



Northern California Power Agency

May 2017

Finance Committee Materials

PFM Financial Advisors
LLC

601 S. Figueroa Street
Suite 4500
Los Angeles, CA 90017

213.489.4075

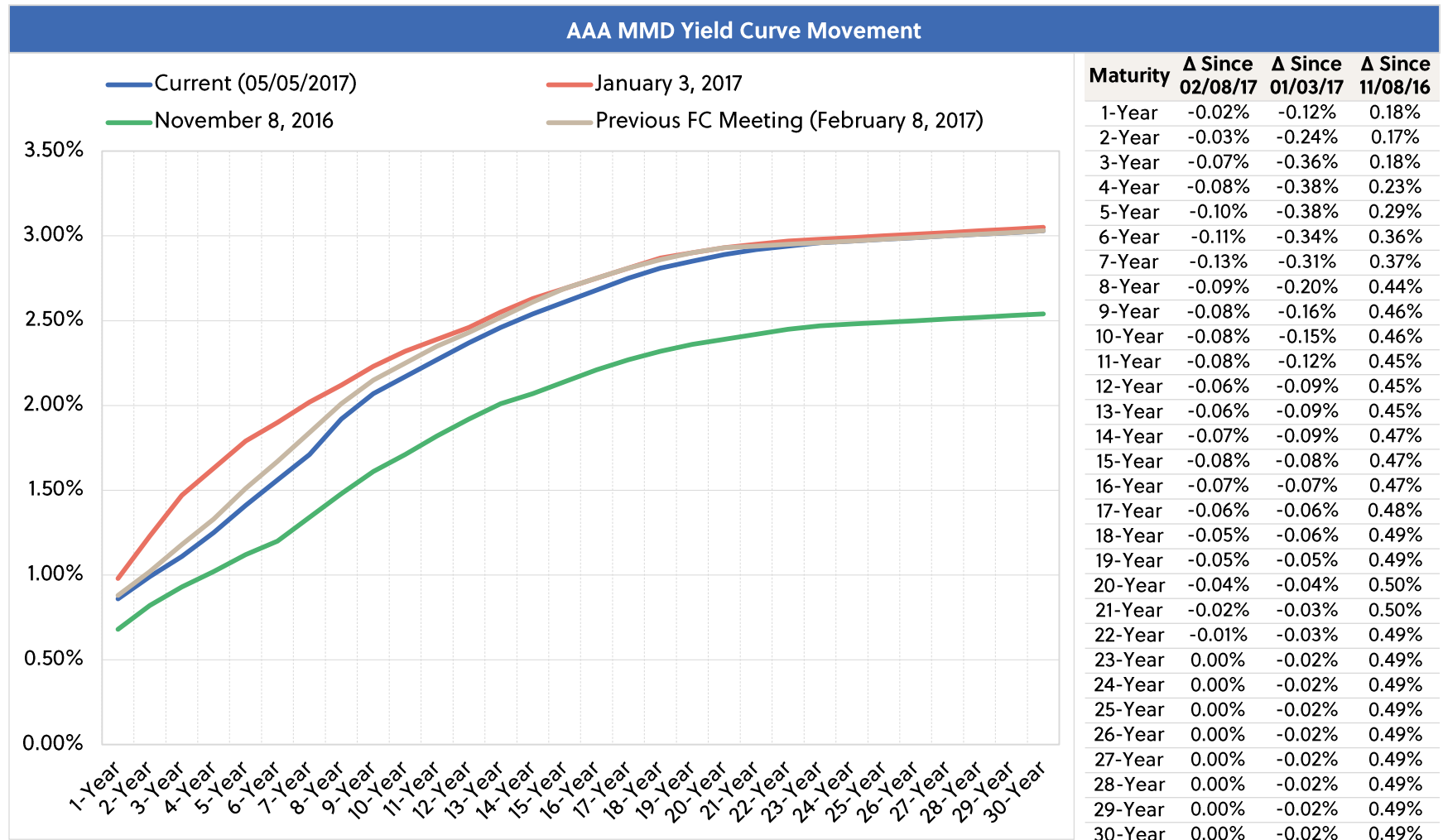


Report on Current Financial Market Conditions or Issues

Data, rates, and related statistics and charts are as of May 5, 2017, unless otherwise indicated



Recent AAA MMD Yield Curve Movement



Source: Thomson Reuters



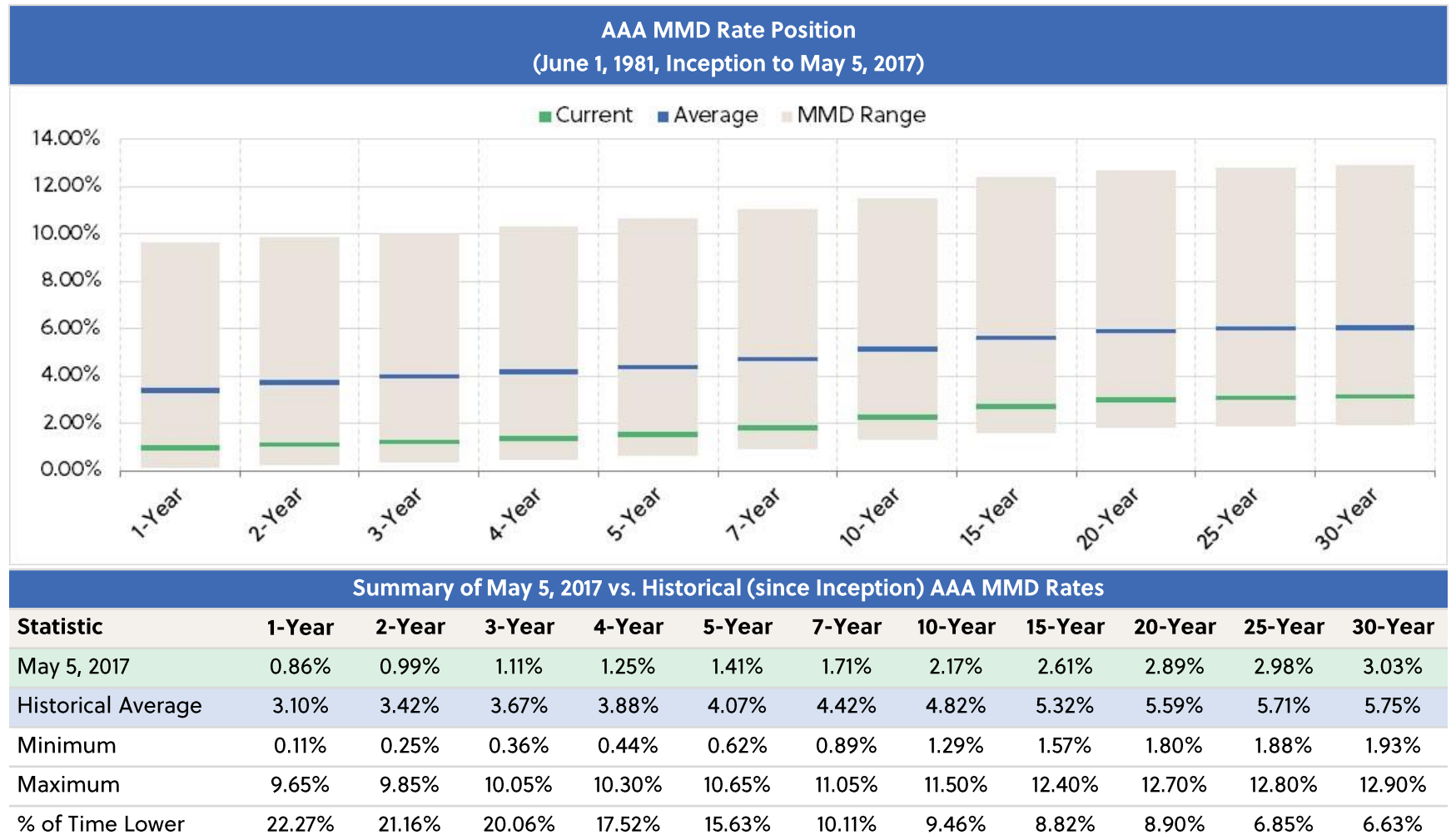
Current Interest Rate Snapshot

May 5, 2017															
Year	Maturity	UST	AAA MMD	AA MMD	AA Spread	A MMD	A Spread	Year	Maturity	UST	AAA MMD	AA MMD	AA Spread	A MMD	A Spread
1-Year	2017	1.10%	0.90%	0.92%	0.02%	1.09%	0.19%	16-Year	2032	-	2.68%	2.91%	3.24%	0.23%	0.56%
2-Year	2018	1.32%	1.08%	1.13%	0.05%	1.35%	0.27%	17-Year	2033	-	2.75%	2.98%	3.31%	0.23%	0.56%
3-Year	2019	1.51%	1.26%	1.33%	0.07%	1.58%	0.32%	18-Year	2034	-	2.81%	3.04%	3.36%	0.23%	0.55%
4-Year	2020	-	1.44%	1.53%	0.09%	1.81%	0.37%	19-Year	2035	-	2.85%	3.08%	3.40%	0.23%	0.55%
5-Year	2021	1.88%	1.63%	1.74%	0.11%	2.04%	0.41%	20-Year	2036	2.83%	2.89%	3.12%	3.44%	0.23%	0.55%
6-Year	2022	-	1.79%	1.92%	0.13%	2.23%	0.44%	21-Year	2037	-	2.92%	3.15%	3.47%	0.23%	0.55%
7-Year	2023	-	1.96%	2.12%	0.16%	2.47%	0.51%	22-Year	2038	-	2.94%	3.17%	3.49%	0.23%	0.55%
8-Year	2024	-	2.10%	2.28%	0.18%	2.64%	0.54%	23-Year	2039	-	2.96%	3.19%	3.51%	0.23%	0.55%
9-Year	2025	-	2.23%	2.43%	0.20%	2.81%	0.58%	24-Year	2040	-	2.97%	3.20%	3.52%	0.23%	0.55%
10-Year	2026	2.35%	2.32%	2.53%	0.21%	2.92%	0.60%	25-Year	2041	-	2.98%	3.21%	3.53%	0.23%	0.55%
11-Year	2027	-	2.41%	2.63%	0.22%	3.03%	0.62%	26-Year	2042	-	2.99%	3.22%	3.54%	0.23%	0.55%
12-Year	2028	-	2.49%	2.73%	0.24%	3.13%	0.64%	27-Year	2043	-	3.00%	3.23%	3.55%	0.23%	0.55%
13-Year	2029	-	2.59%	2.84%	0.25%	3.24%	0.65%	28-Year	2044	-	3.01%	3.24%	3.56%	0.23%	0.55%
14-Year	2030	-	2.68%	2.94%	0.26%	3.33%	0.65%	29-Year	2045	-	3.02%	3.25%	3.57%	0.23%	0.55%
15-Year	2031	2.67%	2.74%	3.00%	0.26%	3.39%	0.65%	30-Year	2046	2.99%	3.03%	3.26%	3.58%	0.23%	0.55%

Source: Thomson Reuters



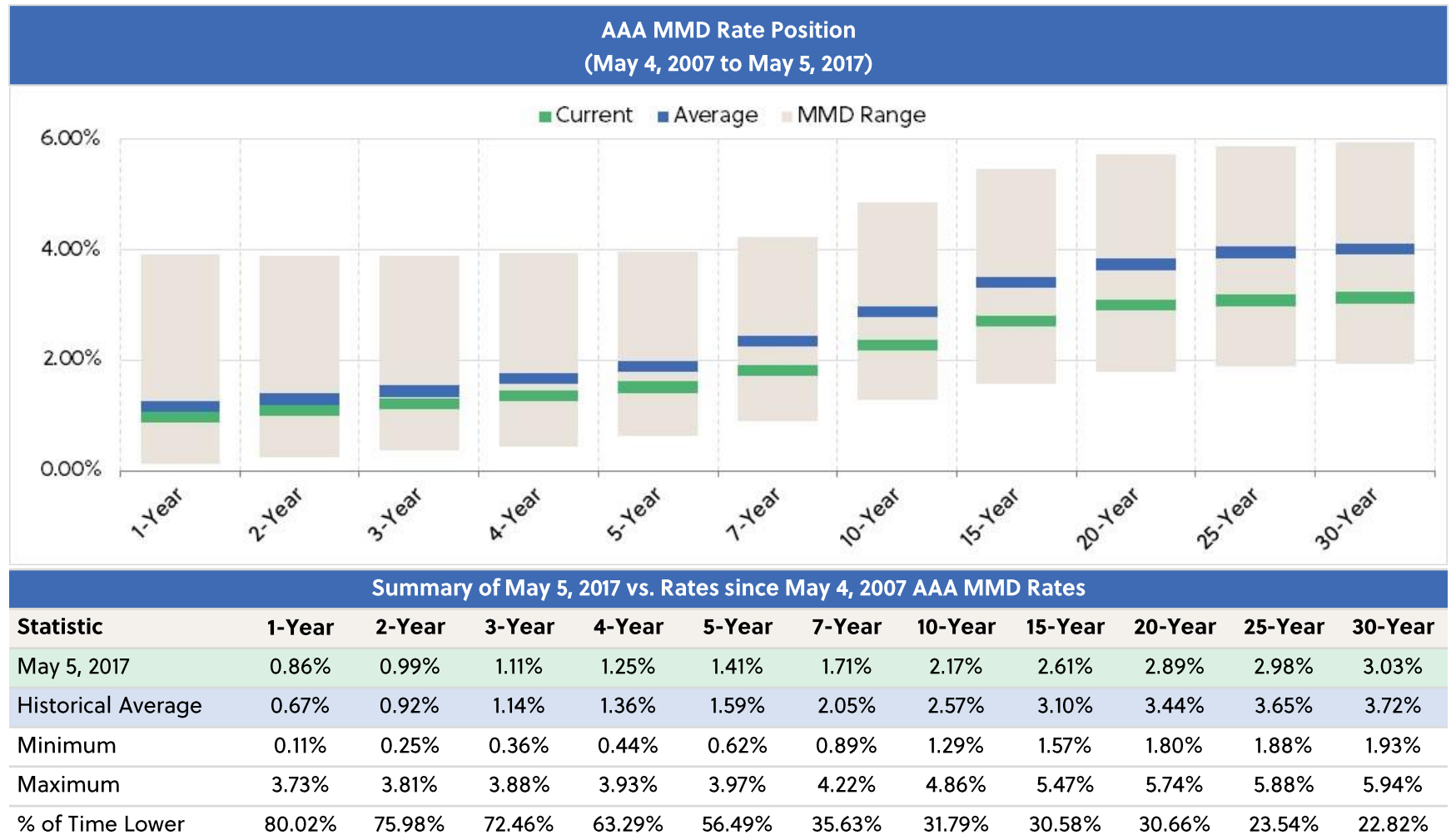
AAA MMD Position (Since Inception)



Source: Thomson Reuters



AAA MMD Position (Past Ten Years)

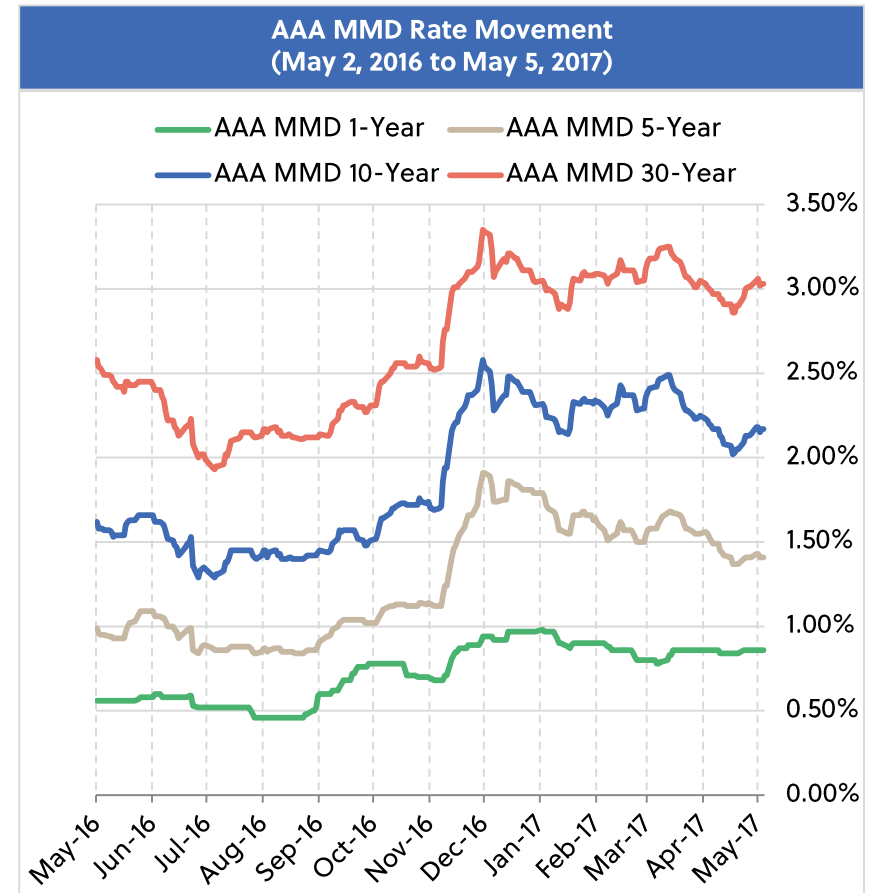
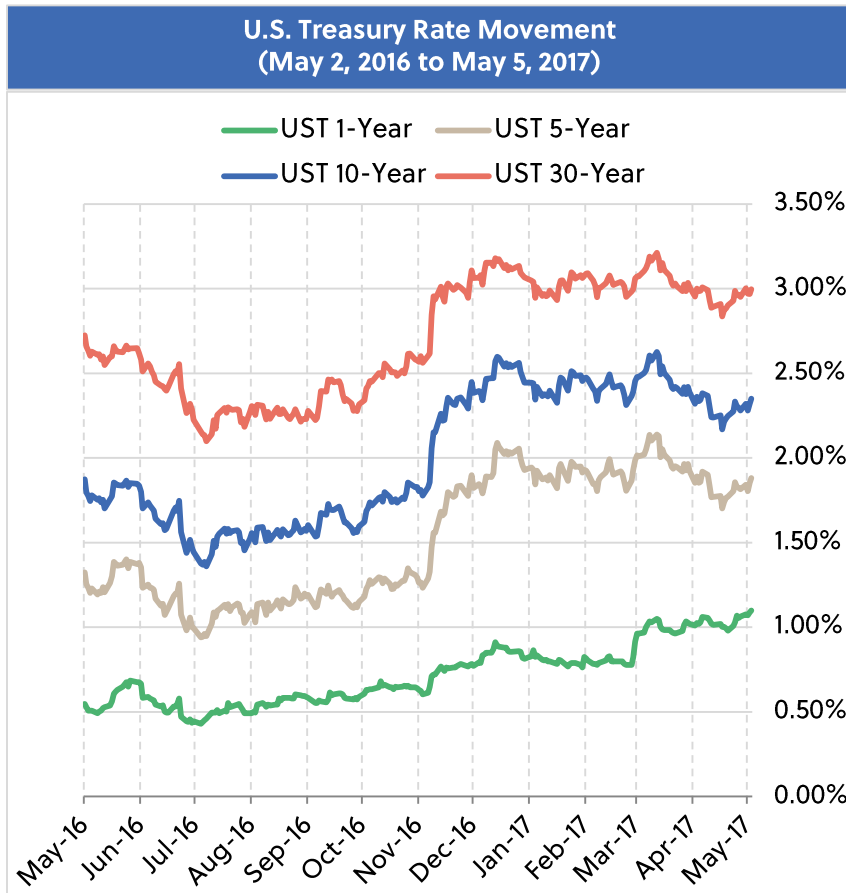


Source: Thomson Reuters



U.S. Treasury and AAA MMD Rate Movement

- Intermediate and long-term yields increased during the latter third of April reversing most of the decrease in interest rates during the first three weeks of the month

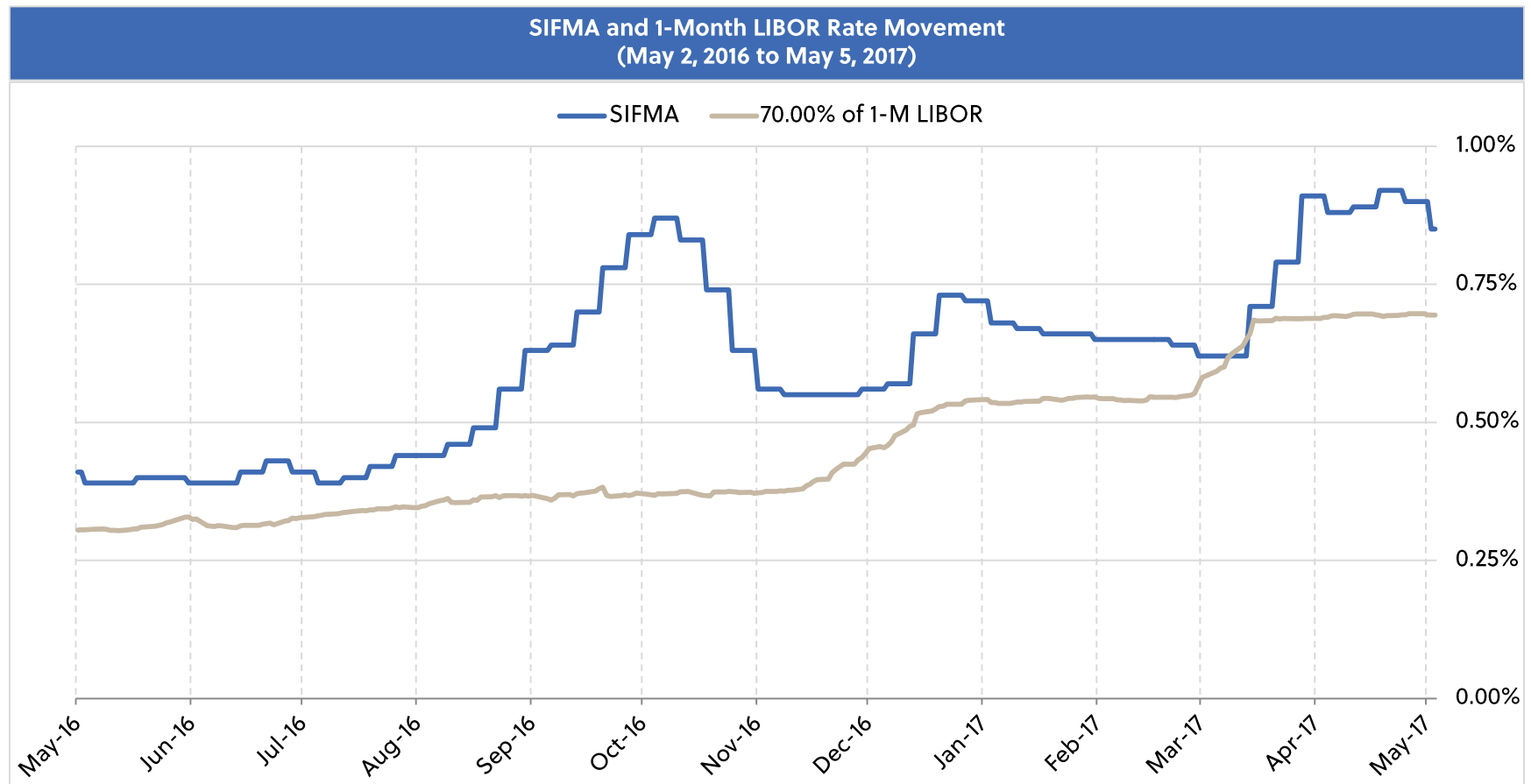


Source: Thomson Reuters



SIFMA and 1-Month LIBOR Rate Movement

- SIFMA and LIBOR have remained relatively flat in April, after having adjusted higher with the Fed's decisions to raise rates in December 2016 and March 2017

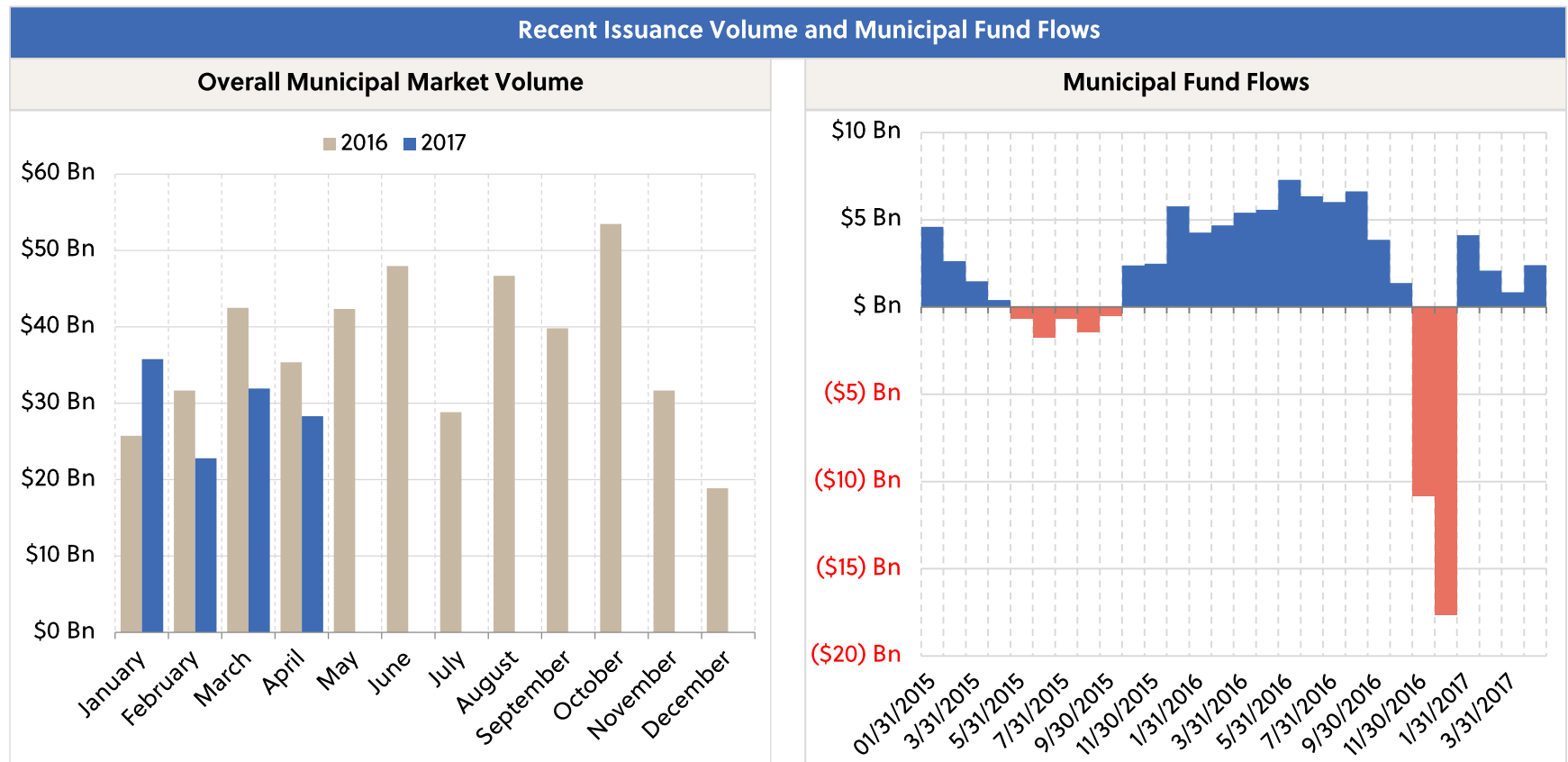


Source: Bloomberg



Municipal Market Supply and Demand

- After record issuance in 2016 and a heavy January, volume in February, March, and April was lower by ~24% compared to 2016; volume for the first four months of the year is ~12% lower compared to last year. Municipal bonds funds have continued to report net cash inflows





Interest Rate Forecasts

- Market participants continue to call for an increase in interest rates as shown in the data compiled by Bloomberg below
 - The probability of a Fed rate hike by June 2017 is currently 100%

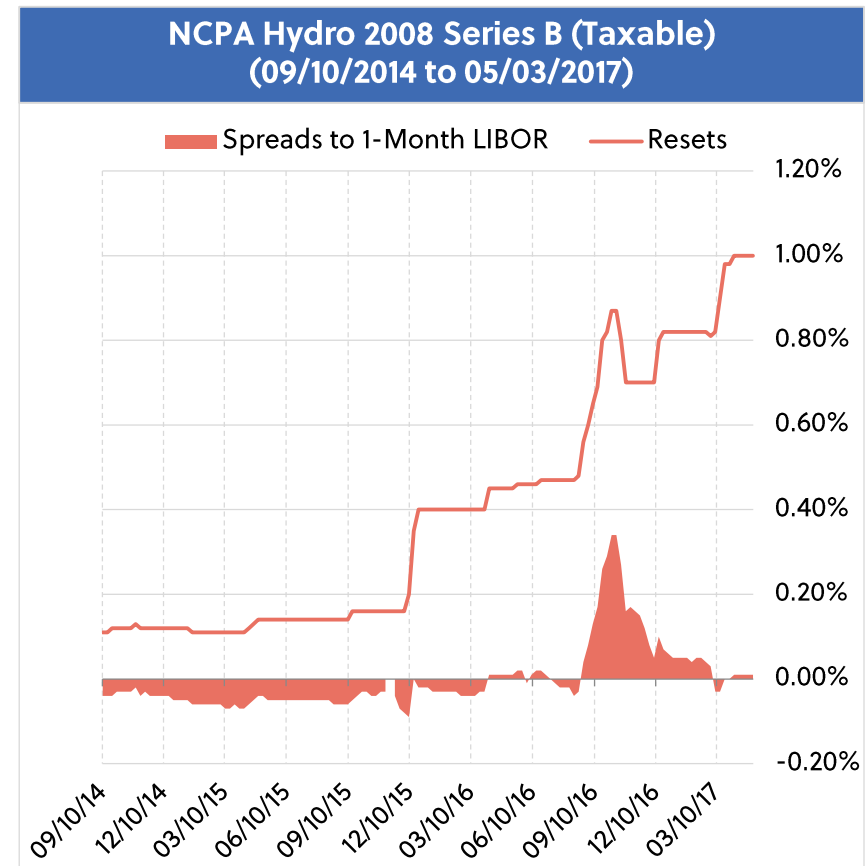
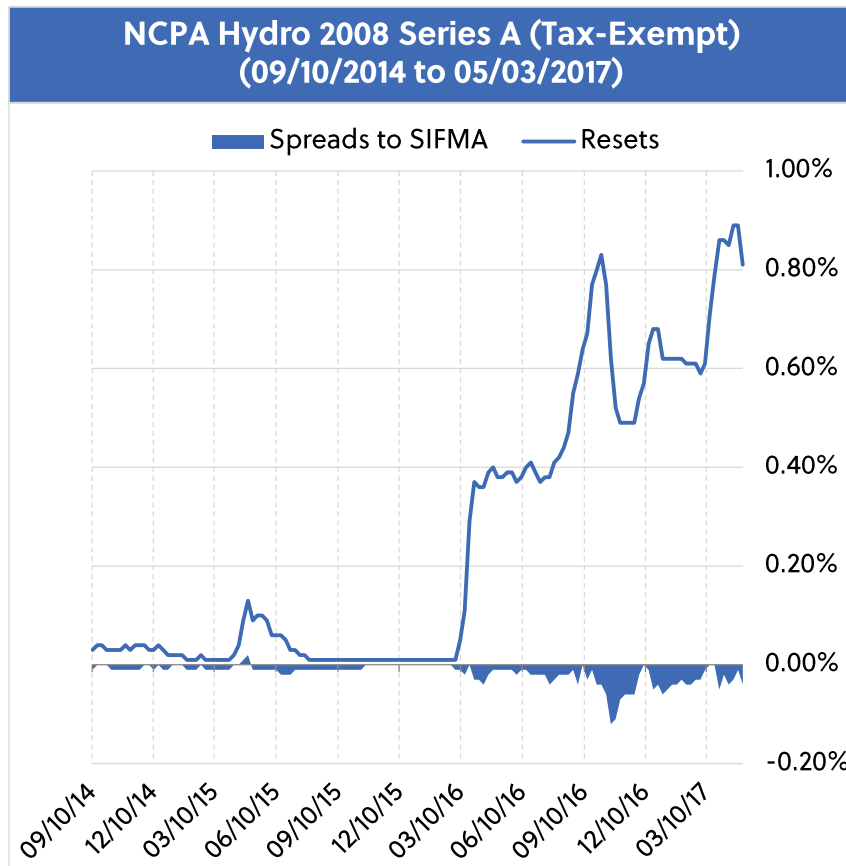
The Street's Interest Rate Forecast (As of May 5, 2017)							
Average Forecasts	Current	Q2 17	Q3 17	Q4 17	Q1 18	Q2 18	Q3 18
30-Year UST	2.99%	3.16%	3.27%	3.37%	3.44%	3.54%	3.67%
10-Year UST	2.35%	2.62%	2.73%	2.84%	2.90%	2.98%	3.10%
2-Year UST	1.32%	1.50%	1.62%	1.79%	1.94%	2.12%	2.29%
3M LIBOR	1.18%	1.36%	1.52%	1.67%	1.82%	2.05%	2.21%
Fed Funds Target Rate (Upper)	1.00%	1.20%	1.40%	1.50%	1.65%	1.90%	2.05%
Fed Funds Target Rate (Lower)	0.75%	0.96%	1.13%	1.25%	1.42%	1.63%	1.79%

Source: Bloomberg



Resets on NCPA's Hydroelectric Project 2008 Series A & B Bonds

- As a result of the increase in short-term rates, NCPA's Hydroelectric 2008 Series A and B Bonds have also been resetting higher; however, they continue to trade well versus benchmarks and have been hedged with interest rate swaps



Source: Thomson Reuters, EMMA



Refunding Updates

- There are certain refunding candidates in NCPA's debt portfolio—primarily in the LEC 2010 Series A—that generate some savings, despite the long escrow periods to call dates and the relatively short amortization of the debt

LEC Issue One 2010 Series A Refunding Screen (\$ in 000s)									
Component	Maturity	Candidate			New Yield	Individual PV Savings		Negative Arbitrage	Escrow Efficiency
		Par	Coupon	Call Date		\$	%		
Term	6/1/2021	\$6,520	5.00%	6/1/2020	1.46%	\$156	2.40%	-	100.00%
Term	6/1/2022	\$6,845	5.00%	6/1/2020	1.65%	\$326	4.77%	\$36	90.00%
Term	6/1/2023	\$7,185	5.00%	6/1/2020	1.82%	\$489	6.81%	\$73	87.00%
Term	6/1/2024	\$7,545	5.00%	6/1/2020	2.00%	\$631	8.37%	\$116	84.50%
Term	6/1/2025	\$7,925	5.00%	6/1/2020	2.22%	\$728	9.19%	\$172	80.90%
		\$36,020				\$2,332	6.47%	\$398	85.42%

Assumptions: Interest rates as of May 5, 2017; SLGS escrow; Delivery Date of 8/1/2017; COI of \$7.5 per bond; UD of \$2.5 per bond; No Reserve Fund considerations



Refunding Updates (Cont'd)

- The Hydroelectric Project, 2008 Series C transaction is callable 7/1/2018 but is estimated to be only 13% advance refundable
 - Given the size, a direct purchase would make an attractive option were NCPA to pursue an advance refunding

Hydroelectric Project 2008 Series C Refunding Screen (\$ in 000s)									
Candidate					New Yield	Individual PV Savings		Negative Arbitrage	Escrow Efficiency
Component	Maturity	Par	Coupon	Call Date		\$	%		
Serial	7/1/2019	\$1,455	5.00%	7/1/2018	1.11%	\$19	1.31%	\$0	97.80%
Serial	7/1/2020	\$1,535	5.00%	7/1/2018	1.26%	\$72	4.71%	\$3	96.50%
Serial	7/1/2021	\$1,615	5.00%	7/1/2018	1.42%	\$124	7.68%	\$5	96.00%
Serial	7/1/2022	\$1,695	5.00%	7/1/2018	1.61%	\$171	10.10%	\$8	95.30%
Serial	7/1/2023	\$1,700	5.00%	7/1/2018	1.78%	\$207	12.19%	\$11	94.90%
Serial	7/1/2024	\$2,020	5.00%	7/1/2018	1.97%	\$277	13.71%	\$17	94.30%
\$10,020						\$871	8.69%	\$44	95.15%

Assumptions: Interest rates as of May 5, 2017; SLGS escrow; Delivery Date of 8/1/2017; COI of \$22.5 per bond; UD of \$2.5 per bond; No Reserve Fund considerations

- The Hydroelectric Project, 2010 Series A transaction is callable 7/1/2019 but is likely not advance refundable at all
- We will continue to monitor the NCPA debt portfolio as various call dates approach and interest rates fluctuate



Treasury to Suspend Sales of State and Local Government Series Securities

FOR IMMEDIATE RELEASE

March 8, 2017

WASHINGTON, D.C. – The U.S. Department of the Treasury's Bureau of the Fiscal Service announced today the suspension of sales of State and Local Government Series (SLGS) nonmarketable Treasury securities, effective 12:00 noon Eastern Time (ET), March 15, 2017, until further notice. This suspension is necessary due to the statutory debt ceiling and will assist Treasury's management of the debt subject to limit.

The suspension applies to demand deposit and time deposit securities. Subscriptions for SLGS received by the Bureau of the Fiscal Service prior to 12:00 noon, on March 15, 2017, will be issued on the date requested. New subscriptions for SLGS will not be accepted during the suspension.

The [TreasuryDirect.gov](http://www.treasurydirect.gov) website has more information about the effect of the debt ceiling on SLGS, including how it impacts holders of outstanding demand deposit securities, available at http://www.treasurydirect.gov/govt/resources/faq/faq_slgs.htm#Effect.

The Internal Revenue Service (IRS) provides guidance for affected government entities in Revenue Procedure 95-47, 1995-47 I.R.B. 12, available at <http://www.irs.gov/Tax-Exempt-Bonds/Revenue-Procedures>.

The SLGS program began in 1972 to assist state and local government entities in complying with IRS arbitrage regulations. The securities are not available to the general public.



Report on NCPA's Debt Portfolio



NCPA Member Ratings

NCPA Member Ratings			
Member	Ratings		
	Moody's	S&P	Fitch
Alameda Municipal Power	-	A+ / Stable	A+ / Stable
Bay Area Rapid Transit District ⁽¹⁾	Aa2 / Stable	AA+ / Stable	AA+ / Stable
City of Biggs	-	-	-
City of Gridley	-	-	-
City of Healdsburg (Wastewater)	-	AA / Stable	-
Lodi Electric Utility	A2 / Stable	A- / Stable	A- / Stable
City of Lompoc (Water and Wastewater)	A2 / No Outlook	-	-
City of Palo Alto (Combined Utility) ⁽²⁾	Aa2 / No Outlook	AAA / Stable	-
Port of Oakland ⁽³⁾	A2 / Stable	A+ / Stable	A+ / Stable
Redding Electric Utility	A2 / No Outlook	-	A+ / Stable
Roseville Electric	A2 / Positive	AA- / Stable	AA- / Stable
Silicon Valley Power	-	A+ / Negative	A+ / Positive
Truckee Donner PUD (Water)	-	AA- / Stable	-
City of Ukiah (Wastewater)	Baa2 / No Outlook	-	-
Associate Members			
Plumas-Sierra REC	-	-	-
Non NCPA LEC/Geothermal Members			
City of Azusa (Electric) ⁽⁴⁾	-	A / Stable	-
California Department of Water Resources (Power and Water) ⁽⁴⁾	Aa1 / Stable	AA / Stable	AA+ / Stable
	Aa1 / Stable	AAA / Stable	-
Modesto Irrigation District ⁽⁴⁾	A2 / Stable	A+ / Stable	A+ / Stable
PWRPA ⁽⁴⁾	-	-	-
TID ⁽⁵⁾	A2 / Stable	AA- / Stable	A+ / Stable

⁽¹⁾ Sales tax revenue backed; ⁽²⁾ Len securing the Aa1 rated 1995 bonds has been closed; ⁽³⁾ Senior most; ⁽⁴⁾ LEC project participant; ⁽⁵⁾ Geothermal project participant; Senior most



Geothermal Project Descriptive Overview

Descriptive Overview of Geothermal Project	
Description	Geothermal power plant
Location	Geysers, Sonoma & Lake County, near Middletown, CA
Type	Base load renewable energy
Fuel	Geothermal steam
Generation Capacity	<ul style="list-style-type: none">• Plant 1: 2 units at 110 MW nameplate – currently producing 55 MW• Plant 2: 1 unit at 55 MW nameplate – currently producing 45 MW
Other Facilities	<ul style="list-style-type: none">• 67 production wells and ten injection wells• 102 miles of underground well pipe• Eight miles of steam gathering pipe• Effluent Pipeline Project – 6,400 gpm• Three pump stations, five miles of injection pipe, horizontal injection well
First Year in Operation	Plant 1: 1983; Plant 2: 1985
Highlights	<ul style="list-style-type: none">• Provides baseload, reliable, renewable energy• Expected life extended well past life of debt due to Effluent Pipeline Project and recent system replacement and modernization• Majority of debt now paid in full – small amount remaining for recent system upgrades• AB32 emission requirements do not apply



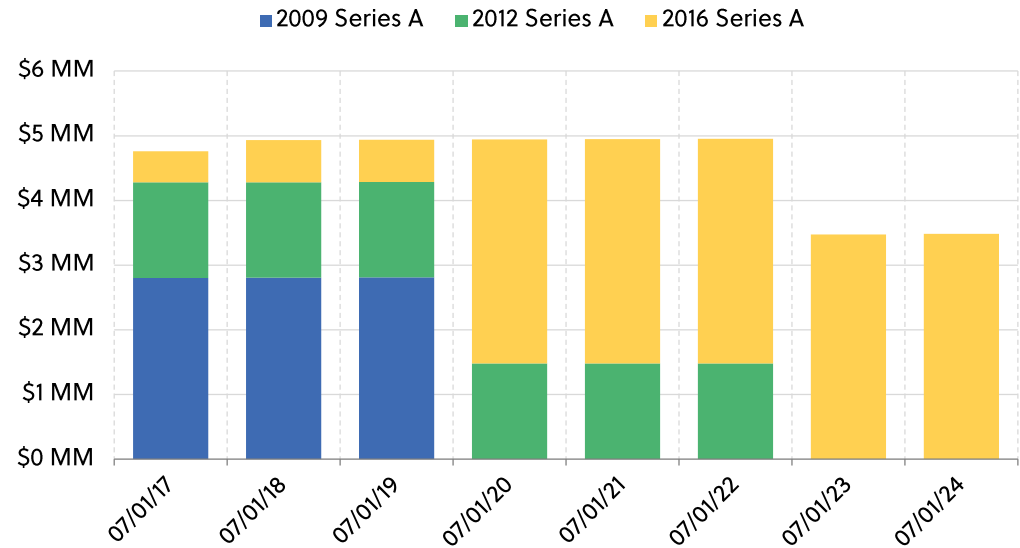


Geothermal Project Debt Overview

Geothermal Project Participation Percentages

Member	Entitlement Share (%)	Beneficiary Share (%)
Alameda	16.8825	16.8825
Biggs	0.2270	0.2270
Gridley	0.3950	0.3360
Healdsburg	3.6740	3.6740
Lodi	10.2800	10.2800
Lompoc	3.6810	3.6810
Palo Alto	6.1580	0.0000
Plumas-Sierra	0.8145	0.7010
Roseville	7.8830	7.8830
Santa Clara	44.3905	44.3905
TID	0.0000	6.3305
Ukiah	5.6145	5.6145

Geothermal Project Debt Service



Summary of Outstanding Geothermal Project Debt

Ratings (M/S/F): A1/A-/A+, Stable Outlooks

Series	Tax Status	Coupon Type	Issue Size	Outstanding Par	Coupon Range	Call Date	Final Maturity
2009 Series A	Tax-Exempt	Fixed-Rate	\$35,610,000	\$7,640,000	5.000%	-	7/1/2019
2012 Series A	Tax-Exempt	Fixed-Rate	\$12,910,000	\$8,240,000	2.289%	7/1/2017	7/1/2022
2016 Series A	Tax-Exempt	Fixed-Rate	\$17,530,000	\$17,530,000	1.670%	-	7/1/2024



Hydroelectric Project Descriptive Overview

Descriptive Overview of Hydroelectric Project	
Description	Series of five Hydroelectric Generating Stations on the North Fork of the Stanislaus River
Location	Murphys, CA
Type	Base load and peaking capacity
Fuel	Water
Generation Capacity	<ul style="list-style-type: none">• Collierville: 253 MW (2 @ 126.5 MW)• Spicer: 6 MW (2 @ 2.75 MW, 1 @ 0.5 MW)
Other Facilities	<ul style="list-style-type: none">• Collierville: 40 miles of Transmission Line, 2,065 Acre Feet of storage at McKays Reservoir• Spicer: 189,000 Acre Feet of storage at Spicer
First Year in Operation	1990
License	Through 2032 with option to extend
Highlights	<ul style="list-style-type: none">• Offers firm, renewable, emission free source of power to help stabilize other intermittent renewable sources such as solar and wind, and integrate all into a more effective resource mix• Zero Carbon Energy Credit for entire output• AB32 emission requirements do not apply• 6 MWs of CEC Qualified Renewable Energy



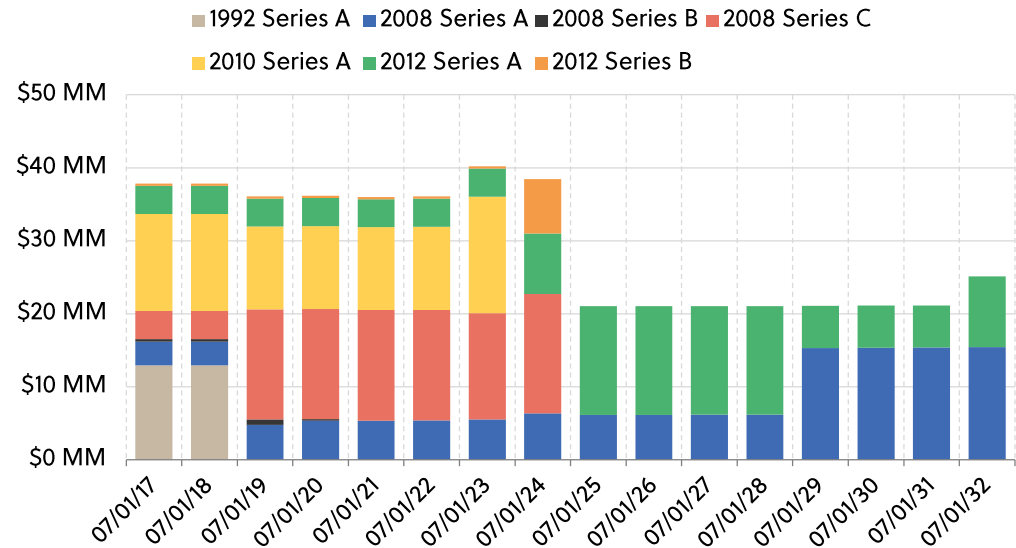


Hydroelectric Project Debt Overview

Hydroelectric Project Participation Percentages

Member	Entitlement Share (%)
Alameda	10.000
Biggs	0.100
Gridley	1.060
Healdsburg	1.660
Lodi	10.370
Lompoc	2.300
Palo Alto	22.920
Roseville	12.000
Santa Clara	35.860
Ukiah	2.040
Plumas-Sierra	1.690

Hydroelectric Project Debt Service



Summary of Outstanding Hydroelectric Project Debt

Ratings (M/S/F): A1/A+/A+, Stable Outlooks

Series	Tax Status	Coupon Type	Issue Size	Outstanding Par	Coupon Range	Call Date	Final Maturity
1992 Series A	Tax-Exempt	Fixed-Rate	\$195,610,000	\$23,595,000	6.300%	Non-Callable	7/1/2018
2008 Series A	Tax-Exempt	Variable-Rate	\$85,160,000	\$85,160,000	Var. (3.819%) ^(S)	Current	7/1/2032
2008 Series B	Taxable	Variable-Rate	\$3,165,000	\$1,540,000	Variable ^(V)	Current	7/1/2020
2008 Series C	Tax-Exempt	Fixed-Rate	\$128,005,000	\$77,130,000	5.000%	7/1/2018	7/1/2024
2010 Series A	Tax-Exempt	Fixed-Rate	\$101,260,000	\$72,615,000	5.000%	7/1/2019	7/1/2023
2012 Series A	Tax-Exempt	Fixed-Rate	\$76,665,000	\$76,665,000	5.000%	7/1/2022	7/1/2032
2012 Series B	Taxable	Fixed-Rate	\$7,120,000	\$7,120,000	4.320%	Make-Whole	7/1/2024

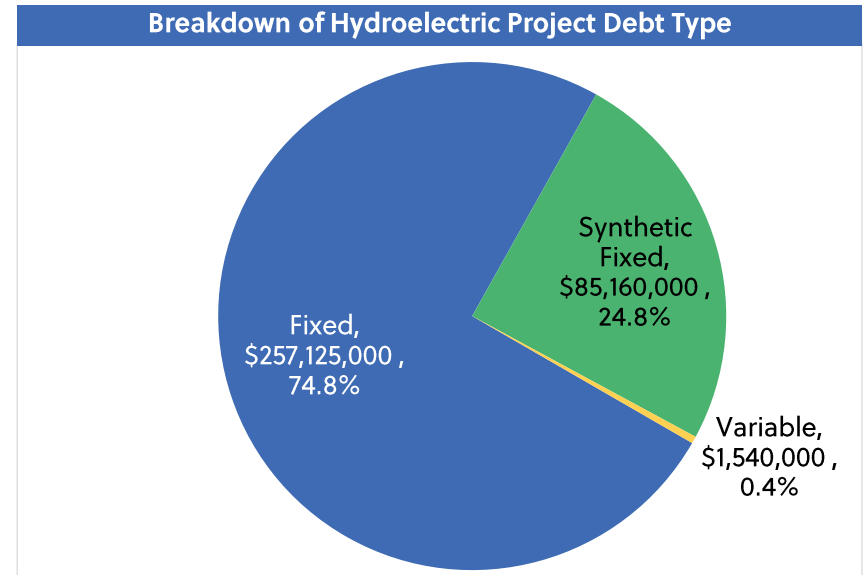
^(S) Swapped; Please see next page for details, ^(V) 4% variable rate assumed for debt service chart



Hydroelectric Project Debt Overview (Cont'd)

Hydroelectric Project Swap Summary									
Series	NCPA Pays	NCPA Receives	Trade Date	Effective Date	Maturity Date	MTM Value (As of 05/04/17)	Initial Notional	Current Notional	Bank Counterparty
2008 Series A	3.8190%	54% of USD-LIBOR + 0.54%	11/24/04	11/24/04	7/1/32	(\$18,283,998)	\$85,160,000	\$85,160,000	Citibank, N.A., New York (A1/A+/A+)
2008 Series B	USD-LIBOR	5.2910%	11/24/04	11/24/04	7/1/32	\$242,387	\$1,574,000	\$1,142,014	Citibank, N.A., New York (A1/A+/A+)

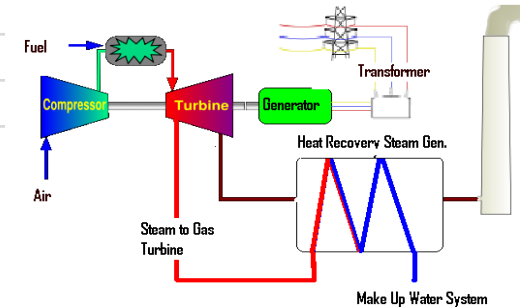
Hydroelectric Project Liquidity Summary			
Series	LOC Provider	LOC Expiry	Last Reset
2008 Series A	Bank of Montreal (Aa3/A+/AA-)	September 09, 2019	0.81%
2008 Series B	Bank of Montreal (Aa3/A+/AA-)	September 09, 2019	1.00%





Capital Facilities Project Descriptive Overview

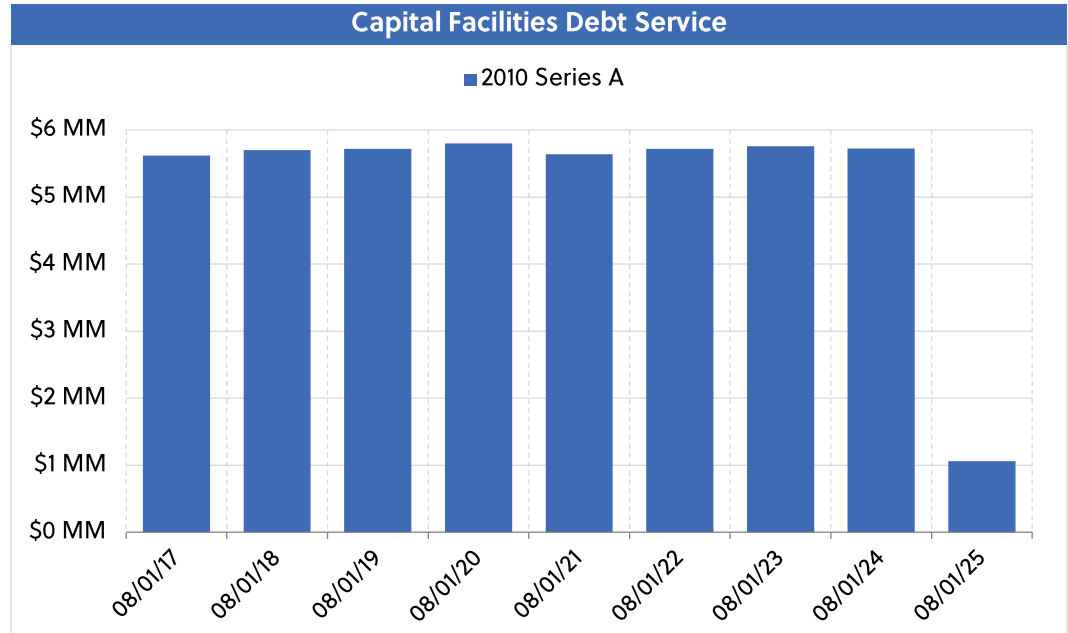
Descriptive Overview of Capital Facilities Project	
Description	Summer peaking energy and capacity, 1 – LM5000 Aeroderivative, steam-injected gas turbine with HRSG
Location	Next to Interstate 5 near Lodi, CA
Type	Peaking
Fuel	Natural Gas
Plant Net Capability	49.9 MW
Average Heat Rate	9,000
Project Completed	1996
Expected Life	2026
Highlights	<ul style="list-style-type: none"> • STIG cycle plant which has the advantage of lower capital costs than a combined cycle plant, but very high efficiency • Makes use of a collaborative partnership with Lodi for wastewater reclamation • Qualifies as “Local” Capacity for CAISO Resource Adequacy Program; proximity to participants facilitates low transmission costs and increased reliability





Capital Facilities Debt Overview

Capital Facilities Participation Percentages	
Member	Entitlement Share (%)
Alameda	19.00
Lodi	39.50
Lompoc	5.00
Roseville	36.50



Summary of Outstanding Capital Facilities Debt							
Ratings (M/S/F): A2/A-/ , Stable Outlooks							
Series	Tax Status	Coupon Type	Issue Size	Outstanding Par	Coupon Range	Call Date	Final Maturity
2010 Series A	Tax-Exempt	Fixed-Rate	\$55,120,000	\$37,400,000	3.600% - 5.250%	2/1/2020	8/1/2025



Lodi Energy Center Project Descriptive Overview

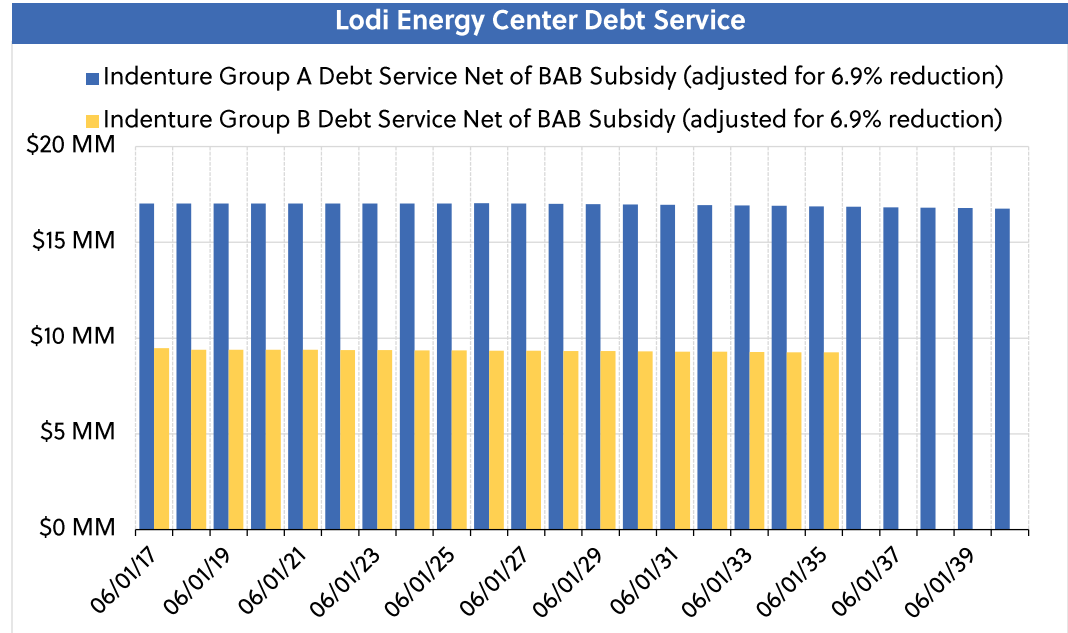
Descriptive Overview of Lodi Energy Center Project	
Description	Combined Cycle
Location	Next to Interstate 5 near Lodi, CA
Type	Base load and peaking capacity
Fuel	Natural Gas
Generation Capacity	304 MW rating
Average Heat Rate	6,824
Other Facilities	2.7 miles of Gas Transmission Line
First Year in Operation	2012
Highlights	<ul style="list-style-type: none">• Offers state of the art "fast start" technology• Facilitates integration of California renewables• Most efficient heat rate in northern California• Low emissions; net carbon reducing (20 – 70%)• Ideal location; partnership with City of Lodi; proximity to participants facilitates low transmission costs and increased reliability





Lodi Energy Center Debt Overview

LEC Participation Percentages		
Member	Entitlement Share (%)	Ind. Group A Cost Share (%)
CDWR	33.5000	-
Azusa	2.7857	4.9936
Biggs	0.2679	0.4802
Gridley	1.9643	3.5212
Healdsburg	1.6428	2.9448
Lodi	9.5000	17.0295
Lompoc	2.0357	3.6491
Santa Clara	25.7500	46.1588
Ukiah	1.7857	3.2010
MID	10.7143	-
Plumas-Sierra	0.7857	1.4084
PWRPA	2.6679	4.7824
SFBART	6.6000	11.8310



Summary of Outstanding Lodi Energy Center Debt							
Series	Tax Status	Coupon Type	Issue Size	Outstanding Par	Coupon Range	Next Call	Final Maturity
Indenture Group A Ratings (M/S/F): A2/A-/A, Stable Outlooks							
2010 Series A	Tax-Exempt	Fixed-Rate	\$78,330,000	\$59,140,000	5.000%	6/1/2020	6/1/2025
2010 Series B	Taxable BABs	Fixed-Rate	\$176,625,000	\$176,625,000	7.311% (T)	Make-Whole	6/1/2040
Indenture Group B—CADWR Ratings (M/SF): Aa2/AAA/ , Stable Outlooks							
2010 Series A	Tax-Exempt	Fixed-Rate	\$30,540,000	\$14,270,000	5.000%	Non-Callable	6/1/2019
2010 Series B	Taxable BABs	Fixed-Rate	\$110,225,000	\$110,225,000	4.630%-5.679% (T)	Make-Whole	6/1/2035

(T) Taxable Build America Bonds; Interest rate gross of BAB subsidy



Appendix: Unsolicited Proposals

Northern California Power Agency

Refunding Opportunity Update & New
Money Analysis

March 7, 2017

STRICTLY PRIVATE AND CONFIDENTIAL



RBC Capital Markets

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1. Refunding Update & New Money Analysis

2. Market Update

Refunding Update

Section 1



RBC Capital Markets

Debt Overview

With 14 series of bonds outstanding, the bond portfolio is highly optimized with limited refunding candidates

- The Hydroelectric Project 2008 Refunding Series C Bonds have a call date in 2018
 - The bonds are first eligible to be current refunded in early 2018; they can be advance refunded at any time on a taxable basis
- The Geothermal Project Series 2009 A Bonds are advance refundable at any time and are first callable July 1, 2020
- The Lodi Energy Center 2010 Series A Issue One are callable on June 1, 2020, and are advance refundable at any time

Summary of Bonds Outstanding

Issue	Program	Date of Issue	Final Maturity	Coupon Type	Call Date	Original Par	Par Outstanding
2009 Series A	Geothermal Project	03/24/2009	07/01/2024	Fixed	07/01/2020	\$35,610,000	\$23,345,000
2012 Series A	Geothermal Project	09/01/2012	07/01/2022	Fixed	TBD	\$12,910,000	\$8,875,000
1992 Refunding Series A	Hydroelectric Project	06/01/1992	07/01/2023	Fixed	Non-Callable	195,610,000	23,595,000
2008 Refunding Series A	Hydroelectric Project	04/02/2008	07/01/2032	Variable	Current	85,160,000	85,160,000
2008 Refunding Series B	Hydroelectric Project	04/02/2008	07/01/2020	Variable	Current	3,165,000	1,540,000
2008 Refunding Series C	Hydroelectric Project	07/24/2008	07/01/2024	Fixed	07/01/2018	128,005,000	77,130,000
2010 Refunding Series A	Hydroelectric Project	04/05/2010	07/01/2023	Fixed	07/01/2020	101,260,000	72,615,000
2012 Refunding Series A	Hydroelectric Project	04/05/2010	07/01/2032	Fixed	07/01/2022	76,665,000	76,665,000
2012 Refunding Series B	Hydroelectric Project	04/05/2010	07/01/2024	Fixed	Make-Whole	7,120,000	7,120,000
2010 Refunding Series A	Capital Facilities Project	01/29/2010	08/01/2025	Fixed	08/01/2020	55,120,000	37,400,000
2010 Series A Issue One	Lodi Energy Center	06/24/2010	06/01/2025	Fixed	06/01/2020	78,330,000	59,140,000
2010 Series B Issue One (BABs)	Lodi Energy Center	06/24/2010	06/01/2040	Fixed	Make-Whole	176,625,000	176,625,000
2010 Series A Issue Two	Lodi Energy Center	06/24/2010	06/01/2019	Fixed	Non-Callable	30,540,000	14,270,000
2010 Series B Issue Two (BABs)	Lodi Energy Center	06/24/2010	06/01/2035	Fixed	Make-Whole	110,225,000	110,225,000
Total Fixed Rate						\$1,008,020,000	\$687,005,000
Total Variable Rate						88,325,000	86,700,000
Total Outstanding						\$1,096,345,000	\$773,705,000

As of January 31, 2017 (Fiscal Year End: 6/30)

- Both series of VRDBs are supported with credit facilities through 2019
- These bonds have been swapped to a fixed rate through 2032

Hydroelectric Project 2008 Refunding Series C - Taxable Refunding Analysis

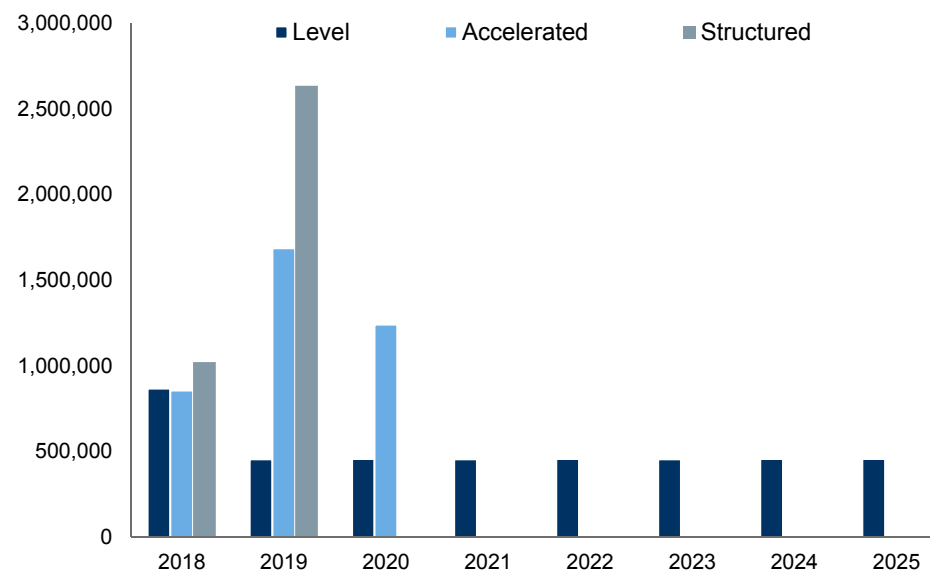
Savings can be structured to provide cash flow benefits of over \$3 million in FY 2018 and FY 2019

- The 2008 Refunding Series C Bonds are callable on July 1, 2018
 - The refunding results below assume a taxable advance refunding; a small portion of the bonds may be eligible for tax-exempt refunding
- Three savings scenarios are shown below:
 1. **Level savings:** Refunding structured to generate level annual savings,
 2. **Accelerated savings:** Refunding structured to accelerate savings
 3. **FY 2019 Structure savings:** Refunding structured to generate additional cash flow savings in the FY 2019 by refunding a portion of the July 1, 2018 maturity of the Hydroelectric Project 2010 Refunding Series A Bonds
- The Structured Savings scenario provides \$3.6 million of cash flow savings in FY 2018 and FY 2019

Comparison of Refunding Results

	Level	Accelerated	Structured
Delivery Date	07/03/2017	07/03/2017	07/03/2017
Call Date	07/01/2018	07/01/2018	07/01/2018
Refunded Maturities	2019-2024	2019-2024	2018-2024
Refunded Par Amount	\$77,130,000	\$77,130,000	\$87,260,000
Refunding Par Amount	\$80,645,000	\$80,645,000	\$91,205,000
Average Coupon	2.852%	2.862%	2.826%
True Interest Cost	2.902%	2.912%	2.880%
Escrow Yield	0.946%	0.946%	0.946%
Negative Arbitrage	\$1,467,384	\$1,475,552	\$1,636,696
Gross Savings	\$4,050,743	\$3,792,816	\$3,673,193
Average Annual Cash Flow Savings (\$)	\$579,137	\$542,261	\$525,159
Cash Flow Savings FY 2018 - FY 2019	\$1,320,015	\$2,540,666	\$3,657,741
Net PV Savings (\$)	\$3,670,241	\$3,632,593	\$3,549,276
Net PV Savings (% of refunded par)	4.759%	4.710%	4.067%

Annual Cash Flow Savings by Scenario (6/30 Fiscal Year)



Note: Information regarding advance refundability is subject to the opinion of bond counsel. For purposes of our analysis, we assumed that the bonds are not advance refunded on a tax-exempt basis. Assumes refunding with fixed rate bonds issued under market conditions as of March 6, 2017

Geothermal Project 2009 Series A – Tax-Exempt Refunding Analysis

PV Savings of 5.1% of refunded par achievable under current market conditions

- NCPA's Geothermal Project 2009 Series A Bonds will be callable on July 1, 2020
- The Bonds were issued to fund capital improvements related to NCPA's Geothermal Project Number 3, and are advance refundable
- Our analysis assumes that maturities producing 3% savings, or 50% efficiency and positive savings are refunded (highlighted below)

Summary of Refunding Results

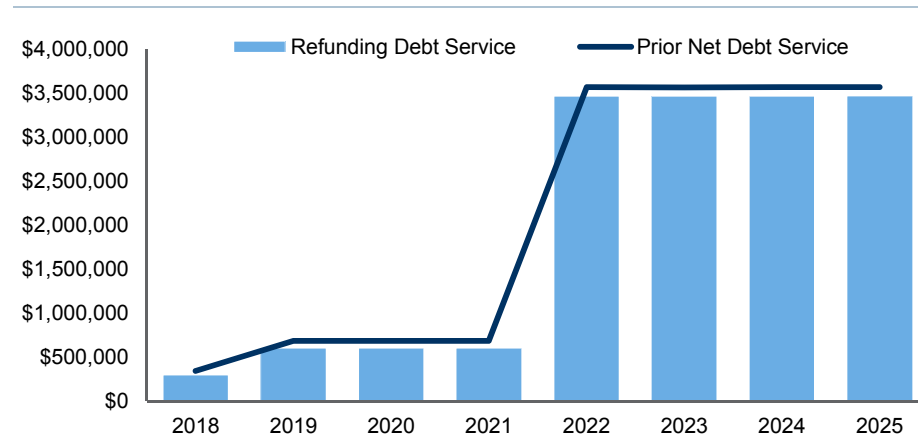
Delivery Date	07/03/2017
Call Date	07/01/2020
Refunded Maturities	2021-2024
Refunded Par Amount	\$12,890,000
Refunding Par Amount	\$12,585,000
True Interest Cost	2.076%
Escrow Yield	1.575%
Negative Arbitrage	\$181,386
Gross Savings	\$712,008
Average Annual Cash Flow Savings (\$)	\$101,796
Net PV Savings (\$)	\$658,246
Net PV Savings (% of refunded par)	5.107%

Individual Maturity Refunding Results

07/01/2018	5.000%	2,545,000	-27,896	-1.10%	1,736	106.6%
07/01/2019	5.000%	2,675,000	-23,749	-0.89%	-8,045	74.7%
07/01/2020	5.250%	2,815,000	-14,032	-0.50%	-27,130	34.1%
07/01/2021	5.500%	2,970,000	80,993	2.73%	-4,511	105.9%
07/01/2022	5.500%	3,135,000	162,720	5.19%	33,361	83.0%
07/01/2023	5.000%	3,305,000	186,576	5.65%	76,070	71.0%
07/01/2024	5.250%	3,480,000	263,728	7.58%	118,427	69.0%
Total (Savings > 0)		\$20,925,000	\$628,340	3.00%	\$189,910	76.8%

*Savings Efficiency is equal to Individual Savings divided by the sum of Negative Arbitrage and Individual Savings.

Annual Cash Flow Savings



Note: Information regarding advance refundability is subject to the opinion of bond counsel. Assumes refunding with fixed rate bonds issued under market conditions as of March 6, 2017

Lodi Energy Center 2010 Series A Issue One – Tax-Exempt Refunding Analysis



PV Savings of 5.08% of refunded par achievable under current market conditions

- NCPA's Lodi Energy Center 2010 Series A Bonds will be callable on June 1, 2020
- The 2010 Series A Bonds were issued concurrently with the 2010 Series B Bonds to fund a portion of the construction costs associated with the Lodi Energy Center and are advance refundable
- Our analysis assumes that maturities producing 3% savings, or 50% efficiency and positive savings are refunded (highlighted below)

Summary of Refunding Results

Delivery Date	07/03/2017
Call Date	07/01/2020
Refunded Maturities ¹	2021-2025
Refunded Par Amount	\$36,020,000
Refunding Par Amount	\$34,785,000
True Interest Cost	2.211%
Escrow Yield	1.557%
Negative Arbitrage	\$655,809
Gross Savings	\$2,020,510
Average Annual Cash Flow Savings (\$)	\$255,402
Net PV Savings (\$)	\$1,830,071
Net PV Savings (% of refunded par)	5.081%

1) Represent Sinking fund maturities of 2025 term bond

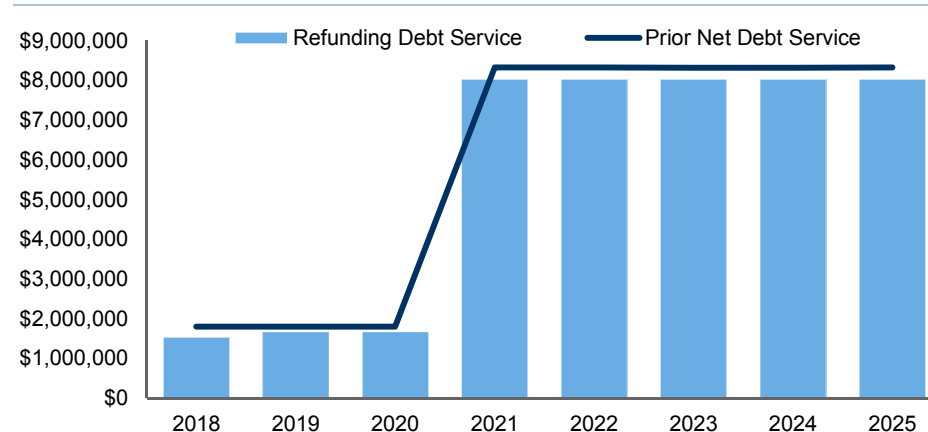
Individual Maturity Refunding Results

Refunded Maturity	Coupon	Refunded Par	Savings	% Savings	Negative Arb	Savings Efficiency
06/01/2018	5.000%	5,630,000	-61,694	-1.10%	4,663	108.2%
06/01/2019	5.000%	5,915,000	-56,516	-0.96%	-10,004	85.0%
06/01/2020	5.000%	6,210,000	-37,056	-0.60%	-45,820	44.7%
06/01/2021 ¹	5.000%	6,520,000	132,018	2.02%	8,721	93.8%
06/01/2022 ¹	5.000%	6,845,000	274,948	4.02%	80,214	77.4%
06/01/2023 ¹	5.000%	7,185,000	387,247	5.39%	161,306	70.6%
06/01/2024 ¹	5.000%	7,545,000	479,515	6.36%	243,265	66.3%
06/01/2025 ¹	5.000%	7,925,000	565,429	7.13%	319,186	63.9%
Total (Savings > 0)		\$53,775,000	\$1,683,890	3.13%	\$761,532	68.9%

1) Represent Sinking fund maturities of 2025 term bond

Savings Efficiency is equal to Individual Savings divided by the sum of Negative Arbitrage and Individual Savings.

Annual Cash Flow Savings



Note: Information regarding advance refundability is subject to the opinion of bond counsel. Assumes refunding with fixed rate bonds issued under market conditions as of March 6, 2017

New Money Overview

Interest rates continue to be attractive for funding capital projects

- Funding capital expenditures from bond proceeds spreads the costs over the estimated useful life of the assets
- Using bond proceeds to fund capital projects frees cash reserves for other purposes such as pension expenses
- Results:
 - \$30 million Project Fund Deposit
 - 10-Year, level debt service structure
 - DSRF Deposit: \$1.2 million
 - \$3.5 million in annual debt service costs
 - All-in TIC: 2.495%
- Issuing bonds also allows for costs to be allocated levelly across years

Summary Statistics

Dated Date	07/03/2017
Last Maturity	07/01/2027
Par Amount	\$27,810,000
Total Proceeds	\$31,516,761
True Interest Cost (TIC)	2.372%
All-In TIC	2.495%
Average Coupon	4.79%
Average Life	5.87
Total Debt Service	\$35,633,898
Average Annual Debt Service	\$3,565,371
DSRF Deposit ¹	\$1,201,400

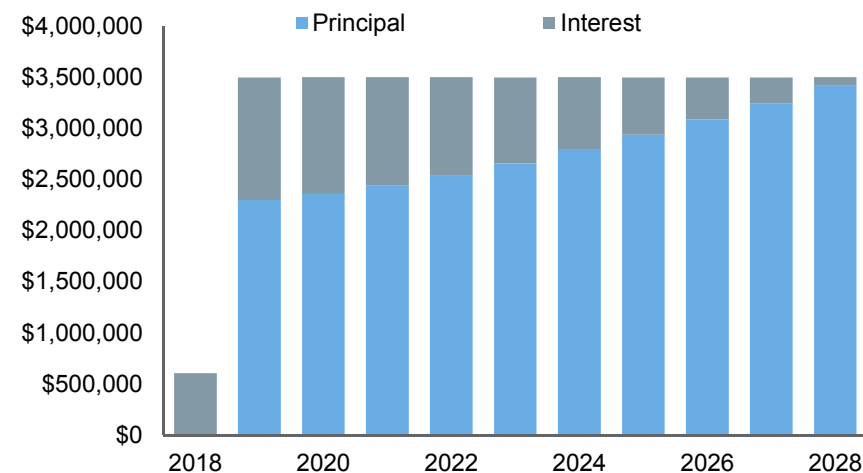
1) Assumes DSRF funded at Maximum Annual Interest

Indicative Pricing Levels

Maturity Date	MMD ¹	Coupon	Spread to MMD (bps)	Yield
07/01/2018	0.87%	2.00%	12	0.99%
07/01/2019	1.06%	3.00%	14	1.17%
07/01/2020	1.24%	4.00%	16	1.36%
07/01/2021	1.42%	4.00%	18	1.56%
07/01/2022	1.64%	5.00%	20	1.80%
07/01/2023	1.87%	5.00%	22	2.05%
07/01/2024	2.07%	5.00%	25	2.27%
07/01/2025	2.23%	5.00%	28	2.45%
07/01/2026	2.35%	5.00%	30	2.59%
07/01/2027	2.44%	5.00%	35	2.73%

1) Interpolated AAA MMD, as of March 6, 2017

Debt Service



Market Update

Section 2



RBC Capital Markets

Overview of Key Market Themes

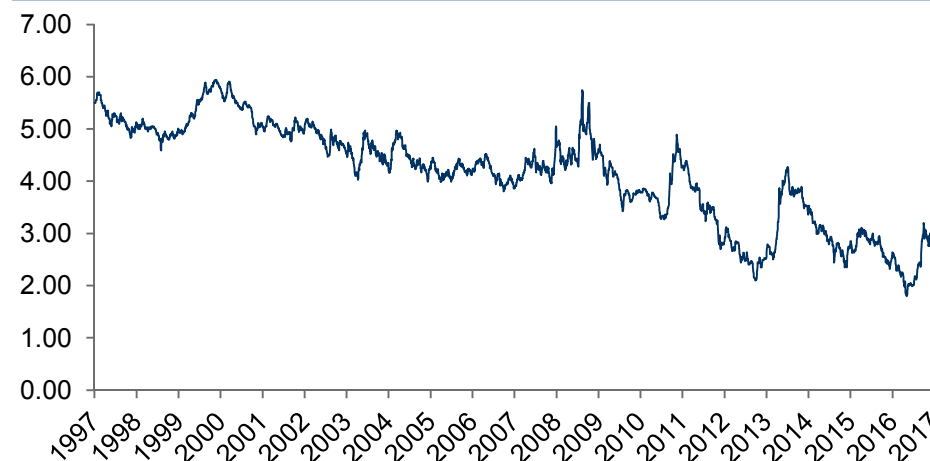
Market Commentary

- **Comments from key Fed officials have driven the market to price in a 98% chance of a rate hike in March**
- Odds of a hike at next week's FOMC meeting are up significantly from 50% last Monday and 34% the week prior
- Fed Chair Yellen and Vice Chair Fisher validated comments from other Fed officials that a March hike is likely
- Chair Yellen indicated a March rate hike would be appropriate if economic data evolve as the FOMC expects
- Chair Yellen noted that the Fed's employment target has been met, and inflation is moving closer to the target
- The February payroll report will be released on Friday; consensus calls for non-farm payroll gains of 190,000
- February payrolls are unlikely to impact next week's FOMC decision given the strong trend of NFP gains
- US equity market advanced last week, closing at new historic highs on Wednesday
- Treasury auctions this week: \$24 billion of 3s on Tuesday, \$20 billion of 10s on Wednesday, and \$12 billion of 30-year bonds on Thursday
- Other economic highlights include factory orders, durable goods, ADP, inventories, and import prices
- Municipal supply totaled \$4.4 billion last week and is expected to increase to \$10.2 billion this week
- The State of California leads this week's calendar with a \$2.4 billion GO offering; 30-day visible stands at \$14.8 billion
- Municipal bond funds reported outflows of \$277 million last week
- The prospect of tax reform continues to create uncertainty for corporate-type investors in the municipal market

Interest Rate Forecast

Period	Actual				Forecast			
	1Q16	2Q16	3Q16	4Q16	1Q17	2Q17	3Q17	4Q17
Interest on Excess Reserves	0.50	0.50	0.50	0.75	1.00	1.25	1.25	1.50
3-month UST	0.21	0.26	0.29	0.51	0.70	1.00	1.05	1.30
2-Year UST	0.73	0.58	0.77	1.20	1.30	1.45	1.60	1.90
5-Year UST	1.21	1.01	1.14	1.93	1.90	2.10	2.25	2.50
10-Year UST	1.78	1.49	1.60	2.45	2.40	2.65	2.80	3.00
30-Year UST	2.61	2.30	2.32	3.06	3.00	3.20	3.35	3.50

20 Year MMD Yields Since 1997



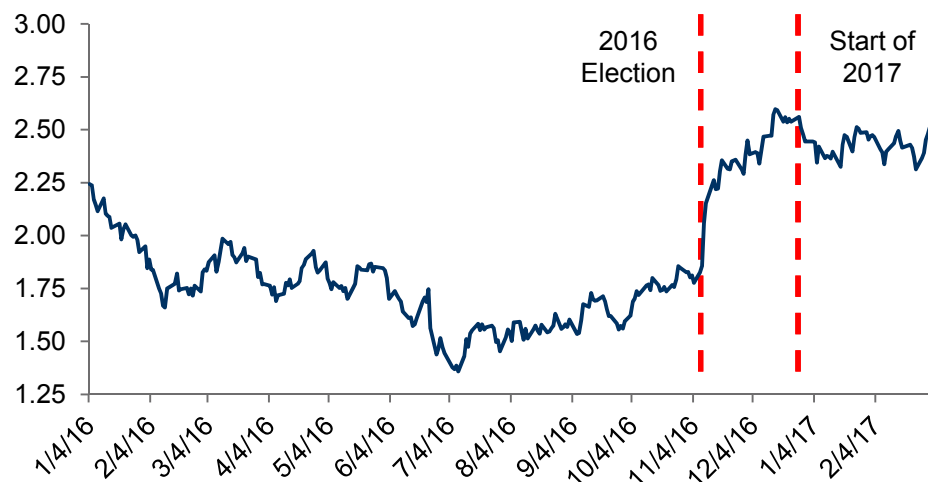
Maximum	5.94	Minimum	1.80
Average	4.14	Current	3.08

Source: RBC, Thomson Reuters, Bloomberg as of March 6, 2017

Macro Market Overview: Risk Assets Have Outperformed Treasuries in a Volatile Market

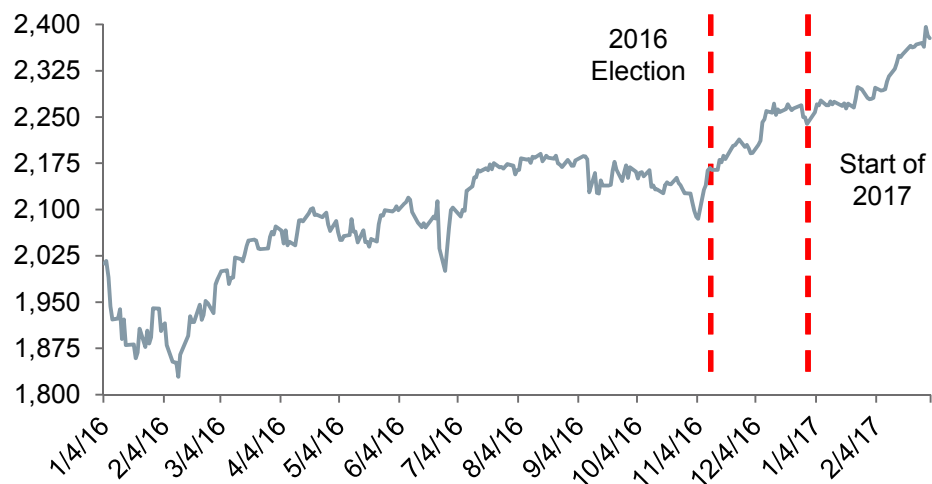
January 4, 2016 - March 3, 2017

10-Year Treasury Yield (%)



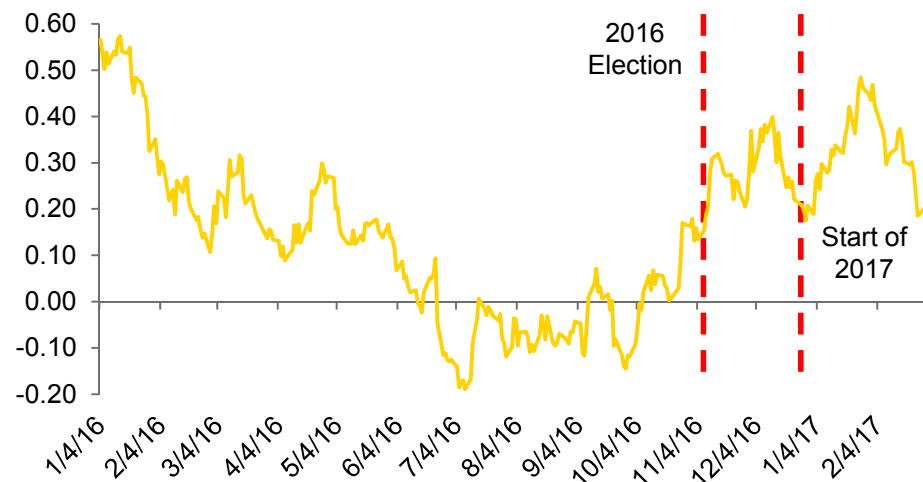
Maximum	2.60	Minimum	1.36	Current	2.51
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S&P 500 Index



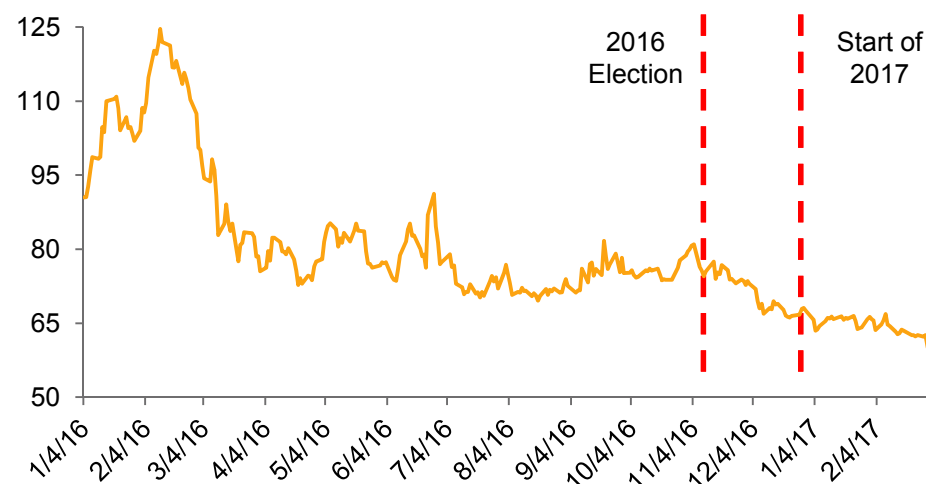
Maximum	2,395.96	Minimum	1,829.08	Current	2,377.73
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10-Year German Bund Yield (%)



Maximum	0.57	Minimum	-0.19	Current	0.36
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Investment-Grade CDX Index (BP)

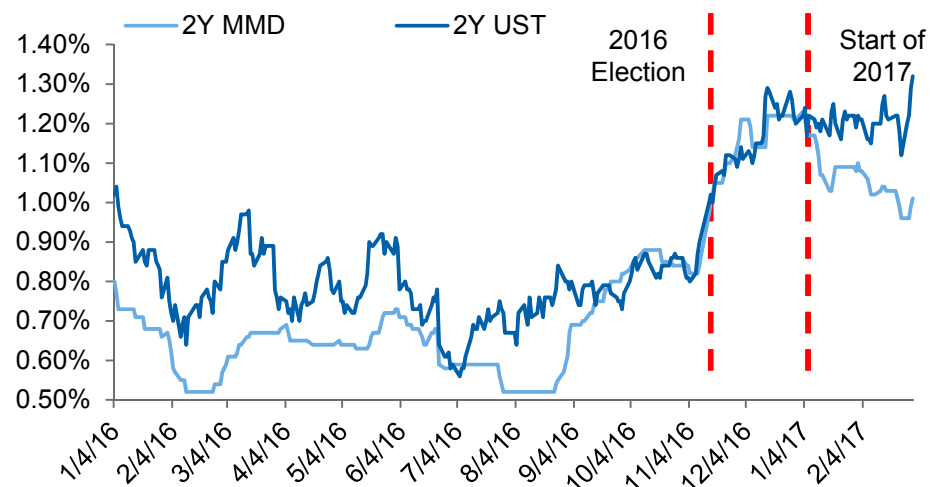


Maximum	124.60	Minimum	60.15	Current	60.37
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Municipal Market Movement

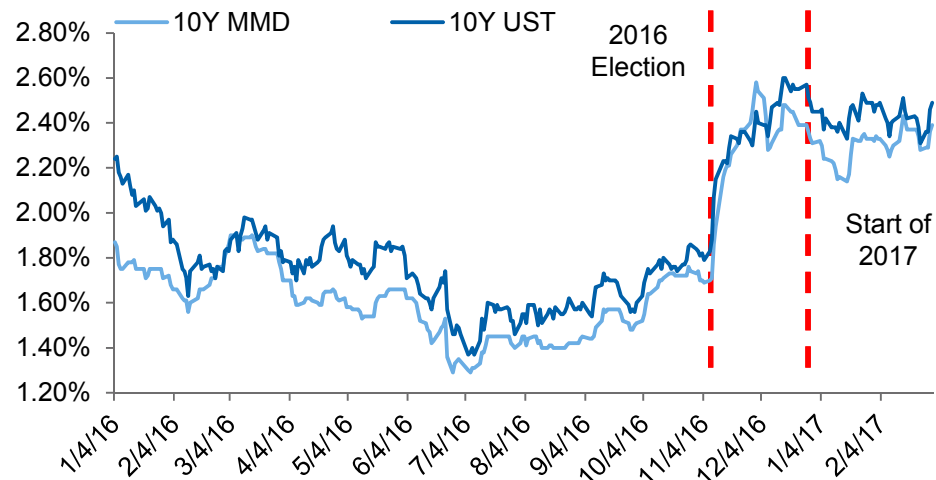
January 4, 2016 - March 2, 2017

2-Year MMD v. UST (%)



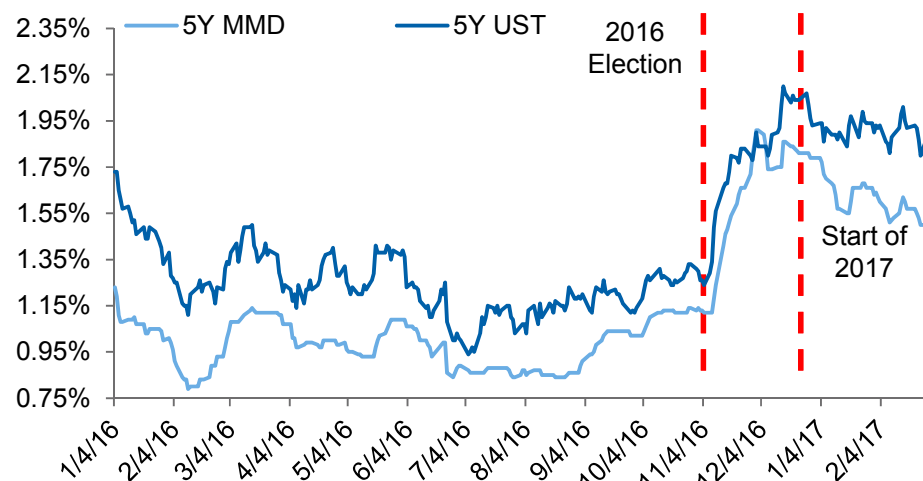
Maximum	1.23	Minimum	0.52	Current	1.01
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10-Year MMD v. UST (%)



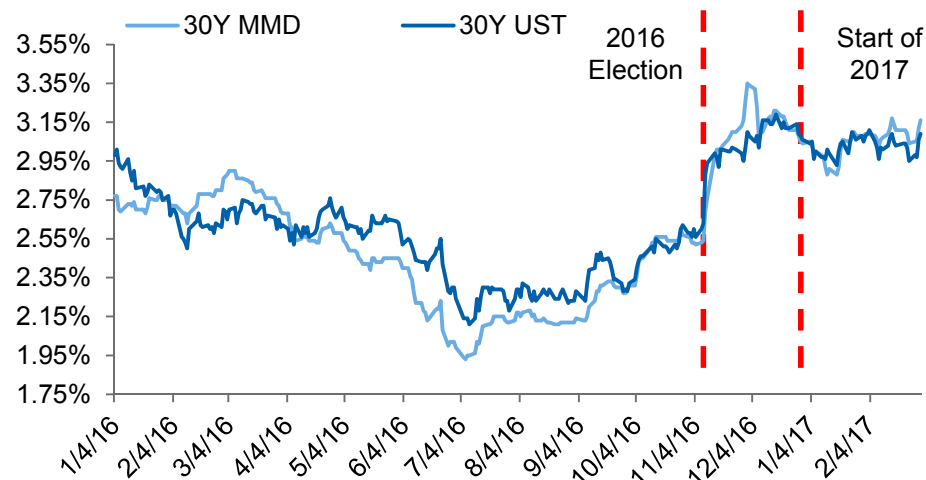
Maximum	2.58	Minimum	1.29	Current	2.39
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5-Year MMD v. UST (%)



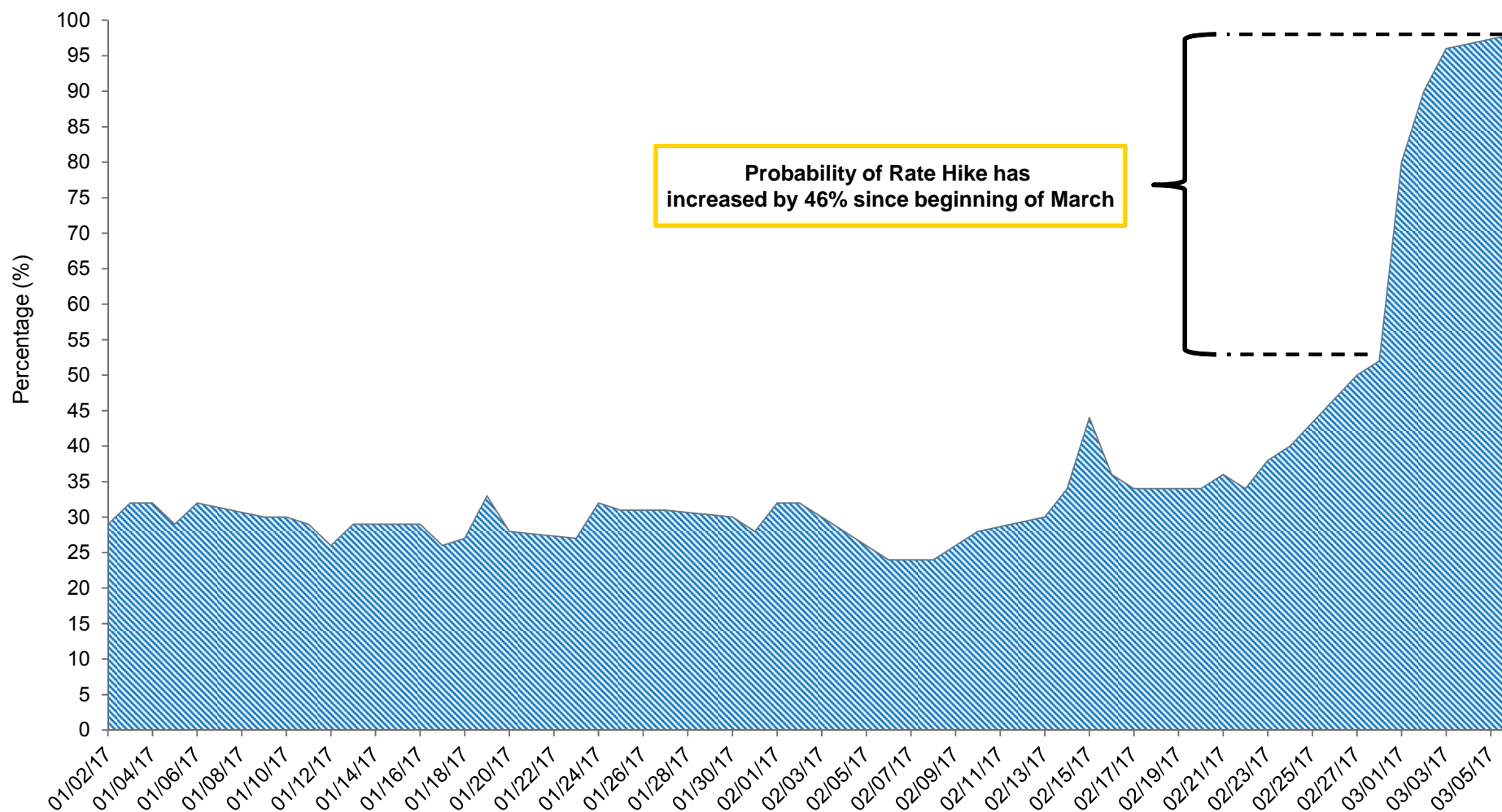
Maximum	1.91	Minimum	0.79	Current	1.57
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30-Year MMD v. UST (%)



Maximum	3.35	Minimum	0.52	Current	3.16
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A Federal Funds Rate Hike is Fully Priced in for the March 14-15 FOMC Meeting



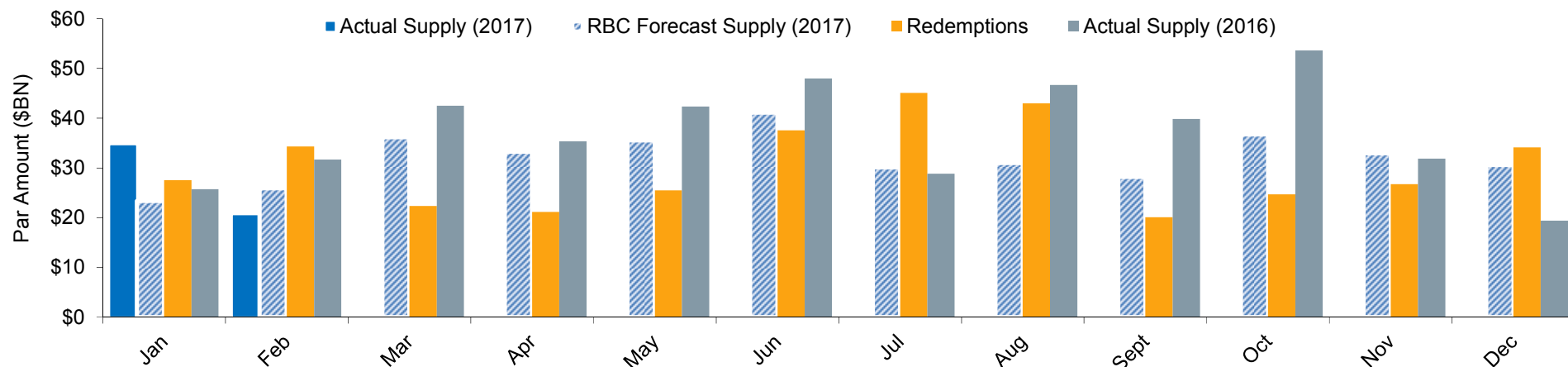
Sensitivity Analysis

	25bp Cut	No Change	25bp Hike
Current	0.00%	2.00%	98.00%
1 Week Ago	0.00%	48.00%	52.00%
1 Month Ago	0.00%	70.00%	30.00%
2 Months Ago	0.00%	65.20%	31.60%
4 Months Ago	16.90%	70.60%	11.90%
6 Months Ago	33.60%	44.30%	18.80%

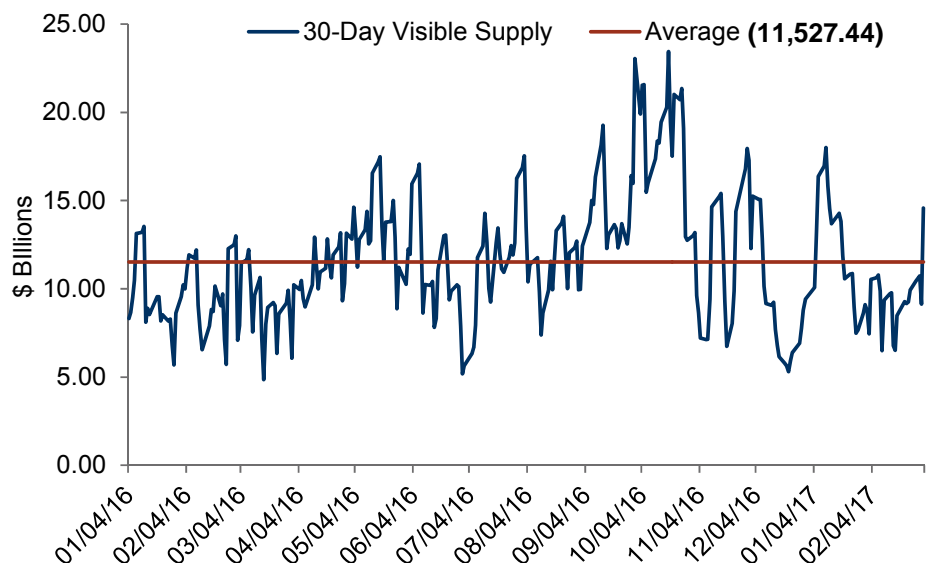


Overview of Municipal Supply

Monthly Projected Supply and Redemptions

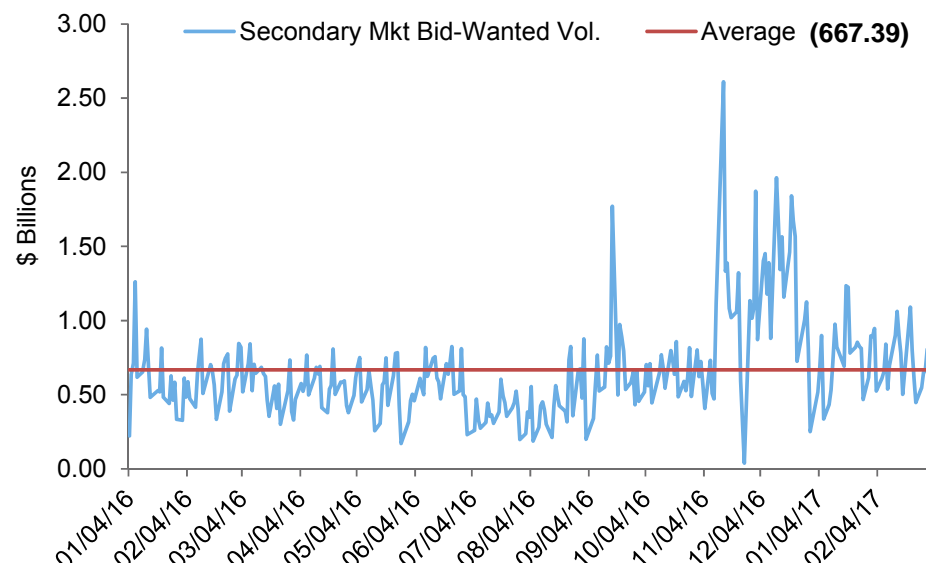


30-Day Visible Supply



Maximum 23,452.60 Minimum 4,859.00 Current 14,578.30

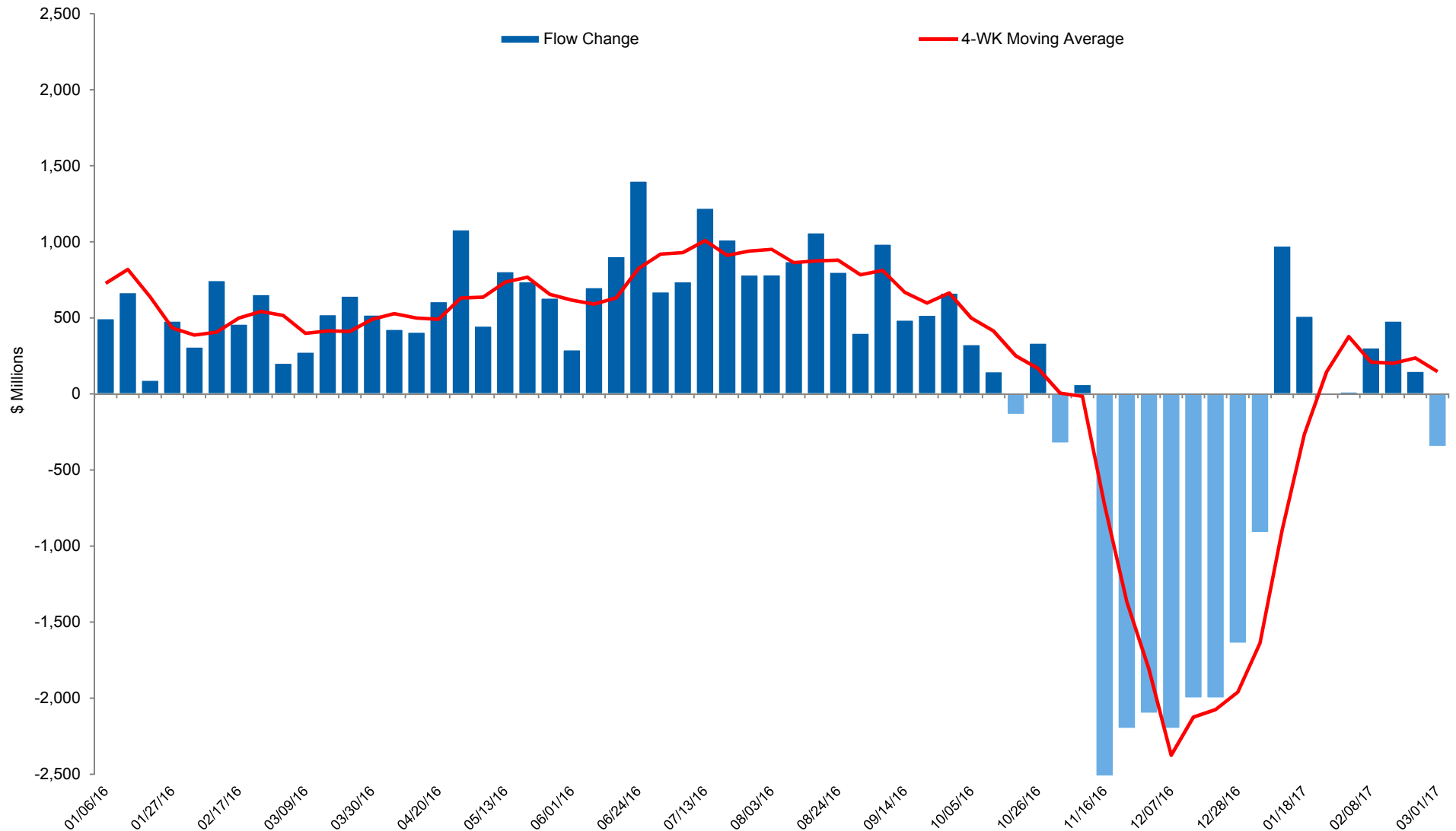
Secondary Market Bid-Wanted Volume



Maximum 2,609.68 Minimum 38.24 Current 806.39

Municipal Bond Fund Flows

- \$346 million of total net outflows last week (previous week saw \$149 million of inflows)
 - Long-Term Funds: \$277 million outflow
 - High-Yield Funds: \$48 million inflow
 - Intermediate Funds: \$42 million outflow
- Four-Week Moving Average: \$147 million inflow



Northern California Power Agency

Market and Refunding Update

March 23, 2017



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BofAML IS NOT YOUR MUNICIPAL ADVISOR OR FIDUCIARY. Bank of America Merrill Lynch (“BofAML”) is providing the information contained herein for discussion purposes only either as an underwriter or in anticipation of being engaged to serve as an underwriter. By providing the information contained herein pursuant to the participation by an independent registered municipal advisor exemption provided under SEC Rule 15Ba1-1(d)(3)(vi), BofAML is not acting as your “municipal advisor” within the meaning of Section 15B of the Securities Exchange Act of 1934, as amended (the “Act”), and does not owe a fiduciary duty to you pursuant to the Act with respect to the information and material contained in this communication. BofAML is either serving as an underwriter or is seeking to serve as an underwriter on a future transaction and not as a financial advisor or municipal advisor. The primary role of BofAML, as an underwriter, is to purchase securities with a view to distribution in an arm’s-length commercial transaction between you and BofAML and BofAML has financial and other interests that differ from yours. BofAML is acting for its own interests. You should discuss any information and material contained in this communication with any and all of your own internal or external municipal and/or financial, legal, accounting, tax and other advisors and experts, as applicable, to the extent you deem appropriate before acting on this information or material.



Municipal Market Update

Municipal Market Update

Current Market Environment

Commentary⁽¹⁾

"Trumping" the Fed

- Per expectations, the Fed raised the Fed Fund rate to 0.75-1.00 on Wednesday
 - While the decision was not a surprise, the commentary that followed was much more dovish than anticipated and notably, there were no upward revisions to the forecast for 2017 or 2018
 - Minneapolis President Kashkari was the lone dissenting opinion, justifying his dissent by commenting on the seeming lack of a plan for the Fed's balance sheet and that labor market slack still persists
- The lack of revision and dovish response led to a large rally in the US Treasury market
- Away from the Fed, President Trump's revealed his fiscal 2018 budget request
 - The budget proposed huge cuts across the board in order to boost spending for defense and security

Corporate IG and HY primary sales declined this week

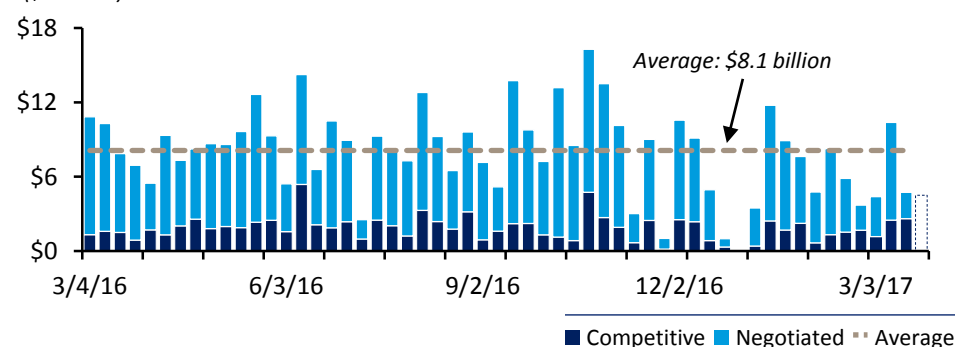
- IG fell 20% this week as issuers avoided both the Fed announcement and the East Coast storm
- High Yield experienced large outflows (2nd largest retail outflow on record) and investors became much more focused on covenants and pushed for increased risk compensation
 - A BAML investor survey found investors were underweight high yield for the first time since 2008

Muni market uncertainty

- Municipal market experienced uncertainty ahead of the Fed and east coast winter storm however in the days post the Fed announcement, municipal tone felt stronger due in part to rally in Treasury market
- Muni bond funds have reported cash outflows for the past three weeks
- Uncertainty surrounding the impending tax reform has impacted demand from certain investors, notably insurance accounts
- New issue supply was manageable as it totaled ~\$6bb this week
 - Major focus was on the competitive side of the market as \$1.8bb Empire State Dev Corp priced on Thursday, \$800mm as tax exempt

Weekly Municipal Bond Issuance (Last 12 Months)⁽³⁾

(\$ billions)



Economic Data Reports & Interest Rate Forecasts⁽²⁾

SELECTED ECONOMIC DATA REPORTS

Date	Economic Event	Date	Economic Event
3/22/17	Existing Home Sales	3/23/17	New Homes Sales
3/22/17	EIA Petroleum Status Report	3/24/17	Durable Goods Orders
3/23/17	Jobless Claims	3/24/17	PMI Composite Flash

BANK OF AMERICA MERRILL LYNCH FORECAST

Metric	3/17/17	2017Q1	2017Q2	2017Q3	2017Q4
Fed Funds	1.00%	1.00%	1.00%	1.25%	1.50%
3-Month LIBOR	1.15%	1.20%	1.25%	1.45%	1.70%
2-Year T-Note	1.32%	1.35%	1.50%	1.65%	1.80%
10-Year T-Note	2.50%	2.65%	3.00%	2.95%	2.85%
30-Year T-Bond	3.11%	3.25%	3.45%	3.30%	3.25%

STREET MEDIANS FORECAST

Metric	3/17/17	2017Q1	2017Q2	2017Q3	2017Q4
Fed Funds	1.00%	1.00%	1.15%	1.30%	1.50%
3-Month LIBOR	1.15%	1.16%	1.36%	1.54%	1.71%
2-Year T-Note	1.32%	1.33%	1.49%	1.64%	1.81%
10-Year T-Note	2.50%	2.53%	2.66%	2.75%	2.88%
30-Year T-Bond	3.11%	3.06%	3.26%	3.35%	3.45%

(1) Provided by the long-term underwriting desk of BofAML; does not represent the opinion of BofAML Global Research.

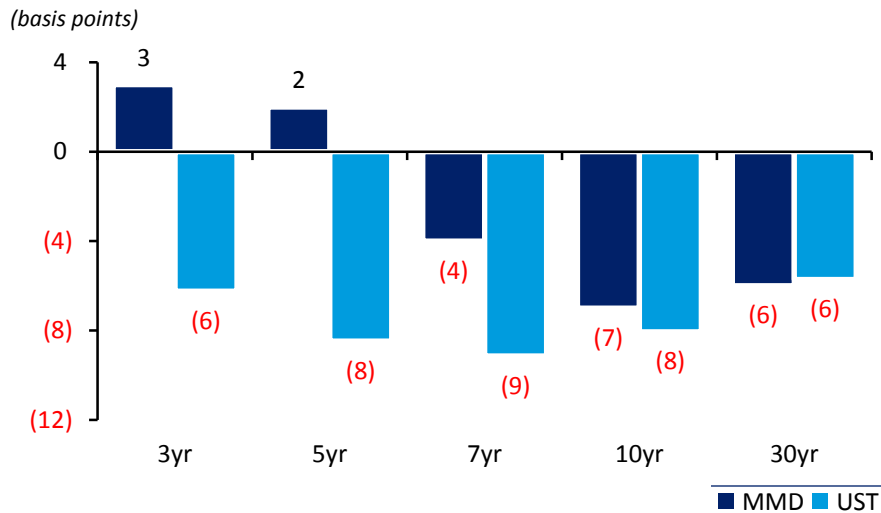
(2) Source: Bloomberg and BofA Merrill Lynch US Rates Research forecast as of 3/17/17; Fed Funds reflects Upper Bound of target range.

(3) Source: Thomson Reuters and IPREO calendar as of 3/17/17; excludes notes and private placements.

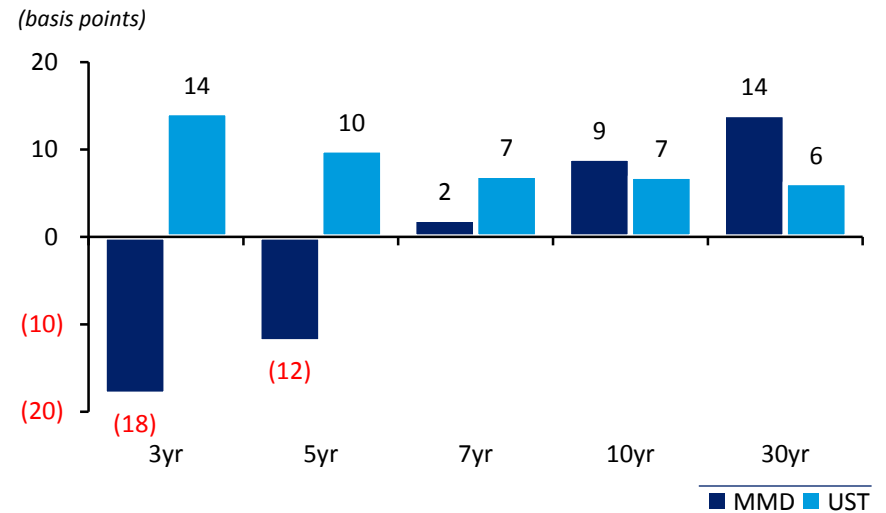
Municipal Market Update

Market Movements

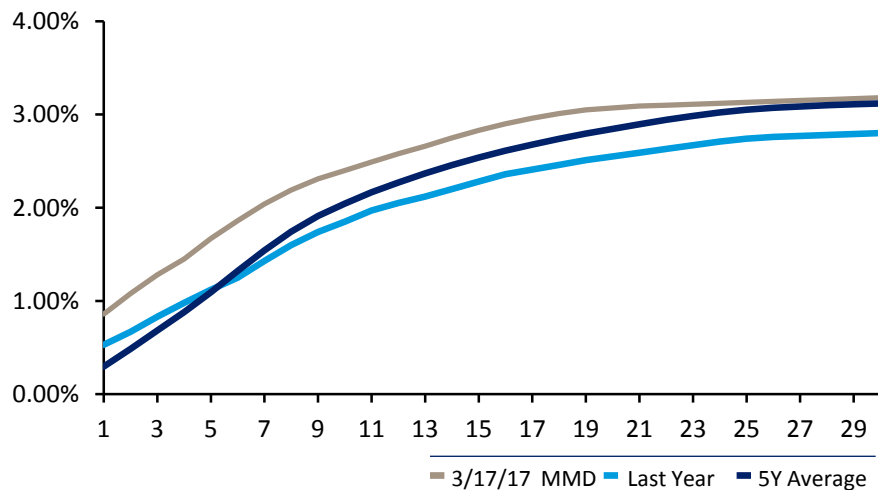
Change in MMD & UST (Week ending 3/17/17)



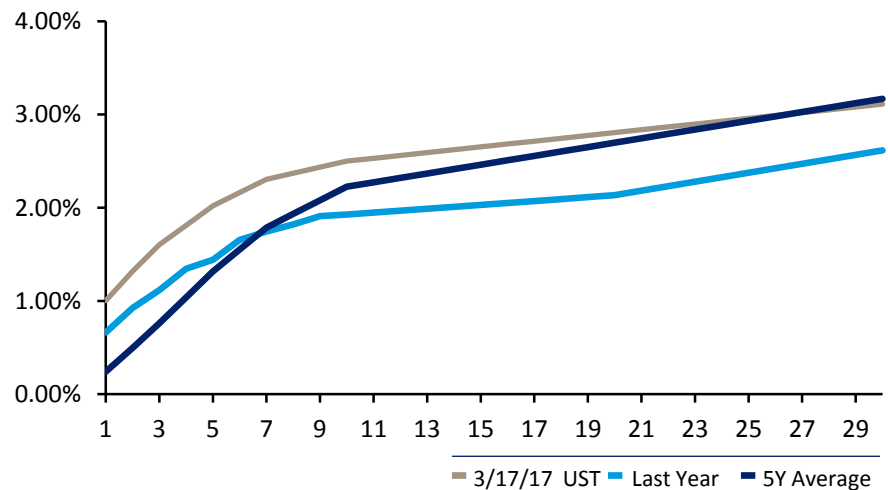
Change in MMD & UST (2017 YTD)



AAA MMD Yield Curve



UST Yield Curve

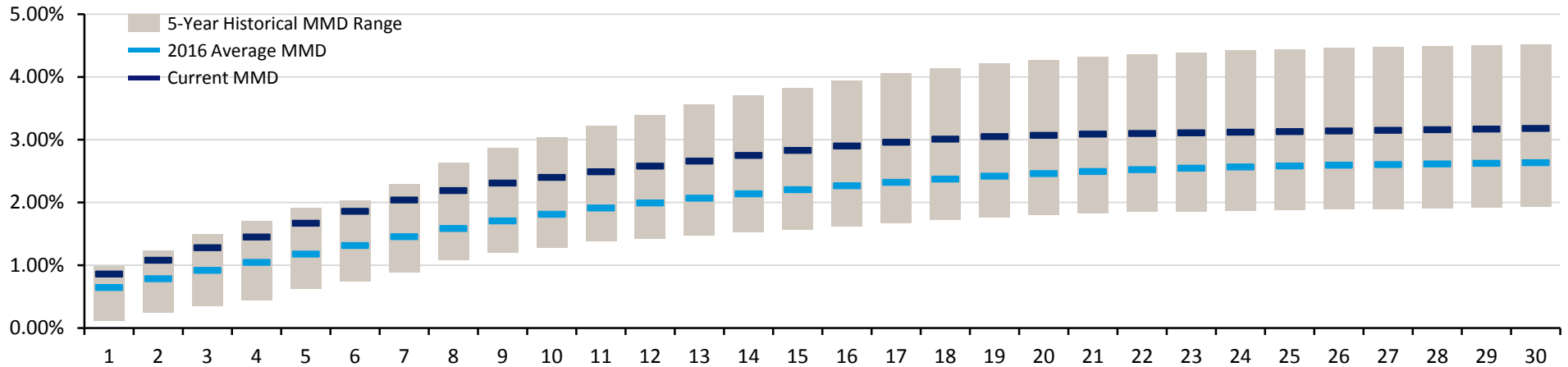


Source: Thomson Reuters as of 3/17/17.

Municipal Market Update

Tax-Exempt Interest Rate Overview

MMD Yield Curve (Last Five Years)



10-Year and 30-Year MMD Rates (Last Five Years)

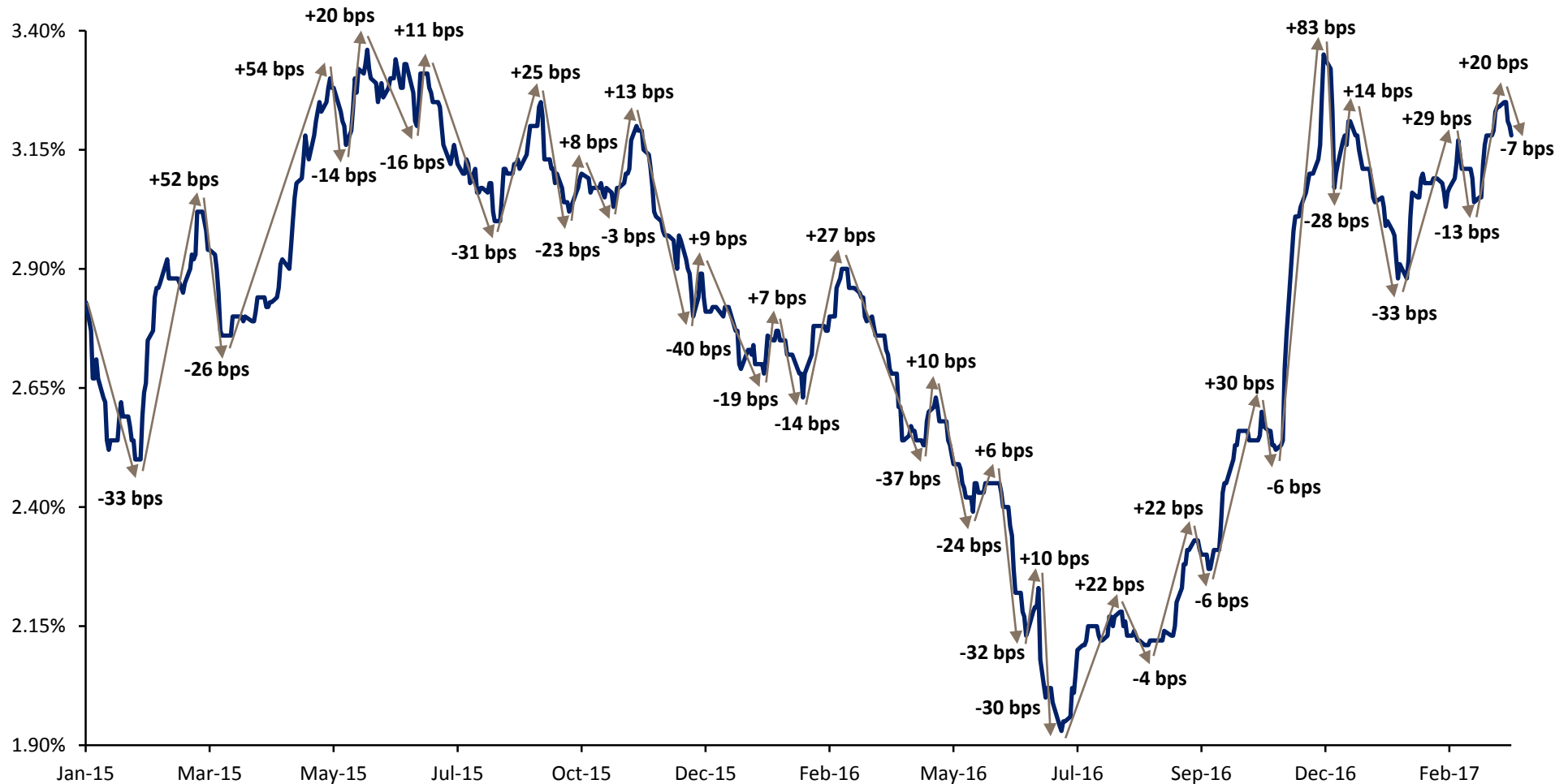


Source: Thomson Reuters as of 3/17/17.

Municipal Market Update

Volatility: A Defining Characteristic

30-Year MMD Since January 1, 2015



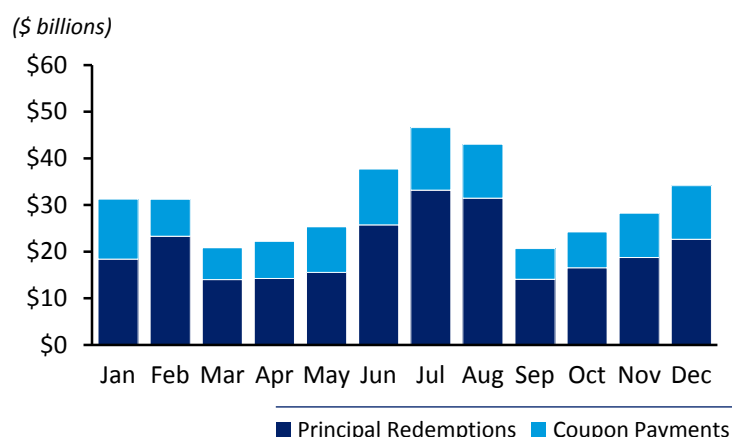
The 30-year MMD tumbled to its all-time low of 1.93% on July 6, 2016; and since has increased to its current level of 3.18%

Municipal Market Update

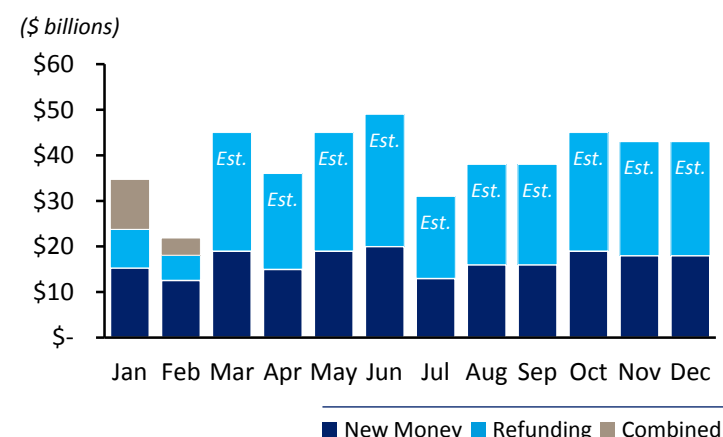
Supply and Demand

- **Municipal bond issuance in 2016 totaled \$445bn, which eclipsed the old record of \$433bn set in 2010⁽¹⁾**
- **BofAML's Muni Research Team's preliminary estimate for total long-term bond issuance for 2017 is \$470bn⁽¹⁾**
- **SIFMA's 2017 survey estimates for long-term new issue volume ranged from \$320bn to \$450bn with a median of \$417.5bn⁽²⁾**

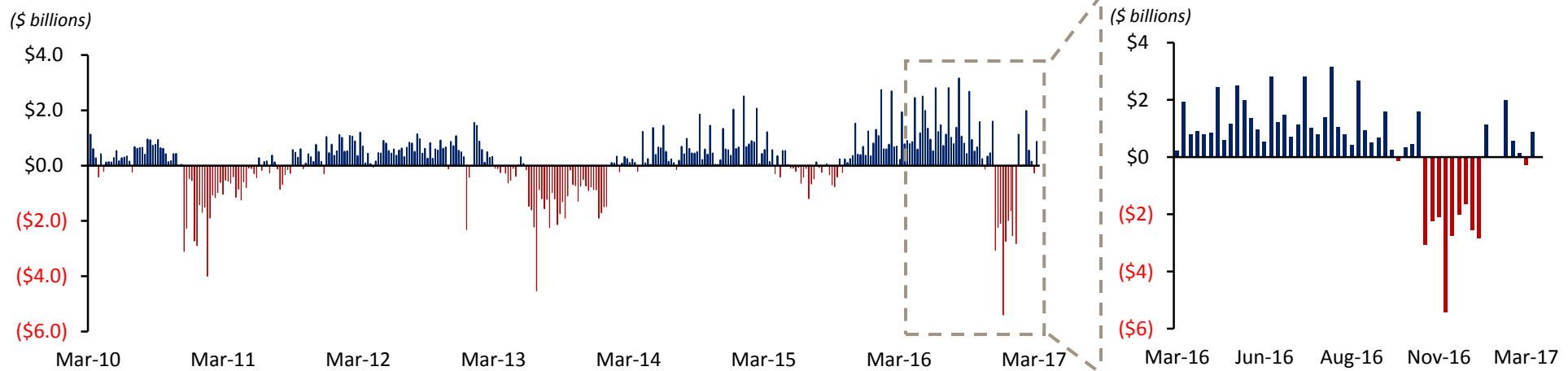
Estimated 2017 National Redemptions⁽¹⁾



Estimated 2017 Municipal Issuance⁽¹⁾



Municipal Bond Funds Experienced Inflows Last Week⁽³⁾



(1) BofAML Global Research as of 2/29/16; 8/26/16; 10/28/16; Thomson Reuters as of 2/28/17 actual YTD issuance excludes notes, includes private placements.

(2) 2017 SIFMA Municipal Issuance Survey.

(3) Lipper U.S. Fund Flows as of 3/15/17; data includes weekly and monthly reporting funds.

Refunding Opportunities

Refunding Opportunities

Overview of the Hydroelectric Project Number One Refunding Candidates

2008 Refunding Series C

- In July 2008, NCPA issued its 2008 Refunding Series C bonds to refund its outstanding Variable Rate 2002 Series A & B and 2003 Series A & B bonds
 - The 2002 Series A & B VRDBs current refunded the 1992 Series A bonds, the proceeds of which were originally used to advance refund a portion of the 1986 Series A bonds
 - The 2003 Series A & B VRDBs current refunded the 1993 Series A bonds which originally advance refunded the 1985 and 1986 Series A bonds
 - Per the 2016 Direct Purchase Refunding RFP, NCPA believes that only 13% the 2008 Refunding Series C bonds are eligible to be advance refunded with tax-exempt proceeds; the remaining could be refunded with taxable bonds

2010 Refunding Series A

- In April 2010, NCPA issued its 2010 Refunding Series A bonds to current refund its outstanding 1998 Refunding Series A bonds
 - The 1998 Series A bonds current refunded the 1985 Series E, F & G bonds
 - Based on these uses of proceeds, we believe that the 2010 Refunding Series A bonds are eligible to be advance refunded with tax-exempt proceeds

Refunding Opportunities

Refunding of the 2008 Series C and 2010 Series A Bonds

Refunding Assumptions

- The 2008 Series C Bonds are callable on July 1, 2018 and the 2010 Series A Bonds are callable on July 1, 2019
- Refunding bonds assume current ratings of A1/A+/A+
- All candidates generating over 5% PV savings on an individual basis are refunded along with shorter “wasting asset” maturities highlighted in green

Maturity by Maturity Refunding Monitor

Summary of Refunding Results

SUMMARY OF RESULTS			
	Tax-Exempt	Taxable	Total
Par Amount:	\$51,325,000	\$70,475,000	\$121,800,000
Refunded Par:	\$54,145,000	\$67,120,000	\$121,265,000
All-in TIC	1.99%	2.93%	2.51%
Escrow Yield	1.25%	1.01%	1.15%
PV Savings (\$)	\$3,512,543	\$3,228,868	\$6,741,411
PV Savings (%)	6.49%	4.81%	5.56%
Gross Savings (\$)	\$3,879,951	\$3,497,146	\$7,377,097
Efficiency Ratio	74.66%	75.92%	75.25%

REFUNDING CANDIDATES					ADVANCE REFUNDING BONDS					
Series	Maturity	Par Amount	Rate	Call Date	New Yield	Savings (\$)	Savings (%)	Negative Arbitrage	Escrow Efficiency	(+/-) bps to Reach 5%
Tax-Exempt Advance Refunding Bonds										
2008C	7/1/24	2,020,000	5.00%	7/1/18	2.30%	256,202	12.7%	29,156	89.8%	127 bps
2008C	7/1/23	1,700,000	5.00%	7/1/18	2.10%	197,346	11.6%	20,768	90.5%	124 bps
2008C	7/1/22	1,690,000	5.00%	7/1/18	1.87%	173,031	10.2%	16,325	91.4%	116 bps
2008C	7/1/21	1,615,000	5.00%	7/1/18	1.62%	136,131	8.4%	11,092	92.5%	92 bps
2008C	7/1/20	1,530,000	5.00%	7/1/18	1.40%	90,742	5.9%	6,735	93.1%	32 bps
2008C	7/1/19	1,455,000	5.00%	7/1/18	1.15%	43,513	3.0%	2,316	94.9%	-101 bps
2010A	7/1/23	15,230,000	5.00%	7/1/19	2.10%	1,258,401	8.3%	268,241	82.4%	61 bps
2010A	7/1/22	10,145,000	5.00%	7/1/19	1.87%	699,229	6.9%	129,014	84.4%	42 bps
2010A	7/1/21	9,610,000	5.00%	7/1/19	1.62%	488,446	5.1%	70,735	87.4%	2 bps
2010A	7/1/20	9,150,000	5.00%	7/1/19	1.40%	236,387	2.6%	23,944	90.8%	-84 bps
TOTAL		54,145,000				3,579,427	6.6%	578,326	86.1%	
Taxable Refunding Bonds										
2008C	7/1/24	13,530,000	5.00%	7/1/18	3.17%	885,703	6.5%	324,629	73.2%	26 bps
2008C	7/1/23	11,395,000	5.00%	7/1/18	2.97%	711,525	6.2%	248,481	74.1%	24 bps
2008C	7/1/22	11,345,000	5.00%	7/1/18	2.85%	582,370	5.1%	232,468	71.5%	3 bps
2008C	7/1/21	10,820,000	5.00%	7/1/18	2.55%	484,411	4.5%	186,006	72.3%	-14 bps
2008C	7/1/20	10,275,000	5.00%	7/1/18	2.27%	321,160	3.1%	144,848	68.9%	-65 bps
2008C	7/1/19	9,755,000	5.00%	7/1/18	1.92%	127,743	1.3%	99,604	56.2%	-186 bps
TOTAL		67,120,000				3,112,911	4.6%	1,236,035	71.6%	

Note: Preliminary, subject to change. Assumes: 1) rates as of 3/22/2017 2) 0.60% of combined Cost of Issuance and Underwriter's Discount 3) uniform savings structure 4) no reserve fund requirement

Refunding Opportunities

Overview of Additional NCPA Refunding Candidates

Lodi Energy Center Revenue Bonds, Issue One, 2010 Series A

- In June 2010, NCPA issued its new money Lodi Energy Center Revenue Bonds, Issue One 2010 Series A to finance over \$61 million of certain construction costs of the Lodi Energy Center

Capital Facilities Revenue Bonds, 2010 Refunding Series A

- In January 2010, NCPA issued the Capital Facilities Revenue Bonds, 2010 Refunding Series A to current refund all of the Agency's outstanding 1999 Refunding Series A bonds
 - The 1999 Series A bonds were used to refund the Agency's outstanding 1992 Series A bonds which were originally used to fund new money projects
 - The refinancing of the 1992 Series A bonds was structured as a crossover refunding
 - The 2010 Refunding Series A bonds may be eligible to be advance refunded with tax-exempt proceeds, subject to tax counsel review

Refunding Opportunities

Advance Refunding Monitor

Lodi Energy Center Refunding Assumptions

- 2010 Series A Bonds are callable on June 1, 2020
- Refunding bonds assume current ratings of A2/A-/A
- \$22.655 million of candidates are currently achieving over 5% PV savings on an individual basis

Capital Facilities Refunding Assumptions

- 2010 Series A Bonds are callable on February 1, 2020
- Refunding bonds assume current ratings of A2/A-
- \$16.410 million of candidates are currently achieving over 5% PV savings on an individual basis

Maturity by Maturity Refunding Monitor

REFUNDING CANDIDATES					ADVANCE REFUNDING BONDS					
Series	Maturity	Par Amount	Rate	Call Date	New Yield	Savings (\$)	Savings (%)	Negative Arbitrage	Escrow Efficiency	(+/-) bps to Reach 5%
Lodi Energy Center Revenue Bonds, Issue One										
2010A	6/1/25	7,925,000	5.00%	6/1/20	2.57%	538,394	6.8%	254,917	67.9%	27 bps
2010A	6/1/24	7,545,000	5.00%	6/1/20	2.39%	456,899	6.1%	201,731	69.4%	18 bps
2010A	6/1/23	7,185,000	5.00%	6/1/20	2.18%	366,850	5.1%	146,249	71.5%	2 bps
2010A	6/1/22	6,845,000	5.00%	6/1/20	1.95%	259,375	3.8%	91,151	74.0%	-27 bps
2010A	6/1/21	6,520,000	5.00%	6/1/20	1.70%	132,597	2.0%	36,539	78.4%	-82 bps
TOTAL		36,020,000				1,754,115	4.9%	730,586	70.6%	
Capital Facilities Revenue Bonds										
2010A	8/1/25	1,010,000	5.25%	2/1/20	2.59%	90,125	8.9%	31,798	73.9%	58 bps
2010A	8/1/24	5,390,000	5.25%	2/1/20	2.41%	433,817	8.0%	143,564	75.1%	50 bps
2010A	8/1/23	5,150,000	5.25%	2/1/20	2.21%	355,091	6.9%	109,268	76.5%	35 bps
2010A	8/1/22	4,860,000	5.25%	2/1/20	1.98%	264,615	5.4%	72,620	78.5%	10 bps
2010A	8/1/21	4,550,000	5.00%	2/1/20	1.73%	145,862	3.2%	36,597	79.9%	-47 bps
2010A	8/1/20	4,490,000	5.00%	2/1/20	1.51%	37,898	0.8%	8,861	81.0%	-141 bps
TOTAL		25,450,000				1,327,409	5.2%	402,708	76.7%	

Note: Preliminary, subject to change. Assumes: 1) rates as of 3/22/2017 2) 0.60% of combined Cost of Issuance and Underwriter's Discount 3) uniform savings structure 4) no reserve fund requirement

Appendix A: Risk Disclosures Pursuant to MSRB Rule G-17

Risk Disclosures⁽¹⁾: Fixed Rate Bonds

Material Risk Consideration	Description of Risk	Potential Consequences
Issuer Default Risk	Possibility that the Issuer defaults under the authorizing documents	<ul style="list-style-type: none"> -Range of available remedies may be brought against Issuer (e.g., forcing Issuer to raise taxes or revenues) -Credit ratings negatively impacted -Access to capital markets impaired -Possibility of receivership or bankruptcy for certain issuers
Redemption Risk	The ability to redeem the bonds prior to maturity may be limited	<ul style="list-style-type: none"> -Inability to refinance at lower interest rates
Refinancing Risk	Possibility that the bonds cannot be refinanced	<ul style="list-style-type: none"> -Inability to refinance at lower interest rates
Reinvestment Risk	Possibility that the Issuer may be unable to invest unspent proceeds at or near the interest rate on the bonds	<ul style="list-style-type: none"> -Negative arbitrage resulting in a higher cost of funds
Tax Compliance Risk	For tax-exempt bonds, possibility that failure to comply with tax-related covenants results in the bonds becoming taxable obligations	<ul style="list-style-type: none"> -Increase in debt service costs retroactively to date of issuance -Possible mandatory redemption of bonds affected -Risk of IRS audit -Difficulty in refinancing the bonds -Access to tax-exempt market impacted -Difficulty in issuing future tax-exempt debt

⁽¹⁾ You should consult with your financial and/or municipal, legal, accounting, tax and other advisors, as applicable, to the extent you deem appropriate concerning such risks.



Northern California Power Agency

Proposal to Provide

Direct Purchase Bank Loan

Respectfully submitted by:



Matt Zehnder, Vice President
KeyBanc Capital Markets Inc.
1301 5th Avenue, 25th Floor
Seattle, Washington 98101
matt.a.zehnder@key.com
Office: (206) 343-6960
Cell: (253) 363-7602

Background and Economics

KeyBank proposes a Direct Purchase bank loan to refund the outstanding maturities of the Hydroelectric Power Project Number One Revenue Bonds, 2008 Refunding Series C (“Hydro Series 2008C Bonds”), of approximately \$77 million in par outstanding. The proposed structure includes 2016 Series A tax-exempt loan to refund the advance refundable portion and a 2016 Series B taxable loan to refund the non-advance refundable portion of the Hydro Series 2008C Bonds. Simultaneous with the issue of the Series B loan, Key (or assigns) will provide NCPA with a Forward Purchase Option Agreement that would permit but not require NCPA to deliver new tax-exempt loans to refinance the taxable 2016 Series B loan at a predetermined tax-exempt rate.

The Term Sheet below was reviewed with Orrick on September 29, 2016, with a mutual agreement the conceptual mechanics are within IRS guidelines for advance refunding tax-exempt bonds. The key difference between this structure and our proposal in June is the inclusion of separately tradable taxable and tax-exempt portions of the 2016 Series B loan evidenced by a forward purchase option.

The estimated economics of the refunding is included below:

Summary of Refunding Results

Direct Purchase Bonds (Dated 10/27/2016)			
Sources and Uses	Taxable/Forward Delivery of Tax Exempt Bonds	Tax-Exempt Bonds	Combined
Source of Funds			
Par Amount	\$73,175,000	\$10,915,000	\$84,090,000
Total Sources	\$73,175,000	\$10,915,000	\$84,090,000
Uses of Funds			
Escrow Deposit	\$72,998,704	\$10,886,726	\$83,885,430
Legal Fees	\$87,020	\$12,980	\$100,000
Origination Fee	\$87,020	\$12,980	\$100,000
Rounding Amount	\$2,256	\$2,314	\$4,570
Total Uses	\$73,175,000	\$10,915,000	\$84,090,000
Bond Summary and Savings Statistics			
All-In TIC	1.99%	1.73%	1.96%
Refunded Par Amount	\$67,120,000	\$10,010,000	\$77,130,000
Negative Arbitrage	\$1,388,598	\$207,090	\$1,595,688
Gross Savings	\$5,748,627	\$1,003,239	\$6,751,866
NPV Savings(\$)	\$5,357,251	\$935,911	\$6,293,162
NPV Savings(%)	7.98%	9.35%	8.16%

Term Sheet

Key Government Finance, Inc., (“Lender”), is pleased to present the following summary of terms and conditions for the revenue refunding bond proposal of approximately \$77,130,000 for the Northern California Power Agency, California (“NCPA”). The proposed Direct Purchase Bonds (the “Bonds”) shall be subject to satisfaction of terms and conditions presented herein, and all documentation customarily required for credit transactions of this nature. The issuance of this Financing Term Sheet shall not prejudice the Lender’s rights of review and approval, including without limitation, of all documents and materials heretofore delivered to the Lender by or on behalf of NCPA. Final credit authorization by the Lender will be required prior to closing the Bonds.

BORROWER:	Northern California Power Agency, California (“NCPA” or “Borrower”)
LENDER:	Key Government Finance, Inc. or assigns (“KGF” or “Lender”)
BONDS:	Approximately \$77,130,000 Direct Purchase Bonds, consisting of 2016 Series A - \$10,010,000 tax-exempt (the “Series A Bonds”), and 2016 Series B - \$67,120,000 taxable (the “Series B Bonds”), collectively (the “Bonds”). Borrowing amounts and amortization schedules provided in Attachments A and B are based on current outstanding debt. Lender understands principal borrowing may increase within reasonable amount due to refunding mechanics and final structure of the Bonds.
PURPOSE:	Proceeds of the Bonds used to refund all outstanding NCPA Hydroelectric Power Project Number One Revenue Bonds, 2008 Refunding Series C (the “2008 Bonds”), and to pay issuance costs associated with the Bonds.
MATURITY:	The Bonds will have a final maturity of July 1, 2024 (the “Maturity Date”).
SECURITY:	The Bonds will be secured under the existing NCPA Indenture and supplemental indentures consistent with 2008 Bonds, the Bonds will be treated as a parity obligation in accordance with the terms for parity debt obligations under the Indenture, and allowable terms for the substitution or refinancing of long-term debt as defined in the Indenture.
CLOSING DATE:	Assumed November 15 th , 2016
TAX STATUS:	Series A Bonds – Tax-Exempt Series B Bonds – Taxable
INTEREST RATES:	Series A – 1.68% Tax-Exempt Series B – 2.59% Taxable Interest rates provided herein based on current market conditions as of the date of the Financing Term Sheet and subject to an index based on Lender’s cost of funds between the date of the Financing Term Sheet and the final closing date of the Bonds. Adjustments in the Bond amortization or mandatory annual redemption schedule as illustrated in Attachments A and B that result in the increase to the average life of the amortization will require a revised interest rate quote.

RATE LOCK:	Lender may provide up to 90-day rate lock at the request of NCPA. Cost of the rate lock will be added to the Interest Rate subject to prior approval and acceptance by NCPA. Rate lock estimates as of the date of the Financing Term Sheet are: 30 day - 0.03%, 60 day - 0.14% and 90 day - 0.18% respectively.
FORWARD DELIVERY OF TAX-EXEMPT BONDS:	<p>Simultaneous with the issuance of the Series B Bonds, Key Government Finance, Inc., or its assigns (the “Tax-Exempt Purchaser”); will provide NCPA with a Forward Purchase Option Agreement (“FPOA”). The FPOA will permit but not require NCPA deliver new Tax-Exempt bonds during the period of 04/01/18 – 08/01/18 to refinance outstanding taxable 2016 Series B Bonds. The FPOA will require NCPA to; (a) provide Tax-Exempt Purchaser with unqualified tax opinion of Bond Counsel along with tax certificate and 8038-G; (b) principal payments as illustrated in Attachment A: and (c) other terms as may be required by Tax-Exempt Purchaser.</p> <p>FPOA Interest Rate: 1.68% (tax-exempt)</p> <p>FPOA Fee: \$10,000 (based on current forward delivery market)</p> <p>The FPOA interest rate and fee provided above based on current market conditions as of the date of the Financing Term Sheet and will be subject to change based on market conditions between the date of the Financing Term Sheet and the execution date of the Forward Purchase Option Agreement.</p>
INTEREST PAYMENTS:	Semi-annual interest payments on January 1 and July 1, commencing January 1, 2017.
DAY COUNT BASIS:	Interest payments calculated on a 30 / 360-day basis.
PRINCIPAL AMORTIZATION:	<p>Series A Bonds – Serial Bond annual principal redemption based on the amortization provided in Attachment A.</p> <p>Series B Bonds – Term Bond maturing on July 01, 2024.</p>
REDEMPTION PROVISIONS:	<p>Optional Redemption – The Bonds will be subject to optional redemption in whole at any time with a prepayment premium of 2% during the first 6 years following closing with no penalty thereafter. Prepayment premium calculated based on outstanding principal balance at the time of redemption. Series B Bonds are subject to optional redemption in whole (from 04/01/18 – 08/01/18), without premium at the option of NCPA solely from the proceeds of the FPOA.</p> <p>Mandatory Annual Redemption – Series B Bonds subject to mandatory annual redemption without penalty as outlined in Attachment B.</p>
ORIGINATION FEE:	Origination fee of 0.13% of par amount of Bonds due Lender at closing.
COVENANTS/REPORTING:	Lender anticipates standard terms and covenants consistent with NCPA’s current Indenture and supplemental indentures, including but not limited to the following:

(1) **Default Interest Rate** - At election of Lender, interest rates will increase by 300 basis points while Event of Default is continuing. "Event of Default" shall mean the declaration by Lender of an event of default due to determination by Lender:

(i) failure to pay principal or interest on the Bonds when due; (ii) failure by Borrower to comply with any of its obligations, or to perform any of its duties, which failure continues and is not cured for a period of more than 60 days after Lender has made written demand to Borrower to cure such failure; or, (iii) material misrepresentation to Lender by Borrower in the purchase of the Bonds, as reasonably concluded by Lender after investigation and discussion with Borrower.

(2) **Waiver of Jury Trial** - NCPA and Lender agree to irrevocably waive all right to trial by jury in any action, proceeding or counterclaim (whether based on contract, tort or otherwise) arising out of or relating to the Financing Agreement or the actions of NCPA or Lender in negotiation, administration, performance or enforcement.

(3) **Financial Reporting** - (a) receipt of full-year audited financial statement and covenant compliance certificate within 180 days of the fiscal year-end; b) receipt of NCPA budget for each fiscal year promptly after adoption; and (c) receipt of other information as Lender may from time to time reasonably request.

DOCUMENTATION:

All documents relating to the Bonds shall be prepared by NCPA bond counsel, in form and substance acceptable to the Lender and its legal counsel, including, but not limited to, authorizing resolutions, the financing agreement, tax certificates, indenture of trust, bond counsel opinion to include both validity and tax opinion and additional documents customary for transactions of this nature. Lender anticipates using Davis Wright Tremaine as Lender counsel, who will work closely with NCPA bond counsel to review all legal documents in a form acceptable to Lender.

EXPENSES:

NCPA shall pay all costs and expenses related to the Bonds, not limited to, but anticipated to be, California State debt advisory commission, financial advisor/placement agent, trustee, bond counsel and Lender counsel in connection with this financing.

GOVERNING LAW:

State of California

OTHER:

Lender will make a loan by purchasing the Bonds under the following additional conditions: (i) Bonds are not registered under the Securities Act of 1933 and not registered or otherwise qualified for sale under the "Blue Sky" laws and regulations of any state; (ii) CUSIP numbers are not obtained for the Bonds; (iii) final Official Statement is not prepared in connection with the Direct Purchase of the Bonds; (iv) Bonds do not close through DTC or any repository and are not in book entry form; and (v) Bonds are not listed on any securities exchange.

The Financing Term Sheet is for discussion purposes only and does not represent a commitment from Lender. It is for internal use only and cannot be disclosed to outside third parties without Lender's consent. The Financing Term Sheet is an outline of certain material terms of the Financing Agreement and does not purport to summarize all the conditions,

covenants, representations, warranties and other provisions that may otherwise be contained in a definitive documentation for the Financing Agreement contemplated hereby.

The Financing Term Sheet is based upon the accuracy of all information presented by NCPA to Lender and is contingent upon the absence of any material adverse change in the condition of NCPA, financial or otherwise, from the condition represented to Lender as of the date of the Financing Term Sheet. The Financing Term Sheet is subject to Lender's formal approval and the execution of documentation acceptable to NCPA and Lender. It is not a commitment by Lender to engage in the transaction. In conjunction with the Financing Term Sheet: (a) Key Government Finance ("Lender") is not acting as an advisor to NCPA and does not owe a fiduciary duty pursuant to Section 15B of the Exchange Act to NCPA, with respect to the information and material contained in this communication; (b) Lender is acting for its own interests; and (c) NCPA should discuss any information and material contained in this communication with any and all internal or external advisors and experts that you deem appropriate before acting on this information or material.

Thank you for allowing us the opportunity to present this term sheet. If you have any questions, please call me at 503-701-8476.

Sincerely,

Kendall Hansen, VP
Key Government Finance, Inc.
16983 Canal Circle
Lake Oswego, OR 97035
(503) 701-8476 Fax (216) 357-6106
Kendall.Hansen@Key.com

Cc: Matt Zehnder, KeyBanc Capital Markets Inc., 1301 5th Ave, 25th Floor, Seattle, WA 98101, Office: 206-343-6960, Cell: 253-363-7602, Fax: 1-866-785-9277 E-mail: Matt.A.Zehnder@key.com

John Muus, Managing Director, KeyBanc Capital Markets, Inc., 1301 Avenue of the Americas, 37th Floor, New York, NY 10017 Office: 917-368-2389, Cell: 201-815-9032: E-mail: john.muus@key.com

ATTACHMENT A - Principal Amortization Schedules

Series A Bonds Principal Amortization Schedule

Date	Principal	Balance
7/1/2019	1,455,000.00	8,555,000.00
7/1/2020	1,530,000.00	7,025,000.00
7/1/2021	1,615,000.00	5,410,000.00
7/1/2022	1,690,000.00	3,720,000.00
7/1/2023	1,700,000.00	2,020,000.00
7/1/2024	2,020,000.00	0.00
Total	10,010,000.00	--

Series B Bonds Principal Amortization Schedule

Date	Principal	Balance
7/1/2024	67,120,000	0
Total	67,120,000	--

Tax-Exempt Forward Purchase Option Agreement Principal Amortization Schedule

Date	Principal	Balance
7/1/2019	9,755,000.00	57,365,000.00
7/1/2020	10,275,000.00	47,090,000.00
7/1/2021	10,820,000.00	36,270,000.00
7/1/2022	11,345,000.00	24,925,000.00
7/1/2023	11,395,000.00	13,530,000.00
7/1/2024	13,530,000.00	0
Total	67,120,000.00	--

ATTACHMENT B - Redemption Schedules**Series B Bonds - Mandatory Annual Redemption Schedule**

Date	Principal
7/1/2019	9,755,000.00
7/1/2020	10,275,000.00
7/1/2021	10,820,000.00
7/1/2022	11,345,000.00
7/1/2023	11,395,000.00
7/1/2024	13,530,000.00



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