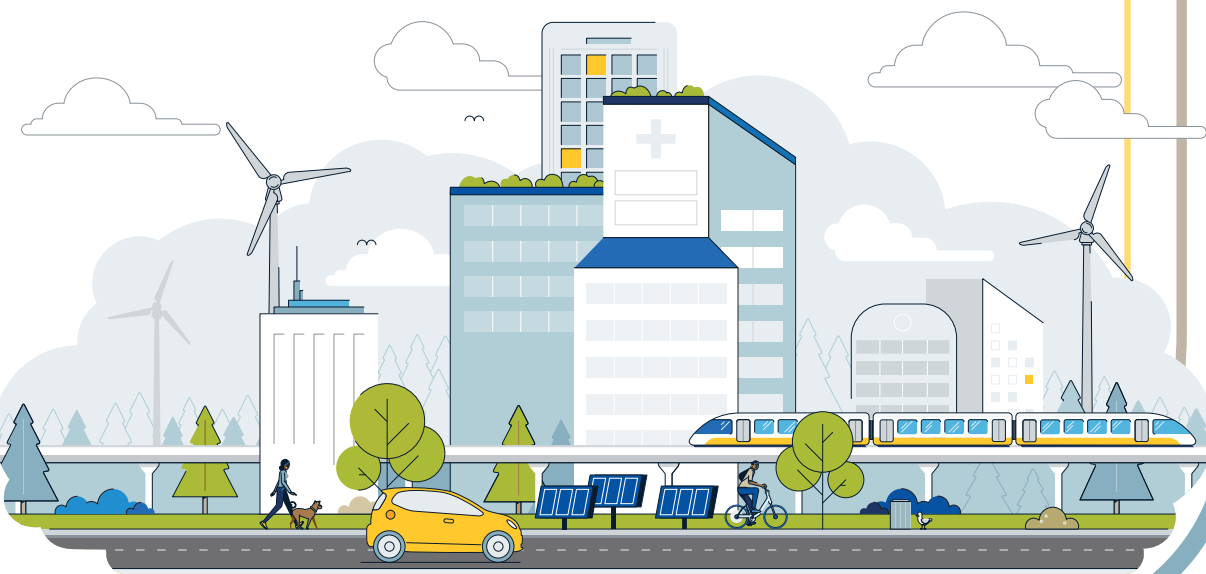


Royal Bank of Canada

RBC Green Bond Report



April 2024

Introduction

Royal Bank of Canada (RY on TSX and NYSE) (RBC, we, us, or our) is a global financial institution with a purpose-driven, principles-led approach to delivering leading performance. Our success comes from the 94,000+ employees who bring our vision, values and strategy to life so we can help our clients thrive and communities prosper. As Canada's biggest bank, and one of the largest in the world based on market capitalization, we have a diversified business model with a focus on innovation and providing exceptional experiences to our more than 17 million clients in Canada, the U.S. and 27 other countries.*

We believe sustainable finance¹ represents a growth opportunity for our business and our clients. We also believe there is tremendous potential for financial markets to contribute to solving some of the biggest social and environmental challenges that we collectively face. That's why RBC has committed to providing \$500 billion in sustainable finance by 2025.

Our commitment to sustainable finance builds on our longstanding support for the growth of the green bond market. RBC Capital Markets is active in the global sustainable bond market, leading transactions across multiple currencies and in the U.S. municipal finance market. Since 2014, RBC Capital Markets has hosted an annual Sustainable Debt Conference (formerly Green Bond Conference) and published several global green bond market reports. Further, RBC Capital Markets is a member of the International Capital Market Association (ICMA) Green Bond Principles, and a member of the London Stock Exchange Sustainable Bond Market Advisory Group.

In April 2019, we launched our inaugural EUR500 million, 5-year Green Bond offering. In July 2021, we issued our second Green Bond, a 5-year USD750 million offering. We also maintain a Green Structured Notes program, under which 25 notes were outstanding as of October 31, 2023.

This Green Bond Report (the "Report") provides investors with details regarding our Green Bond Asset Portfolio (the "Portfolio"), the allocation of proceeds to the Portfolio and the estimated environmental impacts. This is our fifth report and intended to be renewed annually to reflect any changes to the Portfolio. We recommend this report be read in conjunction with the [RBC Sustainable Bond Framework](#) (the "Framework").

¹ Sustainable finance refers to financial activities that take into account environmental, social and governance factors.

* Information as of February 28, 2024.

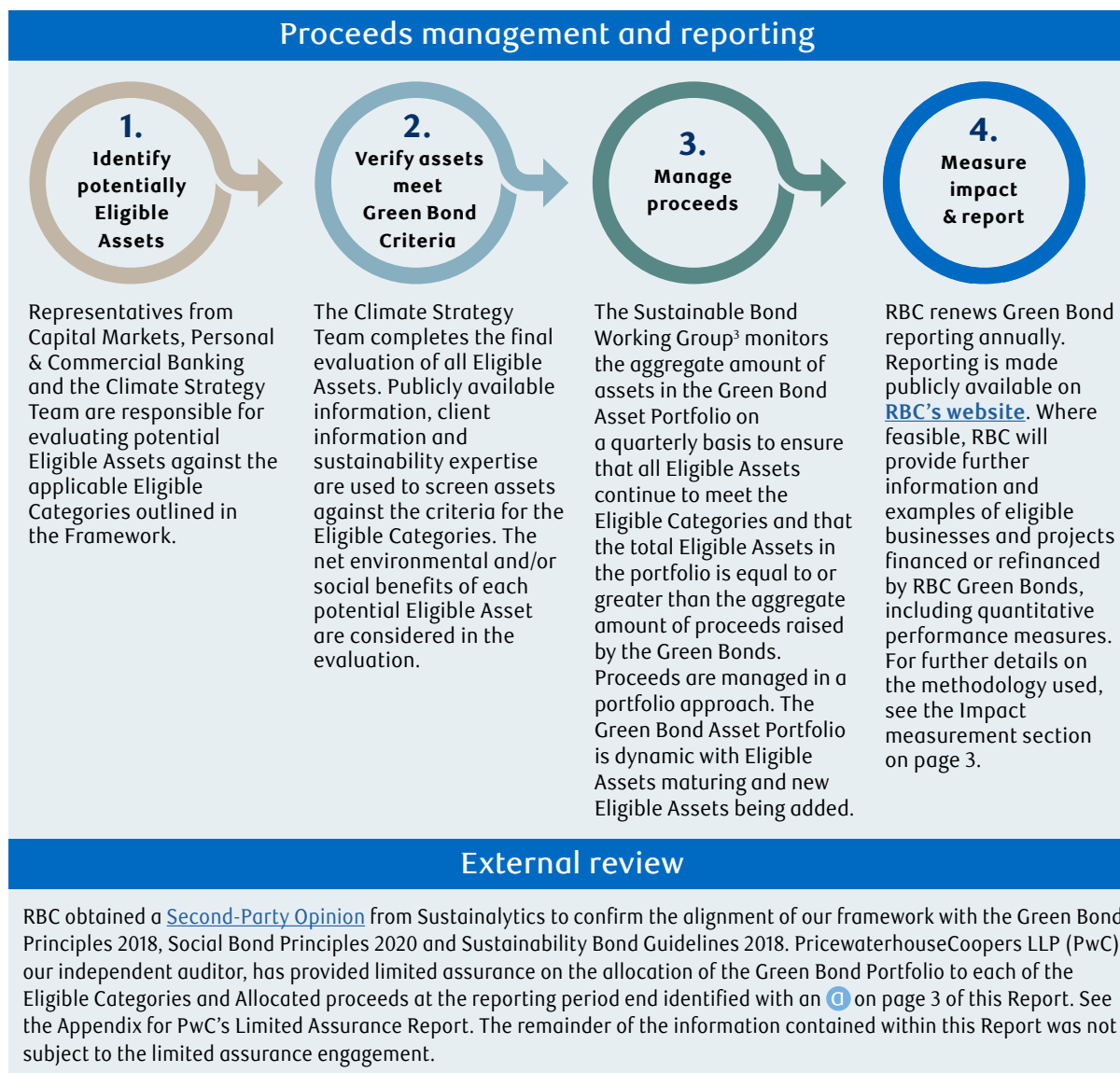
This document contains archived information. Information identified as archived is provided for reference purposes only and should not be relied on. Archived information has not been altered or updated since it was archived. Archived information may not reflect Royal Bank of Canada's current information, activities, commitments, goals, strategies, policies, practices or standards and may not reflect the latest reporting, testing or substantiation standards or methodologies. Royal Bank of Canada fully disclaims any liability for the use of such information and does not intend to update such information except as required by applicable law.



Sustainable Bond Framework

The **Framework** was developed in line with the International Capital Market Association Green Bond Principles 2018, Social Bond Principles 2020 and Sustainability Bond Guidelines 2018, and provides transparency in our Green Bond issuance and reporting processes. It was published in June 2020 and replaced the **RBC Green Bond Framework**, which was published in March 2019. An overview of the Eligible Categories for the use of Green Bond proceeds and the key processes described in the Framework are summarized below.²

Use of proceeds		
Eligible Green Categories	Alignment with Sustainable Development Goals	
 Renewable energy		
 Energy efficiency		
 Pollution prevention and control		
 Sustainable land use		
 Clean transportation		
 Sustainable water and wastewater management		
 Green buildings		
 Climate adaptation and resilience		



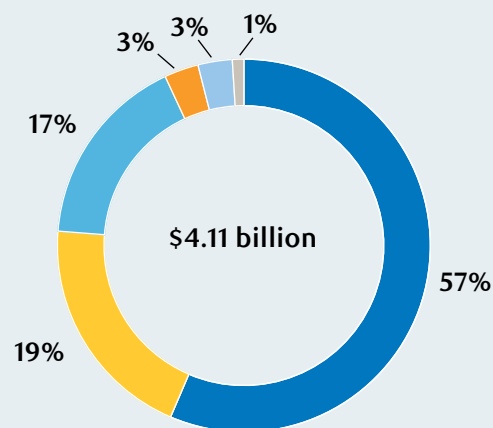
² Some aspects of the process described in the Framework have evolved over time. For example, the role of the Climate Strategy team as described in this Report was previously with the Corporate Citizenship team.

³ The Sustainable Bond Working Group is composed of representatives from Corporate Treasury, Capital Markets, Personal & Commercial Banking (if applicable) and the Climate Strategy Team and draws on Group Risk Management as required.

Green Bond Asset Portfolio

The total amount of RBC Green Bond proceeds⁴ was allocated to the Portfolio, which contains financed and/or refinanced assets across the Eligible Categories. The allocation by Eligible Category and estimated impacts associated with the largest Eligible Categories of our Portfolio are summarized below. All data presented is as at October 31, 2023 and in Canadian dollars unless otherwise stated.

Green Bond Asset Portfolio Allocation ^a



- Clean transportation (\$2.34 billion)
- Green buildings (\$805 million)
- Renewable energy (\$714 million)
- Sustainable land use (\$118 million)
- Energy efficiency (\$113 million)
- Pollution prevention and control (\$24 million)

⁴ RBC Green Bond proceeds refers to issued amount, net of commissions and fees. As at October 31, 2023, 100% of RBC Green Bond proceeds were allocated. ^a

Impact measurement

The estimated impacts are an indication of the positive environmental impact associated with the projects or assets financed or refinanced with RBC Green Bond proceeds⁵. These are approximate values and are not comparable with those previously published in prior years due to the dynamic nature of the Green Bond Asset Portfolio and the estimate in a given year is limited by the data available with respect to each asset.

Eligible Category	Impact Metrics	Unit of Measure	Estimated Impact
Clean transportation	Electric vehicles	# of electric vehicles	19,000
Green buildings	Green building certified space	ft ²	1,800,000
	Energy saved annually	eMWh	11,000
Renewable energy	Energy capacity	MW	230
	Energy generated annually	MWh	460,000

Methodology

- Impact metrics are measured using data available from clients and publicly available sources. The estimated impact reported reflects both RBC's loan share for each project and the share of RBC Green Bond proceeds allocated to each asset. For assets where there is limited or no data available the impacts are excluded from the calculation.
- The impact metric for clean transportation is calculated based on the total number of electric vehicles with outstanding loans in the Portfolio and takes into account the share of RBC Green Bond proceeds allocated to these assets. This metric does not include all clean transportation assets, such as public transportation projects.
- Impact metrics for green buildings were calculated using the national median source energy use intensity as reported by Energy Star Portfolio Manager. These factors were applied to each building's square footage to calculate a baseline energy consumption. A building's expected energy savings compared to the baseline energy consumption was calculated using applicable certification scorecards. Energy saved is calculated in equivalent-Megawatt hours (eMWh) and accounts for energy from both natural gas and electricity.
- Impact metrics for renewable energy were calculated using client reported energy capacity (MW) and yearly energy generation data (MWh). Assets under construction and borrowers with portfolios of projects where data was limited were excluded from the calculation for energy generated annually.
- Over time, we aim to refine our impact metrics and measurement methodologies further as market practices regarding standards, methodologies, metrics and measurements evolve, and more and higher quality data becomes available to us.

⁵ We caution readers not to place undue reliance on these impact metrics as a number of risk factors could cause actual results to differ materially from the results or outcomes as originally expected or anticipated by RBC. The data coverage limitations and the use of proxy data, among other factors, also mean the actual impact is likely to differ from what has been estimated. See "Important notice regarding this Green Bond Report and Caution regarding forward-looking statements".

Green Bond Issuances

As of October 31, 2023, RBC had a total of CAD \$1,871,430,910 of Green Bonds outstanding, including two benchmark Green Bonds and 25 Green Structured Notes.

Benchmark Green Bonds

As of October 31, 2023, RBC had two Green Bonds outstanding: the €500 million 5-year inaugural benchmark Green Bond issued in April 2019, and the USD \$750 million 5-year benchmark Green Bond issued in July 2021.

Settlement Date	Issuance Currency	Amount Issued (in issuance currency)	Amount Issued (CAD equivalent)	Maturity Date	ISIN
2-May-19	EUR	€500,000,000	\$733,878,000	2-May-24	XS1989375412
14-Jul-21	USD	\$750,000,000	\$1,040,175,000	14-Jul-26	US78016EZT71
Total Amount Issued			\$1,774,053,000		

Green Structured Notes

RBC designs and issues a range of structured note products to meet clients' investment objectives, including Green Structured Notes. Proceeds from these notes are exclusively applied to finance or refinance, in part or in full, new and/or existing Green Assets, in line with the Framework. As of October 31, 2023, RBC had issued a total of CAD \$97,377,910 across 25 Green Structured Notes.

Settlement Date	Issuance Currency	Amount Outstanding (in issuance currency)	Amount Outstanding (CAD equivalent)	Maturity Date	ISIN
31-Dec-19	USD	\$3,300,000	\$4,576,770	31-Dec-24	XS2092547194
31-Dec-19	GBP	£2,125,000	\$3,581,688	31-Dec-24	XS2092546972
31-Dec-19	GBP	£500,000	\$842,750	31-Dec-24	XS2092546386
26-Feb-21	EUR	€10,000,000	\$14,677,560	26-Feb-41	XS1991340784
25-Feb-21	USD	\$10,000,000	\$13,869,000	25-Feb-36	XS1991334621
15-Sep-21	AUD	\$13,000,000	\$11,436,243	15-Sep-36	XS1991334035
28-Mar-23	EUR	€2,000,000	\$2,935,512	28-Mar-31	XS2581434938
05-Jul-23	EUR	€7,500,000	\$11,008,170	05-Jul-28	XS2608736794
11-May-21	CAD	\$3,594,000	\$3,594,000	15-May-28	Not applicable
11-May-21	CAD	\$683,000	\$683,000	16-Nov-27	Not applicable
08-Jun-21	CAD	\$3,541,000	\$3,541,000	12-Jun-28	Not applicable
08-Jun-21	CAD	\$531,000	\$531,000	10-Dec-27	Not applicable
06-Jul-21	CAD	\$2,880,000	\$2,880,000	10-Jul-28	Not applicable
06-Jul-21	CAD	\$326,000	\$326,000	10-Jul-28	Not applicable
13-Aug-21	CAD	\$6,000,000	\$6,000,000	14-Aug-28	CA78014Y2042
26-Nov-21	USD	\$1,841,000	\$2,553,283	27-Nov-26	US78016F3P76
28-Dec-21	USD	\$1,285,000	\$1,782,167	28-Dec-26	US78016FAH73
31-Jan-22	USD	\$2,505,000	\$3,474,185	29-Jan-27	US78016FC693
25-Feb-22	USD	\$635,000	\$880,682	25-Feb-27	US78016FDV31
31-Mar-22	USD	\$47,000	\$65,184	01-Apr-27	US78016FG405
29-Apr-22	USD	\$100,000	\$138,690	29-Apr-27	US78016FHT49
27-May-22	USD	\$150,000	\$208,035	27-May-27	US78016FKA11
30-Jun-22	USD	\$86,000	\$119,273	01-Jul-27	US78016FM353
28-Apr-23	USD	\$3,782,000	\$5,245,256	28-Apr-28	US78016HXD78
31-May-23	USD	\$1,751,000	\$2,428,462	31-May-28	US78016NAY31
Total Amount Outstanding			\$97,377,910		

Currency

All amounts in this document are in Canadian Dollars unless otherwise noted. U.S. Dollars, British Pounds, Euros, and Australian Dollars are converted using the spot exchange rate as of October 31, 2023.⁶

⁶ Exchange rate data as of October 31, 2023: 1 AUD = 0.879711 CAD; 1 EUR = 1.467756 CAD; 1 USD = 1.386900 CAD; 1 GBP = 1.685500 CAD.

Appendix: PwC Limited Assurance Report



Independent practitioner's limited assurance report on select performance metrics as presented within Royal Bank of Canada's 2023 Green Bond Report

To the Management of Royal Bank of Canada (RBC)

We have undertaken a limited assurance engagement on the following select performance indicators detailed below (the select performance metrics) as at October 31, 2023 as presented within RBC's 2023 Green Bond Report.

Performance indicator	Report page(s)
Allocation of the Green Bond Portfolio to each of the eligible categories	3
Allocated proceeds at the reporting period-end	3

Management's responsibility

Management is responsible for the preparation of the select performance metrics in accordance with the criteria established in RBC's Sustainable Bond Framework, established June 2020 (the applicable criteria). Management is also responsible for such internal control as management determines necessary to enable the preparation of the select performance metrics that is free from material misstatement, whether due to fraud or error.

Our responsibility

Our responsibility is to express a limited assurance conclusion on the select performance metrics based on the evidence we have obtained. We conducted our limited assurance engagement in accordance with the Canadian Standard on Assurance Engagements (CSAE) 3000, *Attestation Engagements Other than Audits or Reviews of Historical Financial Information*, the International Standard on Assurance Engagements (ISAE) 3000, *Assurance Engagements Other Than Audits or Reviews of Historical Financial Information*. These standards require that we plan and perform this engagement to obtain limited assurance about whether the select performance metrics are free from material misstatement.

A limited assurance engagement involves performing procedures (primarily consisting of making inquiries of management and others within the entity, as appropriate, and applying analytical procedures) and evaluating the evidence obtained. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the decisions of users of our report. The procedures are selected based on our professional judgment, which includes identifying areas where the risks of material misstatement, whether due to fraud or error, in preparing the select performance metrics in accordance with the applicable criteria are likely to arise.

Our engagement included, among others, the following procedures performed:

- Making inquiries of management to obtain an understanding of the overall governance and internal control environment relevant to the management, aggregation and reporting of the select performance metrics;

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*PwC" refers to PricewaterhouseCoopers LLP, an Ontario limited liability partnership.

- Analytical reviews and trend analysis of reported data for the select performance metrics;
- Agreeing and testing the underlying data related to the select performance metrics on a sample basis; and
- Reviewing the select performance metrics disclosures in the 2023 Green Bond Report to ensure consistency with our understanding and procedures.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement and, consequently, the level of assurance obtained is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Our independence and quality management

We have complied with the relevant rules of professional conduct/code of ethics applicable to the practice of public accounting and related to assurance engagements, issued by various professional accounting bodies, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

The firm applies Canadian Standard on Quality Management 1, *Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services Engagements*, which requires the firm to design, implement and operate a system of quality management, including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that RBC's select performance metrics as at October 31, 2023, are not prepared, in all material respects, in accordance with the applicable criteria.

Purpose and restriction of use

The select performance metrics have been prepared in accordance with the applicable criteria prepared by RBC's management to report to the Board of Directors. As a result, the select performance metrics may not be suitable for another purpose. Our report is intended solely for RBC. We acknowledge the disclosure of our report, in full only, by RBC at its discretion, without assuming or accepting any responsibility or liability to any other third party in respect of this report.


PricewaterhouseCoopers LLP

Chartered Professional Accountants

Toronto, Ontario
April 25, 2024

Disclaimer

This Green Bond Report (the Report) is provided for informational purposes only and is subject to change without notice. This Report does not constitute an offer or a solicitation to buy or sell any security, product or service in any jurisdiction; nor is it intended to provide investment, financial, legal, accounting, tax or other advice, and such information should not be relied or acted upon for providing such advice. Nothing in this Report shall form the basis of or be relied upon in connection with any contract, commitment or investment decision whatsoever. The recipient is solely liable for any use of the information contained in this Report, and neither RBC nor any of its affiliates nor any of their respective directors, officers, employees or agents shall be held responsible for any direct or indirect damage arising from the use of this Report by the recipient.

This Report and the information contained within it is unaudited. PricewaterhouseCoopers LLP (“PwC”) has performed a limited assurance engagement for a select number of RBC performance indicators, which have been identified with a  symbol throughout this Report. Other than these select number of identified RBC performance indicators, the remainder of the information contained within this Report was not subject to the limited assurance engagement. You can read more about the scope of PwC’s work, including the metrics and data in scope of the assurance, on page 5 of this Report.

Certain metrics, data and other information contained in this Report, including but not limited to information relating to our ESG-related commitments, goals, and targets, and our Green Bond impact metrics and measurement methodologies, are or may be based on assumptions, estimates and judgements. Any commitments, goals and targets discussed in this Report are aspirational. In addition, as discussed herein, some of the information provided, including regarding our Green Bond impact metrics, is based on estimated data with very limited supporting documentation or proxy data. For example, we have not independently verified or assessed the assumptions underlying the data we have obtained from our clients and other third parties that we use to determine estimated impact values. Moreover, the data needed to determine estimated impact values may be limited in quality, coverage, unavailable or inconsistent across the sectors we choose to focus on, and the process of collecting, aggregating and reporting data is protracted and highly dependent on the data our clients and other third parties make available at any given time. Given their inherent uncertainty and complexity, and the significant issues with some of the underlying data, assumptions, estimates and judgements believed to be reasonable at the time of the preparation of this Report may subsequently turn out to be inaccurate. In addition, many of the assumptions, estimates, standards, methodologies, scenarios, metrics and measurements used in preparing this Report continue to evolve and may differ significantly from those used by other companies and those that may be used by us in the future. Legislative and regulatory changes, market developments and/or changes in data availability and reliability could also materially affect these assumptions, estimates, standards, methodologies, scenarios, metrics and measurements used by us and/or other companies, and could therefore materially affect the comparability of the information and data across industries or companies and from one reporting period to a subsequent reporting period, as well as our ability to achieve our commitments and goals. RBC’s ESG-related commitments, goals, and targets as well as the disclosures of its progress against such commitments, goals, and targets, have been, and in the future may need to be, restated, changed or recalibrated as available data improve and as science, transition pathways and market practices regarding standards, methodologies, metrics and measurements evolve. The achievement of RBC’s commitments discussed in this document will depend on the collective efforts and actions across a wide range of stakeholders outside of its control, and there can be no assurance that they will be achieved. For further cautionary statements relating to ESG-related metrics, data and other information in this document, refer to the “Important notice regarding this Report” section in RBC’s most recent ESG Progress Report.

This document is intended to provide information from a different perspective and in more detail than is required to be included in mandatory securities filings and other regulatory reports, including filings with Canadian securities regulators and the U.S. Securities and Exchange Commission. While certain matters discussed in this document may be of interest and importance to RBC’s stakeholders, the use of the terms “material”, “significant”, “important” or similar words or phrases should not be read as necessarily rising to the level of materiality used for the purposes of securities or other laws and regulations. Any references to “ESG”, “sustainable finance”, “green bonds” or similar terms in this document are intended as references to the internally defined criteria of RBC and not to any jurisdiction-specific regulatory definition that may exist.

We have no obligation to update the information or data in this document.

All references to websites are for your information only. The content of any websites referred to in this Report, including via website link, and any other websites they refer to are not incorporated by reference in, and do not form part of, this Report. This Report is also not intended to make representations as to the

environmental and sustainability initiatives of any third parties, whether named herein or otherwise, which may involve information and events that are beyond our control.

This Report contains forward-looking statements within the meaning of certain securities laws, including the “safe harbour” provisions of the United States Private Securities Litigation Reform Act of 1995 and any applicable Canadian securities legislation. Forward-looking statements in this document include, but are not limited to, statements regarding our commitment to providing \$500 billion in sustainable finance by 2025; our intention to update our Green Bond Report annually to reflect changes to our Green Bond Asset Portfolio; our economic, environmental and social impact, including the estimated impacts associated with the projects or assets financed or refinanced with our Green Bonds proceeds; and our aim to refine our Green Bond impact metrics and measurement methodologies further over time. Forward-looking statements are typically identified by words such as “believe”, “expect”, “expectation”, “aim”, “achieve”, “suggest”, “seek”, “foresee”, “forecast”, “schedule”, “anticipate”, “intend”, “estimate”, “commit”, “goal”, “plan”, “strive”, “objective”, “target”, “outlook”, “timeline” and “project” and similar expressions of future or conditional verbs such as “will”, “may”, “should”, “could”, “can” or “would” or negative or grammatical variations thereof.

By their very nature, forward-looking statements require us to make assumptions and are subject to inherent risks and uncertainties, both general and specific in nature, which give rise to the possibility that our predictions, forecasts, projections, expectations or conclusions will not prove to be accurate, that our assumptions may not be correct and that our objectives, vision, commitments, goals, targets, and strategies and our environmental, social and governance (ESG)-related impacts and objectives, including our sustainable finance commitment or other objectives, vision, ambitions, commitments, goals, targets and metrics, and strategic goals will not be achieved, that our actual results may differ materially from such predictions, forecasts, projections, expectations or conclusions. Moreover, many of the assumptions, standards, metrics and measurements used in preparing this Report continue to evolve and are based on assumptions believed to be reasonable at the time of preparation, but should not be considered guarantees.

We caution readers not to place undue reliance on our forward-looking statements as a number of risk factors could cause our actual results to differ materially from the expectations expressed in such forward-looking statements. These factors – many of which are beyond our control and the effects of which can be difficult to predict – include: the need for more and better ESG data and standardization of ESG-related measurement methodologies, our ability to gather, analyze and verify data, our ability to identify and report on assets that meet the Green Bond criteria, our ability to track and report on transactions as performance against our commitment to provide \$500 billion in sustainable finance by 2025, the risk that despite our intention to allocate the net proceeds from sale of the Green Bonds to businesses or projects that meet the Green Bond criteria there is no assurance RBC will be able to do so, the risk that a project or business labelled “green” may no longer be “green” during the term of the Green Bond due to the ongoing evolution of the definition of the term “green”, the risk that any report, assessment, opinion or certification of any third party with respect to the Green Bonds or any of the businesses and projects funded with the proceeds of the Green Bonds may be withdrawn or that RBC may not be in compliance with such report, assessment, opinion or certification, our ability to successfully implement various initiatives throughout RBC under expected time frames, the risk that initiatives will not be completed within a specified period or at all or with the results or outcome as originally expected or anticipated by RBC, the need for active and continuing participation and action of various stakeholders (including governmental and non-governmental organizations, other financial institutions, businesses and individuals), the compliance of various third parties with our policies and procedures and their commitment to us, the legal and regulatory environment, and regulatory compliance (which could lead us to being subject to various legal and regulatory proceedings, the potential outcome of which could include regulatory restrictions, penalties and fines), technological advancements, the evolution of consumer behaviour, evolving social views on ESG-related topics, strategic, reputation, competitive, model, and systemic risks and other risks. Additional factors that could cause actual results to differ materially from the expectations in such forward-looking statements can be found in the risk sections of our latest Annual Report and the Risk management section of our latest Quarterly Report.

We caution that the foregoing list of risk factors is not exhaustive and other factors could also adversely affect our results. When relying on our forward-looking statements to make decisions with respect to us, investors and others should carefully consider the foregoing factors and other uncertainties and potential events, as well as the inherent uncertainty of forward-looking statements.

Except as required by law, none of RBC nor its affiliates undertake to update any forward-looking statement, whether written or oral, that may be made from time to time by us or on our behalf.

