



Capital
Markets

EQUITY LINKED SECURITIES | RBC GLOBAL INVESTMENT SOLUTIONS

RBC Energy Basket Callable Yield 10.80% Securities (CAD), Series 664 Non-Principal Protected Security

5 year term

Performance linked to the
common shares of four
Canadian energy companies

Potential 10.8000%
coupon per annual period

Subscriptions
Close

on or about
February 24, 2023

FUNDSEV

RBC7864

Autocall
Observation Dates

February 27, 2024 and
quarterly thereafter

This summary is qualified in its entirety by a pricing supplement (the "Pricing Supplement"), the base shelf prospectus dated March 25, 2022, the program prospectus supplement dated March 28, 2022, as supplemented November 11, 2022 and the product prospectus supplement dated March 28, 2022 in respect of equity, unit and debt linked securities, as supplemented November 11, 2022.

www.rbcnotes.com

KEY TERMS

Issuer:	Royal Bank of Canada
Issuer Credit Ratings:	Moody's: Aa1; S&P: AA-; DBRS: AA
Currency:	CAD
Minimum Investment:	50 Securities or \$5,000
Term:	Approximately 5 years
Principal at Risk:	The Securities are not principal protected
Underlying Securities:	The return on the Securities is linked to the price performance (excluding any dividends and other distributions) of a notional portfolio (the "Portfolio") of the common shares (the "Underlying Securities" and each, an "Underlying Security") of the four Canadian energy companies listed below (the "Underlying Security Issuers" and each, an "Underlying Security Issuer"). The Underlying Securities will be equally weighted in the Portfolio (the "Portfolio Weight") at the Initial Valuation Date. Such weightings will not be adjusted or rebalanced during the term of the Securities. Securities do not represent an interest in the Underlying Securities, and holders will have no right or entitlement to the Underlying Securities, including, without limitation, redemption rights (if any), voting rights or rights to receive dividends and other distributions paid on any of such Underlying Securities. The annual dividend yield on the Portfolio as of January 31, 2023 was 3.66%, representing an aggregate dividend yield of approximately 19.66% compounded annually over the five-year term, on the assumption that the dividend yield remains constant.

Entity Name	Symbol	Exchange	Portfolio Weight	Closing Prices (as of January 31, 2023)
ARC Resources Ltd.	ARX	TSX	25.000%	15.46
Canadian Natural Resources Limited	CNQ	TSX	25.000%	81.67
Cenovus Energy Inc.	CVE	TSX	25.000%	26.58
Suncor Energy Inc.	SU	TSX	25.000%	46.18

Issue Date: March 3, 2023

A final base shelf prospectus containing important information relating to the securities described in this document has been filed with the securities regulatory authorities in each of the provinces and territories of Canada. A copy of the final base shelf prospectus, any amendment to the final base shelf prospectus and any applicable shelf prospectus supplement that has been filed, is required to be delivered with this document. This document does not provide full disclosure of all material facts relating to the securities offered. Investors should read the final base shelf prospectus, any amendment and any applicable shelf prospectus supplement for disclosure of those facts, especially risk factors relating to the securities offered, before making an investment decision.

KEY TERMS CONTINUED

Maturity Date:	March 2, 2028																				
Initial Portfolio Value:	The “ Initial Portfolio Value ” is the Portfolio Value on February 27, 2023 (the “ Initial Valuation Date ”).																				
Final Portfolio Value:	The “ Final Portfolio Value ” is the Portfolio Value on February 28, 2028 (the “ Final Valuation Date ”).																				
Coupon Barrier Value:	The “ Coupon Barrier Value ” is 60.00% of the Initial Portfolio Value.																				
Protection Barrier Value:	The “ Protection Barrier Value ” is 60.00% of the Initial Portfolio Value.																				
Portfolio Value:	The “Portfolio Value” for the Portfolio on any Exchange Day is calculated by: (a) multiplying (i) the official closing price of each Underlying Security, as announced by the TSX, on such Exchange Days by (ii) the corresponding Number of Underlying Securities for such Underlying Security; and (b) aggregating the resulting products.																				
Number of Underlying Securities:	The “ Number of Underlying Securities ” for each Underlying Security is calculated by: (i) multiplying the Portfolio Weight for such Underlying Security by the aggregate Principal Amount of Securities issued under this offering; and (ii) dividing the resulting product by the official closing price of such Underlying Security, as announced by the TSX, on the Initial Valuation Date.																				
Percentage Change:	The “ Percentage Change ” is the amount, expressed as a percentage rounded to two decimal places, equal to: $\frac{(\text{Final Portfolio Value} - \text{Initial Portfolio Value})}{\text{Initial Portfolio Value}}$																				
Observation Dates:	<p>An “Observation Date” for the purposes of determining the amount of any Interest Payment will occur quarterly on the dates specified below in each year that the Securities are outstanding, from and including May 29, 2023 to and including February 28, 2028. If any such Observation Date is not an Exchange Day, it shall be postponed to the next succeeding Exchange Day.</p> <p>Provided that the Securities are not redeemed by the Bank as described below, the Bank intends the Observation Dates to be:</p> <table> <tr> <td>May 29, 2023</td><td>August 28, 2023</td></tr> <tr> <td>November 27, 2023</td><td>February 27, 2024</td></tr> <tr> <td>May 27, 2024</td><td>August 27, 2024</td></tr> <tr> <td>November 27, 2024</td><td>February 27, 2025</td></tr> <tr> <td>May 27, 2025</td><td>August 27, 2025</td></tr> <tr> <td>November 27, 2025</td><td>February 27, 2026</td></tr> <tr> <td>May 27, 2026</td><td>August 27, 2026</td></tr> <tr> <td>November 27, 2026</td><td>March 1, 2027</td></tr> <tr> <td>May 27, 2027</td><td>August 27, 2027</td></tr> <tr> <td>November 29, 2027</td><td>February 28, 2028</td></tr> </table>	May 29, 2023	August 28, 2023	November 27, 2023	February 27, 2024	May 27, 2024	August 27, 2024	November 27, 2024	February 27, 2025	May 27, 2025	August 27, 2025	November 27, 2025	February 27, 2026	May 27, 2026	August 27, 2026	November 27, 2026	March 1, 2027	May 27, 2027	August 27, 2027	November 29, 2027	February 28, 2028
May 29, 2023	August 28, 2023																				
November 27, 2023	February 27, 2024																				
May 27, 2024	August 27, 2024																				
November 27, 2024	February 27, 2025																				
May 27, 2025	August 27, 2025																				
November 27, 2025	February 27, 2026																				
May 27, 2026	August 27, 2026																				
November 27, 2026	March 1, 2027																				
May 27, 2027	August 27, 2027																				
November 29, 2027	February 28, 2028																				
Interest Payment Dates:	<p>The “Interest Payment Date” for an Interest Payment, if any, will occur quarterly on the dates specified below in each year that the Securities are outstanding, from and including June 1, 2023 to and including March 2, 2028.</p> <p>Provided that the Securities are not redeemed by the Bank as described below, the Bank intends the Interest Payment Dates to be:</p> <table> <tr> <td>June 1, 2023</td><td>August 31, 2023</td></tr> <tr> <td>November 30, 2023</td><td>March 1, 2024</td></tr> <tr> <td>May 30, 2024</td><td>August 30, 2024</td></tr> <tr> <td>December 2, 2024</td><td>March 4, 2025</td></tr> <tr> <td>May 30, 2025</td><td>September 2, 2025</td></tr> <tr> <td>December 2, 2025</td><td>March 4, 2026</td></tr> <tr> <td>June 1, 2026</td><td>September 1, 2026</td></tr> <tr> <td>December 2, 2026</td><td>March 4, 2027</td></tr> </table>	June 1, 2023	August 31, 2023	November 30, 2023	March 1, 2024	May 30, 2024	August 30, 2024	December 2, 2024	March 4, 2025	May 30, 2025	September 2, 2025	December 2, 2025	March 4, 2026	June 1, 2026	September 1, 2026	December 2, 2026	March 4, 2027				
June 1, 2023	August 31, 2023																				
November 30, 2023	March 1, 2024																				
May 30, 2024	August 30, 2024																				
December 2, 2024	March 4, 2025																				
May 30, 2025	September 2, 2025																				
December 2, 2025	March 4, 2026																				
June 1, 2026	September 1, 2026																				
December 2, 2026	March 4, 2027																				

June 1, 2027	September 1, 2027
December 2, 2027	March 2, 2028

Interest Payments:	<p>Interest payments (the “Interest Payments” and each, an “Interest Payment”), if any, on the Securities will be payable on each Interest Payment Date, in arrears, at a fixed interest rate of 2.7000% quarterly ending on an Interest Payment Date (an “Interest Period”) for each Interest Period in which a Digital Payout Event occurs on the Observation Date occurring in the Interest Period. On the basis of the foregoing, the interest on each \$100 Principal Amount of Securities for an Interest Period in which a Digital Payout Event has occurred would equal $\\$100 \times 2.7000\%$.</p> <p>Thus, if a Digital Payout Event occurs:</p> <p>(a) on each Observation Date in any twelve-month period, the amount of interest payable on each \$100 Principal Amount of Securities for that twelve-month period will be \$10.80;</p> <p>(b) on three out of the four Observation Dates in any twelve-month period, the amount of interest payable on each \$100 Principal Amount of Securities for that twelve-month period will be \$8.10;</p> <p>(c) on two out of the four Observation Dates in any twelve-month period, the amount of interest payable on each \$100 Principal Amount of Securities for that twelve-month period will be \$5.40; and</p> <p>(d) on one out of the four Observation Dates in any twelve-month period, the amount of interest payable on each \$100 Principal Amount of Securities for that twelve-month period will be \$2.70.</p> <p>If a Digital Payout Event does not occur on the Observation Date during a particular Interest Period, no interest will be payable on the Securities for such Interest Period.</p>	
Digital Payout Event:	<p>A “Digital Payout Event” will occur if, on the relevant Observation Date, the Portfolio Value is greater than or equal to the Coupon Barrier Value.</p>	
Autocall Redemption Event:	<p>An “Autocall Redemption Event” will occur if the Portfolio Value on an Observation Date other than the first, second, third and last Observation Dates is greater than or equal to 100.00% of the Initial Portfolio Value (the “Autocall Redemption Value”). On the next succeeding Interest Payment Date following the occurrence of an Autocall Redemption Event (the “Autocall Redemption Date”) the Securities will be redeemed for an amount equal to the Principal Amount thereof (the “Autocall Redemption Amount”). In addition to the Autocall Redemption Amount, an Interest Payment will be paid on the Autocall Redemption Date.</p>	
Payment at Maturity:	<p>On the Maturity Date, if the Securities have not been previously redeemed, the amount payable (the “Final Redemption Amount”) for each \$100 Principal Amount per Security will be equal to:</p> <p>(a) if the Final Portfolio Value is greater than or equal to the Protection Barrier Value, \$100; or</p> <p>(b) if the Final Portfolio Value is less than the Protection Barrier Value, an amount equal to:</p> $\$100.00 + (\$100.00 \times \text{Percentage Change})$ <p>In addition to the Final Redemption Amount, an Interest Payment will be paid on the Maturity Date if a Digital Payout Event occurs on the Final Valuation Date. All dollar amounts will be rounded to the nearest whole cent. The minimum payment at maturity is \$1.00.</p>	
Secondary Market:	<p>RBC7864</p> <p>Generally, to be effective on a Business Day, a redemption request will need to be initiated by 2:00 p.m. (Toronto time) on that Business Day (or such other time as may be established by Fundserv). Any request received after such time will be deemed to be a request sent and received on the next following Business Day.</p>	
Early Trading Charge Schedule:	<p>If Sold Within the Following No. of Days from Issue Date</p>	<p>Early Trading Charge (% of Principal Amount)</p>
	1 - 45 days	3.00%
	46 - 90 days	2.75%
	91 - 135 days	2.50%
	136 - 180 days	2.00%
	181 - 225 days	1.50%
	226 - 270 days	1.00%
	Thereafter	Nil

SAMPLE CALCULATIONS OF FINAL REDEMPTION AMOUNT OR AUTOCALL REDEMPTION AMOUNT AND INTEREST PAYMENTS

The examples set out below are included for illustration purposes only. The Portfolio Values used to illustrate the calculation of the Final Redemption Amount or Autocall Redemption Amount and the Interest Payments over the term of the Securities are not estimates or forecasts of the Portfolio Values on which the Percentage Change, and in turn the Final Redemption Amount, Autocall Redemption Amount and Interest Payments, if any, will depend.

Hypothetical Calculation of the Initial Portfolio Value:

It is assumed that the aggregate Principal Amount of Securities issued under this offering is \$20,000,000.00 and the (hypothetical) closing prices of the Underlying Securities comprising the Portfolio on the Initial Valuation Date are as illustrated in the table below:

Entity Name	Symbol	Closing Price (\$)	Underlying Security Value in Portfolio (\$)	Portfolio Weight	Number of Underlying Securities
ARC Resources Ltd.	ARX	15.46	5,000,000.00	25.000%	323,415.26520
Canadian Natural Resources Limited	CNQ	81.67	5,000,000.00	25.000%	61,221.99094
Cenovus Energy Inc.	CVE	26.58	5,000,000.00	25.000%	188,111.36193
Suncor Energy Inc.	SU	46.18	5,000,000.00	25.000%	108,271.97921

Based on those assumptions, the Initial Portfolio Value would be the sum of the Underlying Security values, which is \$20,000,000.00.

Hypothetical Calculation of the Final Portfolio Value:

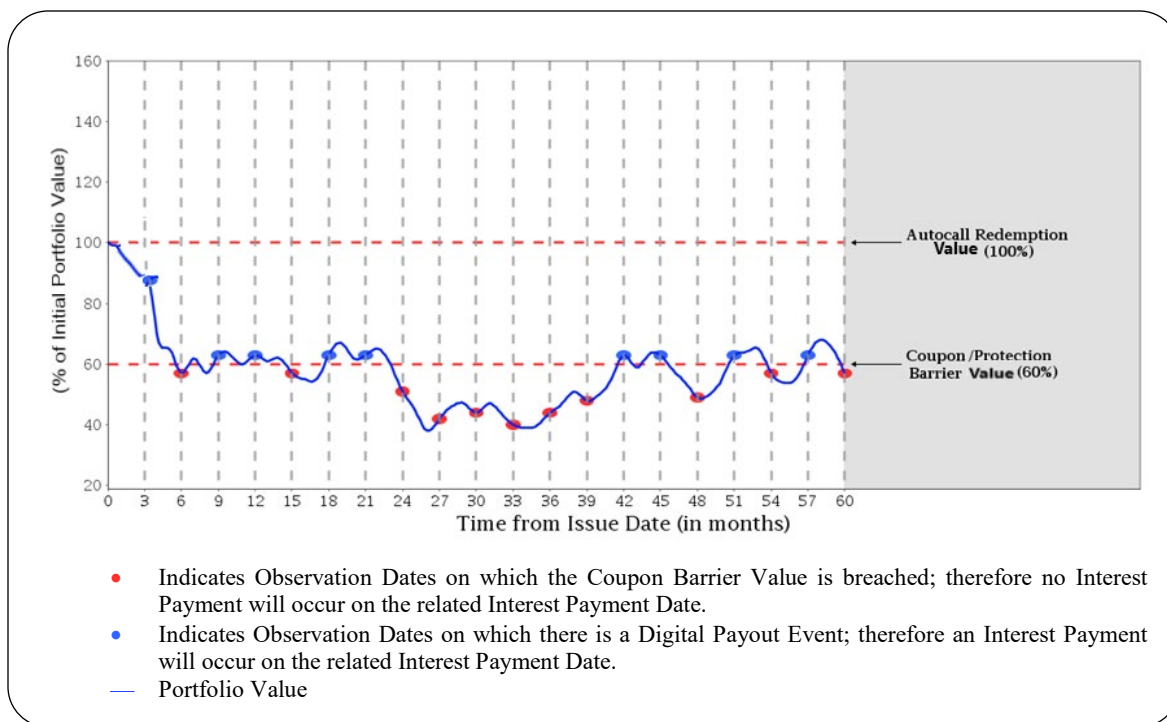
For illustration purposes, it is assumed that no Extraordinary Event has occurred and that the (hypothetical) closing prices of the Underlying Securities comprising the Portfolio on the Final Valuation Date are as illustrated in the table below. For the purposes of the following table, certain dollar values have been rounded to two decimal places.

Entity Name	Symbol	Closing Price (\$)	Number of Underlying Securities	Underlying Security Value in Portfolio (\$)
ARC Resources Ltd.	ARX	18.94	323,415.26520	6,125,485.12
Canadian Natural Resources Limited	CNQ	100.05	61,221.99094	6,125,260.19
Cenovus Energy Inc.	CVE	32.56	188,111.36193	6,124,905.94
Suncor Energy Inc.	SU	56.57	108,271.97921	6,124,945.86

Based on those assumptions, the Final Portfolio Value would be the sum of the Underlying Security values, which is \$24,500,597.11.

All examples below assume that a holder of the Securities has purchased Securities with an aggregate principal amount of \$100.00, that no Extraordinary Event has occurred, an Autocall Redemption Value of 100.00% of the Initial Portfolio Value, a Coupon Barrier Value of 60.00% of the Initial Portfolio Value and a Protection Barrier Value of 60.00% of the Initial Portfolio Value. For convenience, each vertical line in the charts below represents both a hypothetical Observation Date and the next succeeding Interest Payment Date. All dollar amounts are rounded to the nearest whole cent.

Example #1: Loss Scenario with Payment on the Maturity Date at Less Than the Principal Amount



In this scenario, there is no Observation Date on which the Portfolio Value is at or above the Autocall Redemption Value and, accordingly, the Securities would not be redeemed before the Maturity Date. On the Final Valuation Date, the Final Portfolio Value is below the Protection Barrier Value.

(i) Interest Payments

In this example, there is a Digital Payout Event on 9 of the 20 Observation Dates. On the other 11 Observation Dates, no Digital Payout Event would occur because the Portfolio Value is below the Coupon Barrier Value. Therefore, the Interest Payment of \$2.70 per Interest Period would be payable for 9 Interest Periods on the applicable Interest Payment Date, for total Interest Payments of:

$$\begin{aligned} & \text{Principal Amount of Securities} \times 2.7000\% \text{ per Interest Period} \times 9 \text{ Interest Periods} \\ & \$100 \times 2.7000\% \times 9 = \$24.30 \end{aligned}$$

(ii) Final Redemption Amount

In this example, the Initial Portfolio Value (X_i) is \$20,000,000.00 and the Final Portfolio Value (X_f) is \$10,600,000.00. Therefore, the Final Redemption Amount would be calculated as follows:

Initial Portfolio Value = \$20,000,000.00

Final Portfolio Value = \$10,600,000.00

Percentage Change = $(\$10,600,000.00 - \$20,000,000.00) / \$20,000,000.00 = -0.4700$ or -47.00%

Since the Final Portfolio Value is below the Protection Barrier Value, the Final Redemption Amount is calculated as follows:

Final Redemption Amount = $\$100.00 + (\$100.00 \times -47.00\%) = \53.00

Therefore, the total amounts payable per Security from the Issue Date to the Maturity Date are:

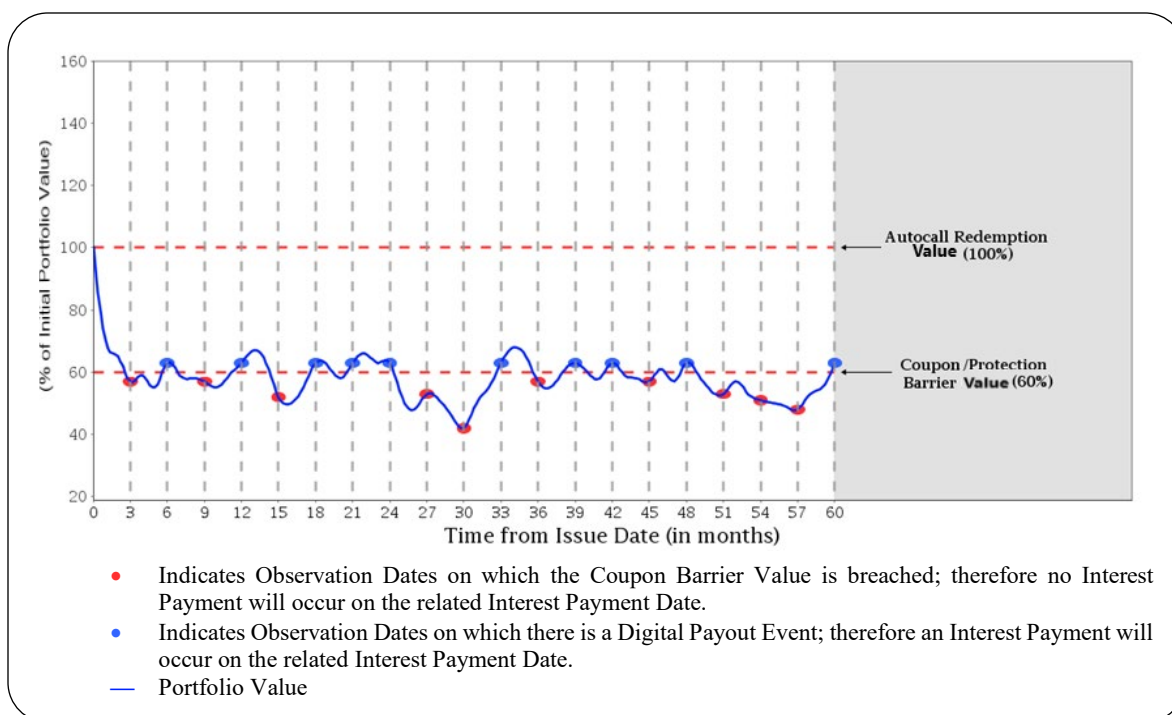
(a) Total Interest Payments: \$24.30

(b) Final Redemption Amount: \$53.00

(c) Total amount paid over the term of the Securities: \$77.30

The equivalent annually compounded rate of return in this example is -5.02%.

Example #2: Gain Scenario with Payment on the Maturity Date at the Principal Amount



In this scenario, there is no Observation Date on which the Portfolio Value is at or above the Autocall Redemption Value and, accordingly, the Securities would not be redeemed before the Maturity Date. On the Final Valuation Date, the Final Portfolio Value is at or above the Protection Barrier Value.

(i) Interest Payments

In this example, there is a Digital Payout Event on 10 of the 20 Observation Dates. On the other 10 Observation Dates, no Digital Payout Event would occur because the Portfolio Value is below the Coupon Barrier Value. Therefore, the Interest Payment of \$2.70 per Interest Period would be payable for 10 Interest Periods on the applicable Interest Payment Date for total Interest Payments of:

$$\begin{aligned} &\text{Principal Amount of Securities} \times 2.7000\% \text{ per Interest Period} \times 10 \text{ Interest Periods} \\ &\$100 \times 2.7000\% \times 10 = \$27.00 \end{aligned}$$

(ii) Final Redemption Amount

In this example, since the Final Portfolio Value is \$12,600,000.00, which is above its Protection Barrier Value of 60.00% of the Initial Portfolio Value of \$20,000,000.00, the Final Redemption Amount per Security is equal to \$100.00.

Therefore, the total amounts payable per Security from the Issue Date to the Maturity Date are:

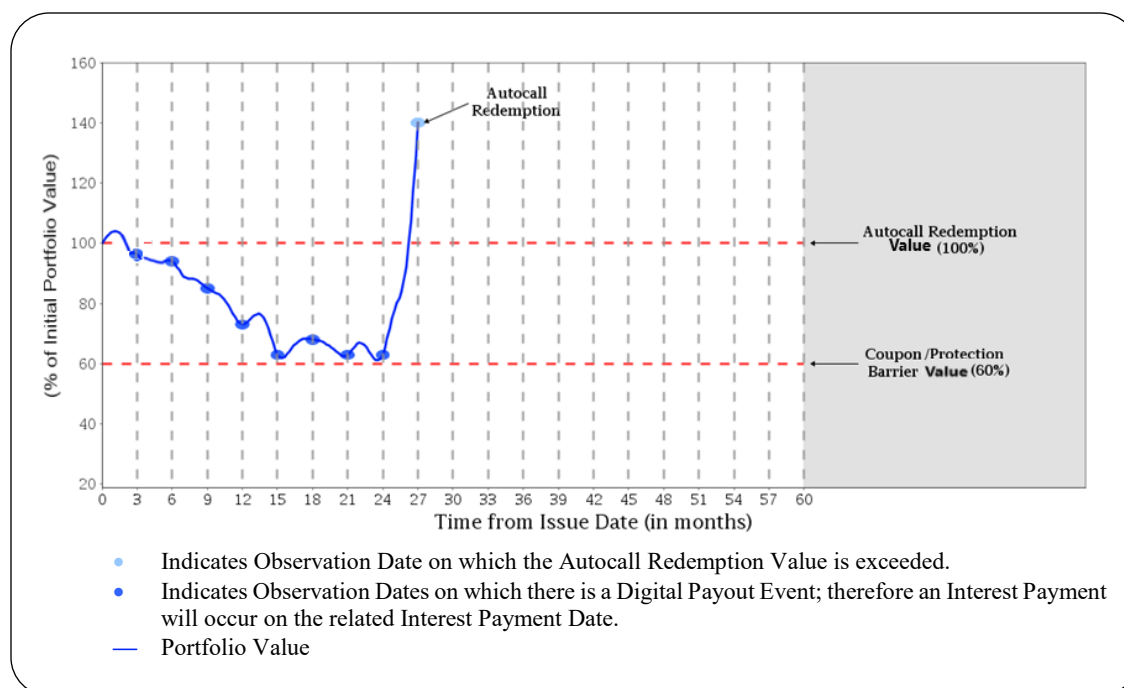
(a) Total Interest Payments: \$27.00

(b) Final Redemption Amount: \$100.00

(c) Total amount paid over the term of the Securities: \$127.00

The equivalent annually compounded rate of return in this example is 4.90%.

Example #3: Gain Scenario with Autocall Redemption Event



In this scenario, the Portfolio Value is at or above the Autocall Redemption Value on the Observation Date that falls 27 months into the term of the Securities. This would constitute an Autocall Redemption Event and, on the next succeeding Interest Payment Date, the Bank would redeem the Securities.

(i) Interest Payments

In this example, there is a Digital Payout Event on each of the 9 Observation Dates prior to the redemption of the Securities because the Portfolio Value is at or above the Coupon Barrier Value on each such date. Therefore, the Interest Payment of \$2.70 per Interest Period would be payable for each Interest Period on the applicable Interest Payment Date (including on the Autocall Redemption Date), for total Interest Payments of:

$$\text{Principal Amount of Securities} \times 2.7000\% \text{ per Interest Period} \times 9 \text{ Interest Periods} \\ \$100 \times 2.7000\% \times 9 = \$24.30$$

(ii) Autocall Redemption Amount

The Autocall Redemption Amount per Security is equal to \$100.00.

Therefore, the total amounts payable per Security from the Issue Date to the Autocall Redemption Date are:

(a) Total Interest Payments: \$24.30

(b) Autocall Redemption Amount: \$100.00

(c) Total amount paid over the term of the Securities: \$124.30

The equivalent annually compounded rate of return in this example is 10.15%.

Initial Estimated Value:	The initial estimated value of the Securities as of January 31, 2023 was \$94.26 per Security, which is less than the price to the public and is not an indication of the actual profit to the Bank or its affiliates. The actual value of the Securities at any time will reflect many factors, cannot be predicted with accuracy, and may be less than this amount. The initial estimated value of the Securities is an estimate only and is based on the value of the Bank's obligation to make the payments on the Securities. We describe our determination of the initial estimated value in more detail in the Pricing Supplement.
---------------------------------	---

All capitalized terms unless otherwise defined have the meanings ascribed to them in the Pricing Supplement.

Clients should evaluate the financial, market, legal, regulatory, credit, tax and accounting risks and consequences of the proposal before entering into any transaction, or purchasing any instrument. Clients should evaluate such risks and consequences independently of Royal Bank of Canada and the Dealers, RBC Dominion Securities Inc. and Wellington-Altus Private Wealth Inc., respectively.

The Securities will not constitute deposits insured under the *Canada Deposit Insurance Corporation Act*. The Securities are not fixed income securities and are not designed to be alternatives to fixed income or money market instruments. The Securities are structured products that possess downside risk.

An investment in the Securities involves risks. An investment in the Securities is not the same as a direct investment in the securities that comprise the Portfolio and investors have no rights with respect to the securities in the Portfolio. The Securities are considered to be "specified derivatives" under applicable Canadian securities laws. If you purchase Securities, you will be exposed to fluctuations in interest rates and changes in the Portfolio Value, among other factors. Price changes may be volatile and an investment in the Securities may be considered to be speculative. Since the Securities are not principal protected and the Principal Amount will be at risk, you could lose substantially all of your investment.

