

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

**December 20, 2021**

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 adopted a long-term interest rate of 4.00%, 50 basis points lower than the rate adopted in July 2021, after considering information provided 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 2.89% plus a spread of 48 basis points for volatility for an interest rate of 3.37% on the low end and a benchmark rate of 2.89% plus a spread of 126 basis points for volatility for an interest rate of 4.15% on the high end. The 4.00% adopted rate has a spread of 111 basis points over the benchmark rate.

### Long-Term Interest Rate

Fiscal Year	2022-23	2023-24	2024-25	2025-26	2026-27
Interest Rate	4.00%	4.00%	4.00%	4.00%	4.00%

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 December 2021 National Economic Estimating Conference forecast for the yield on municipal bonds – the Bond Buyer 20-Bond Index. The December forecast for the Bond Buyer 20-Bond Index indicated a slight fall in interest rates, especially in the long term. The Conference reduced the July rates in Fiscal Years 2022-23, 2025-26, 2026-27, and 2027-28 to maintain a spread of at least 50 basis points above the new Bond Buyer 20-Bond Index. This reduced the rate by 25 basis points in fiscal years 2022-23, 2025-26, 2026-27, and 2027-28. Fiscal Years 2023-24 and 2024-25 remained unchanged.

### PECO Bonds Interest Rate

Fiscal Year	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Interest Rate - July 2021	3.50%	3.50%	3.75%	4.00%	4.25%	4.25%
<b>Interest Rate - December 2021</b>	<b>3.25%</b>	<b>3.50%</b>	<b>3.75%</b>	<b>3.75%</b>	<b>4.00%</b>	<b>4.00%</b>

**Division of Bond Finance  
Interest Rate Calculations**

December 20, 2021

## Division of Bond Finance

### Calculation of Long-Term Interest Rate

<b>Long-Term Interest Rate Information* [December 20, 2021]</b>		
	<u>Low End</u>	<u>High End</u>
Current Long-Term Interest Rate <sup>1</sup>	2.89%	2.89%
Plus: Volatility Spread <sup>2</sup>	0.48%	1.26%
<b>Long-Term Interest Rate Range</b>	<b>3.37%</b>	<b>4.15%</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 December 14, 2021. 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") 30-year benchmark yield high-low range over the prior 12 months of 48 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 3.37% to 4.15% for the long-term interest rate.

Tax-exempt interest rates remain low, with overall market conditions very favorable to municipal issuers like the State. However, the Federal Reserve's recent shift in policy, including an increased pace of tapering and the two to three rate hikes now expected in 2022, could put pressure on interest rates next year. The municipal market in particular has continued to benefit from strong technicals with the demand for tax-exempt debt consistently outstripping the supply available for purchase. Investors have continued to move money into municipal bonds throughout 2021, with municipal bond funds seeing significant weekly inflows. At the same time, tax-exempt supply remains depressed relative to historical norms in part due to the removal of the ability to execute tax-exempt advance refundings in the 2017 tax reform. Some market participants are predicting record supply in 2022, but much of that issuance may be in the form of taxable debt and it's unclear how much the tax-exempt supply/demand imbalance will be affected.

#### **Short-Term Interest Rate:**

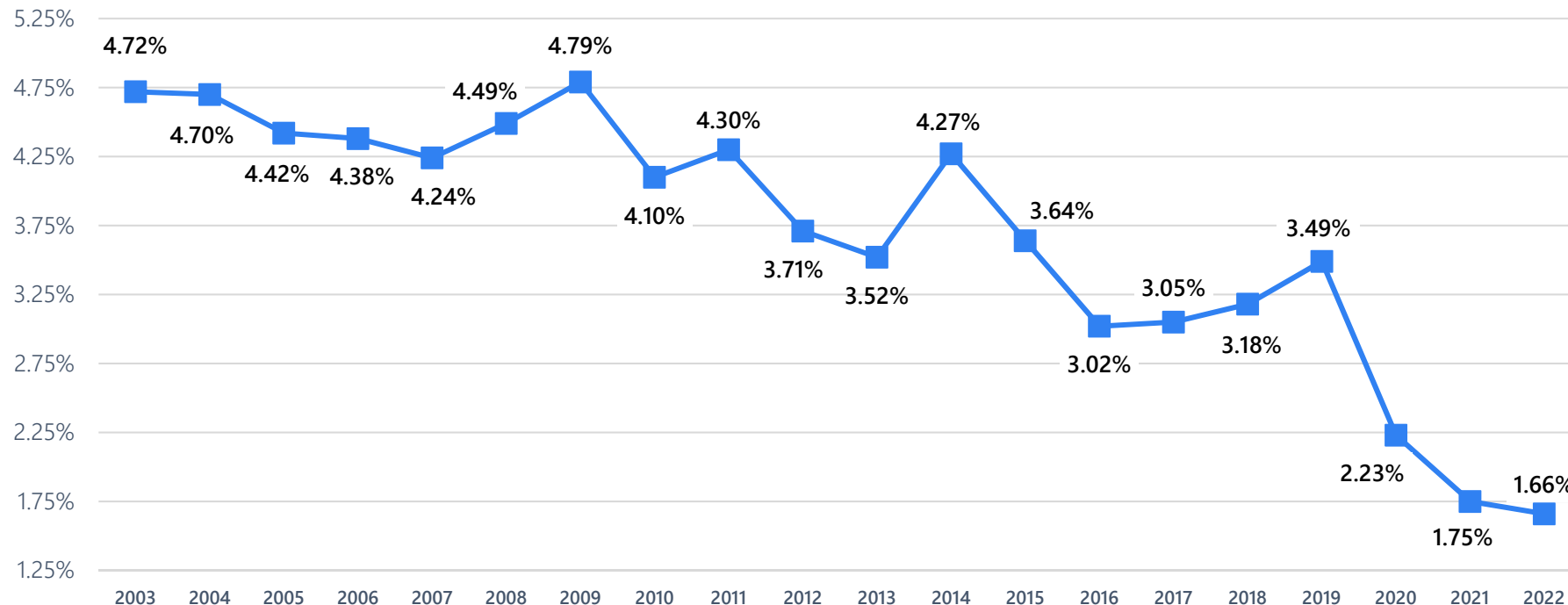
The State does not have any outstanding variable rate debt and there are no current plans for the issuance of additional variable rate debt. As a result, the Division has not produced a short-term interest rate analysis for this conference.

\* 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 largest year-over-year change in the annual average Bond Buyer GO Bond Index over the last 20 years is 126 basis points.



Fiscal Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	YTD	Average
BB 11 GO Avg	4.72%	4.70%	4.42%	4.38%	4.24%	4.49%	4.79%	4.10%	4.30%	3.71%	3.52%	4.27%	3.64%	3.02%	3.05%	3.18%	3.49%	2.23%	1.75%	1.66%	1.66%	4.05%
YOY Change		(0.37)%	(0.02)%	(0.28)%	(0.04)%	(0.14)%	0.25%	0.30%	(0.69)%	0.20%	(0.59)%	(0.19)%	0.75%	(0.63)%	(0.62)%	0.03%	0.13%	0.31%	(1.26)%	(0.48)%	(0.09)%	0.37% <sup>1</sup>

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

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

The benchmark 30-year MMD AAA interest rate ranged from a low of 1.32% to a high of 1.80% over the last 12 months, a difference of 48 basis points. These are stated yields assuming 5% coupons and do not factor in costs of issuance, underwriter's discount, or the effect of call optionality.



**PECO BOND SALES AND INTEREST RATES**

(BOLD font indicates forecasted values)

YIELD	Bond Buyer 20-Bond Index		Series 2022 FY22-23	Series 2023 FY23-24	Series 2024 FY24-25	Series 2025 FY25-26	Series 2026 FY26-27	Series 2027 FY27-28
	Jul 2021	Dec 2021						
2022 Q3	2.78%	<b>2.42%</b>	<b>3.25% Dec 2021</b> 3.50% Jul 2021					
2022 Q4	2.82%	<b>2.55%</b>						
2023 Q1	2.87%	<b>2.67%</b>						
2023 Q2	2.92%	<b>2.75%</b>						
2023 Q3	2.96%	<b>2.82%</b>		<b>3.50% Dec 2021</b> 3.50% Jul 2021				
2023 Q4	2.99%	<b>2.89%</b>						
2024 Q1	3.04%	<b>2.95%</b>						
2024 Q2	3.10%	<b>3.01%</b>						
2024 Q3	3.15%	<b>3.07%</b>			<b>3.75% Dec 2021</b> 3.75% Jul 2021			
2024 Q4	3.23%	<b>3.12%</b>						
2025 Q1	3.28%	<b>3.17%</b>						
2025 Q2	3.32%	<b>3.21%</b>						
2025 Q3	3.39%	<b>3.25%</b>				<b>3.75% Dec 2021</b> 4.00% Jul 2021		
2025 Q4	3.43%	<b>3.28%</b>						
2026 Q1	3.47%	<b>3.31%</b>						
2026 Q2	3.49%	<b>3.34%</b>						
2026 Q3	3.53%	<b>3.36%</b>					<b>4.00% Dec 2021</b> 4.25% Jul 2021	
2026 Q4	3.57%	<b>3.38%</b>						
2027 Q1	3.60%	<b>3.40%</b>						
2027 Q2	3.64%	<b>3.42%</b>						
2027 Q3	3.66%	<b>3.43%</b>						<b>4.00% Dec 2021</b> NA Jul 2021
2027 Q4	3.67%	<b>3.44%</b>						
2028 Q1	3.69%	<b>3.46%</b>						
2028 Q2	3.70%	<b>3.47%</b>						

<b>ADOPTED PECO BOND RATES, December 2021</b>	<b>3.25%</b>	<b>3.50%</b>	<b>3.75%</b>	<b>3.75%</b>	<b>4.00%</b>	<b>4.00%</b>
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December 2021