

## Interest Rates Used in Appropriations, Including PECO Executive Summary

**November 20, 2020**

The Revenue Estimating Conference adopted a series of interest rates for use in the state budgeting process, including any bonding related to Public Education Capital Outlay (PECO). The adopted interest rates take into consideration current benchmark rates and market volatility.

The long-term interest rate is used for bond issues with maturity structures of 20 years or more. The Conference reaffirmed the long-term interest rate of 4.50% adopted in July based on a recommendation by the Division of Bond Finance. The Division of Bond Finance recommends a range for the long-term interest rate based on a benchmark rate of 2.93% plus a spread of 126 basis points for volatility for an interest rate of 4.19% on the low end and a benchmark rate of 2.93% plus a spread of 199 basis points for volatility for an interest rate of 4.92% on the high end. The 4.5% adopted rate has a spread of 157 basis points over the benchmark rate.

### Long-Term Interest Rate

Fiscal Year	2021-22	2022-23	2023-24	2024-25	2025-26
Interest Rate	4.50%	4.50%	4.50%	4.50%	4.50%

As recommended by the Division of Bond Finance in December 2019, the Conference discontinued the adoption of a short-term or variable interest rate forecast. The adopted short-term interest rate was previously used to calculate debt service on the outstanding Everglades variable rate bonds. Variable rate bonds were initially issued in 2006 and 2007. The last outstanding issue of Everglades VR 2007A&B Bonds has now been refunded with fixed-rate bonds and was called for redemption on December 4, 2019. The Division of Bond Finance has no plans to recommend the issuance of variable rate bonds in the future.

Finally, the Conference adopted interest rates for use by the Revenue Estimating Conference in its calculation of the Maximum Appropriations for Public Education Capital Outlay (PECO). The adopted interest rates take into consideration current benchmark rates and the November 2020 National Economic Estimating Conference forecast for the yield on municipal bonds – the Bond Buyer 20-Bond Index. Downward revisions were made throughout the forecast due to the continued significant interventions by the Federal Reserve in the financial markets to support the economy during the coronavirus pandemic. These interventions are expected to be persistent through the near-term forecast horizon.

### PECO Bonds Interest Rate

Fiscal Year	2021-22	2022-23	2023-24	2024-25	2025-26
Interest Rate - July 2020	3.75%	4.00%	4.00%	4.00%	4.25%
<b>Interest Rate - November 2020</b>	<b>3.25%</b>	<b>3.25%</b>	<b>3.50%</b>	<b>3.50%</b>	<b>3.75%</b>

**Division of Bond Finance  
Interest Rate Calculations**

July 17, 2020

## Division of Bond Finance

### Calculation of Long-Term Interest Rate

<b>Long-Term Interest Rate Information* [July 17, 2020]</b>		
Current Long-Term Interest Rate <sup>1</sup>	2.93%	2.93%
Plus: Volatility Spread <sup>2</sup>	1.26%	1.99%
<b>Long-Term Interest Rate Range</b>	<b>4.19%</b>	<b>4.92%</b>

<sup>1</sup> Interest rate estimate for a 30-year bond issue based on 5% coupons and estimated yields and credit spreads as of July 10, 2019. Estimate represents the true interest cost, which factors in the cost of call optionality based on the market standard 10-year par call structure. Excludes costs of issuance and underwriter's discount, which would increase the true cost of borrowing.

<sup>2</sup> Used two measures to calculate interest rate volatility; (1) TM3 Municipal Market Data ("MMD") high-low range over the prior 12 months of 199 basis points and (2) Bond Buyer 11 GO Bond Index maximum annual change over the last 20 years of 126 basis points.

#### **Long-Term Interest Rate:**

The interest rate range noted above is based on the Division of Bond Finance's (the "Division") historical methodology that analyzes interest rate trends and volatility over the past 20 years and most recent 12-month period. The Division's methodology produces a range of 4.19% to 4.92% for the long-term interest rate which reflects the significant volatility that the municipal bond market has experienced in recent months as a result of the effects of COVID-19 and the uncertainty of the market environment moving forward.

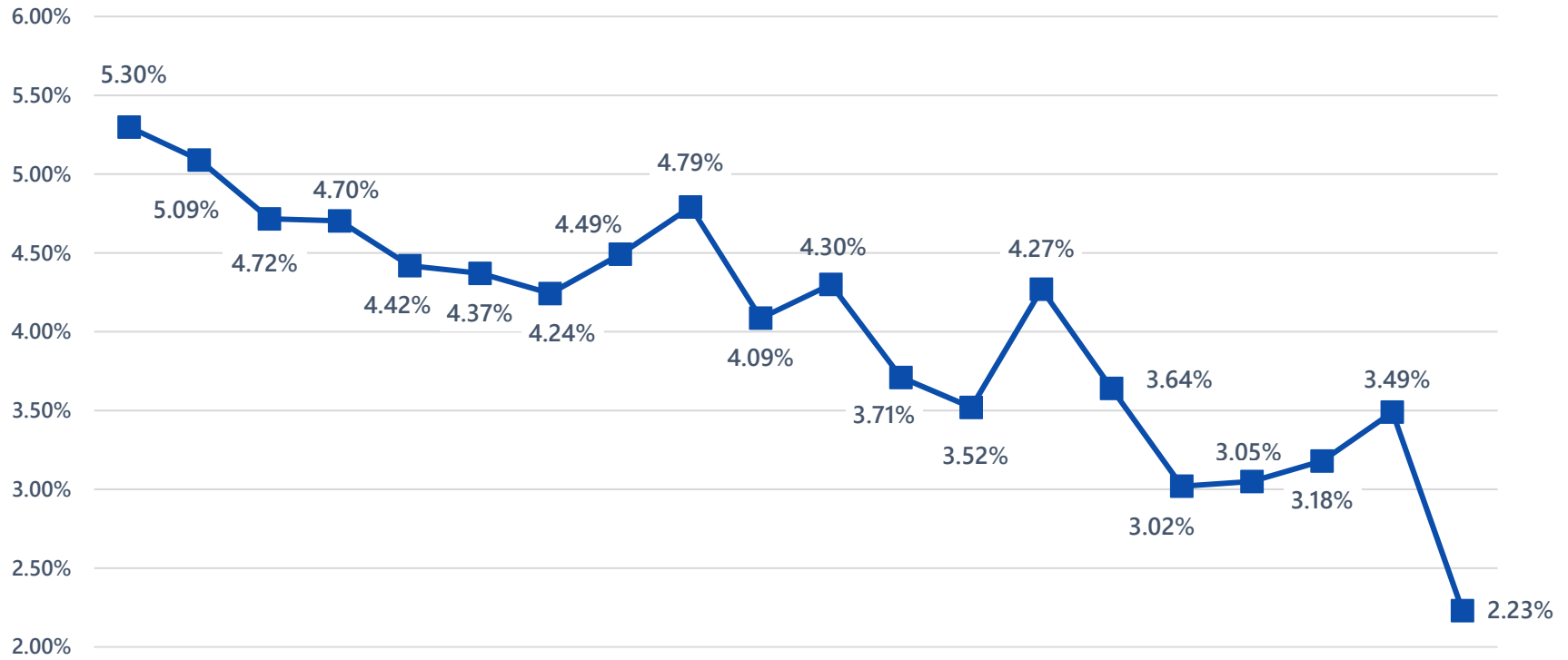
While interest rates have recently stabilized, the municipal market will continue to be heavily influenced by the ongoing market interventions by the Federal Reserve, the future effects of COVID-19 on the financial strength of governments, and the potential for additional Federal stimulus to support State and local government finances. Additionally, the current demand for municipal bonds can vary by credit, with some areas of the market facing headwinds based on the specific effects of COVID-19 on particular sectors of the economy (i.e., general obligation bonds tend to be well received but certain revenue bond credits may not price as well), and this estimated interest rate is intended to be used for a wide range of credits issued by the State.

\* The Division of Bond Finance has supplied the above interest rates to assist the REC in adopting official rates that would be used by State agencies for planning and budgetary purposes. There can be no assurance that actual interest rates for any particular bond issue will not exceed the rates shown above.

## Long-Term Interest Rate Volatility

### Change in Bond Buyer 11 GO Bond Average Annual Interest Rates Last 20 Years

The maximum change in the annual average Bond Buyer GO Bond Index over the last 20 years is 126 basis points.



Fiscal Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
BB 11 GO Avg	5.30%	5.09%	4.72%	4.70%	4.42%	4.37%	4.24%	4.49%	4.79%	4.09%	4.30%	3.71%	3.52%	4.27%	3.64%	3.02%	3.05%	3.18%	3.49%	2.23%	4.15%
YOY Change	(0.46)%	(0.21)%	(0.37)%	(0.01)%	(0.28)%	(0.05)%	(0.13)%	0.25%	0.30%	(0.71)%	0.21%	(0.59)%	(0.19)%	0.75%	(0.63)%	(0.62)%	0.03%	0.13%	0.31%	(1.26)%	0.38% <sup>1</sup>

<sup>1</sup> Average calculated using absolute values of year-over-year changes.

## Long-Term Interest Rate Volatility Change in 30-Year MMD AAA Rates Last 12 Months

The 30-year MMD AAA interest rate ranged from a low of 1.38% to a high of 3.37% over the last 12 months, a difference of 199 basis points. These are stated yields assuming 5% coupons and do not factor in costs of issuance, underwriter's discount, or call optionality.



## PECO BOND SALES AND INTEREST RATES

(BOLD font indicates forecasted values)

	<u>Bond Buyer 20-Bond Index</u>		Series 2021 <u>FY21-22</u>	Series 2022 <u>FY22-23</u>	Series 2023 <u>FY23-24</u>	Series 2024 <u>FY24-25</u>	Series 2025 <u>FY25-26</u>	Series 2026 <u>FY26-27</u>
	<u>Jul 2020</u>	<u>Nov 2020</u>						
2019 Q3	3.41%	3.41%						
2019 Q4	3.16%	3.16%						
2020 Q1	3.45%	3.45%						
2020 Q2	2.80%	2.79%						
2020 Q3	2.43%	2.15%						
2020 Q4	2.60%	<b>2.29%</b>						
2021 Q1	2.76%	<b>2.29%</b>						
2021 Q2	3.01%	<b>2.33%</b>						
2021 Q3	3.23%	<b>2.31%</b>	<b>3.25% Nov 2020</b> 3.75% Jul 2020					
2021 Q4	3.28%	<b>2.33%</b>						
2022 Q1	3.33%	<b>2.33%</b>						
2022 Q2	3.37%	<b>2.36%</b>						
2022 Q3	3.38%	<b>2.41%</b>		<b>3.25% Nov 2020</b> 4.00% Jul 2020				
2022 Q4	3.40%	<b>2.44%</b>						
2023 Q1	3.44%	<b>2.50%</b>						
2023 Q2	3.44%	<b>2.52%</b>						
2023 Q3	3.46%	<b>2.55%</b>			<b>3.50% Nov 2020</b> 4.00% Jul 2020			
2023 Q4	3.49%	<b>2.57%</b>						
2024 Q1	3.52%	<b>2.60%</b>						
2024 Q2	3.54%	<b>2.64%</b>						
2024 Q3	3.58%	<b>2.68%</b>				<b>3.50% Nov 2020</b> 4.00% Jul 2020		
2024 Q4	3.61%	<b>2.71%</b>						
2025 Q1	3.65%	<b>2.75%</b>						
2025 Q2	3.70%	<b>2.79%</b>						
2025 Q3	3.74%	<b>2.84%</b>					<b>3.75% Nov 2020</b> 4.25% Jul 2020	
2025 Q4	3.78%	<b>2.88%</b>						
2026 Q1	3.82%	<b>2.94%</b>						
2026 Q2	3.87%	<b>2.99%</b>						
2026 Q3	3.92%	<b>3.04%</b>						<b>4.00% Nov 2020</b> NA Jul 2020
2026 Q4	3.97%	<b>3.08%</b>						
2027 Q1	4.01%	<b>3.12%</b>						
2027 Q2	4.07%	<b>3.18%</b>						