request. Information has been obtained from sources believed to be reliable but JPMorgan Chase & Co. or its affiliates and/or subsidiaries (collectively [redacted]. Morgan) do not warrant its completeness or accuracy except with respect to any disclosures relative to JPMS and/or its affiliates and the analyst's involvement with the issuer that is the subject of the research. All pricing is as of the close of market for the securities discussed, unless otherwise stated. Opinions and estimates constitute our judgment as of the date of this material and are subject to change without notice. Past performance is not indicative of future results. This material is not intended as an offer or solicitation for the purchase or sale of any financial instrument. The opinions and recommendations herein do not take into account individual client circumstances, objectives, or needs and are not intended as recommendations of particular securities, financial instruments or strategies to particular clients. The recipient of this report must make its own independent decisions regarding any securities or financial instruments mentioned herein. JPMS distributes in the U.S. research published by non-U.S. affiliates and accepts responsibility for its contents. Periodic updates may be provided on companies/industries based on company specific developments or announcements, market conditions or any other publicly available information. Clients should contact analysts and execute transactions through a [redacted]. Morgan subsidiary or affiliate in their home jurisdiction unless governing law permits otherwise.

"Other Disclosures" last revised January 6, 2012.