



**TD Bank Group**

# **TD Low-Carbon Economy Progress Report 2017-2018**



# Executive Summary

Through our corporate citizenship platform, The Ready Commitment, we aim to help to create a more inclusive and sustainable tomorrow so that individuals feel more confident in their ability to participate and succeed in a changing world. As part of this, we are targeting a total of \$100 billion by 2030 to help support the transition to a low-carbon economy through our lending, financing, asset management, and internal corporate programs.

We feel that in North America we are in the early stages of the transition to a low-carbon economy. In light of this, our approach is balanced, taking into consideration the energy needs and economic realities of today. This will require major capital investment across all areas of the economy. As a Top 10 North American bank based on assets, TD has a vital role to play in supporting the transition to a low-carbon economy.

This report describes our approach to supporting the transition to a low-carbon economy and provides our first two years of progress toward our financial target of a total of \$100 billion by 2030. We have focused our efforts on three low-carbon drivers, measured across a range of market sectors.

In fiscal years 2017 and 2018, TD contributed \$30.3 billion in support of the transition to a low-carbon economy through our lending, financing, asset management, and internal corporate programs. Low-carbon energy transactions, which include power generation, energy and utilities, represent the largest market sector at 47% of the total. Much of this activity is directed toward the ongoing greening of North American electricity supply and distribution. Of TD's business lines, finance<sup>1</sup> and green bond underwriting make up over half of the cumulative total (35% and 19%, respectively). Our fiscal year 2018 results show an increase in the value of low-carbon companies held by our asset management business since fiscal year 2017.

## Low-Carbon Drivers

- Low-carbon power generation
- Energy efficiency and management
- Green infrastructure and sustainable land use

## Market Sectors

- Energy
- Real estate
- Recycling
- Sustainable land use
- Auto and transportation
- Multi-sector

We also undertook a preliminary assessment of the environmental and economic impacts of our activities. We estimated that 787,700 tonnes of greenhouse gas (GHG) emissions were avoided. From an economic perspective, we have estimated that our financing activities have supported more than 76,000 jobs and contributed \$15.2 billion to GDP in North America, demonstrating that support of the low-carbon economy can reduce GHG emissions and generate economic benefit.<sup>2</sup>

While TD is still in the early stages of our low-carbon journey, these results show that there is significant capital flow across multiple market sectors, demonstrating increased demand for products and services that create business value while contributing to environmental health. We hope this trend will accelerate as governments, businesses and communities join together to facilitate and help sustain a low-carbon economy, helping to empower people of all backgrounds and abilities to participate meaningfully in their communities and succeed with confidence in a changing world.

<sup>1</sup> The products in 'Finance' include providing capital markets advisory, access to debt and equity markets, and merger and acquisition support.

<sup>2</sup> The low-carbon economy total impact values (GHG, GDP, jobs) are inclusive of green bond finance impact values.

# Introduction

**In March 2018, TD launched a new global corporate citizenship platform called The Ready Commitment. This is a multi-year enterprise initiative aimed at helping to create a more inclusive and sustainable tomorrow. We aspire to link our business, philanthropy and human capital to help create the opportunities people need to feel more confident – not just about their finances, but also in their ability to succeed and fully participate in a changing world. As part of this, we are committed to supporting efforts to improve the quality of the environment to help people and economies thrive. This includes a focus on supporting the transition to a low-carbon economy.**

In 2008, TD identified climate change as an environmental and economic issue that would have a growing impact on communities, businesses and the economy over the next several decades. Since then we have been working to understand the potential implications of climate change to our customers, our business, and broader society. It is acknowledged by the Intergovernmental Panel on Climate Change (IPCC) that reducing the impacts of climate change means transitioning to a low-carbon economy.<sup>1</sup> TD's approach recognizes that this transition must be balanced, taking into consideration the energy needs and economic realities of today while building for the future.

In 2017, we launched a commitment to support the transition to a low-carbon economy through our lending, financing, asset management and internal corporate programs – anchored by a target of \$100 billion by 2030. This report describes our progress. In it we include:

- an explanation of the low-carbon economy;
- our approach to assessing TD's performance against this target;
- how we will measure the environmental and economic impact of the low-carbon lending, financing, asset management, and internal corporate programs;
- our cumulative total results since starting reporting (fiscal years 2017 and 2018); and
- our learnings and next steps.

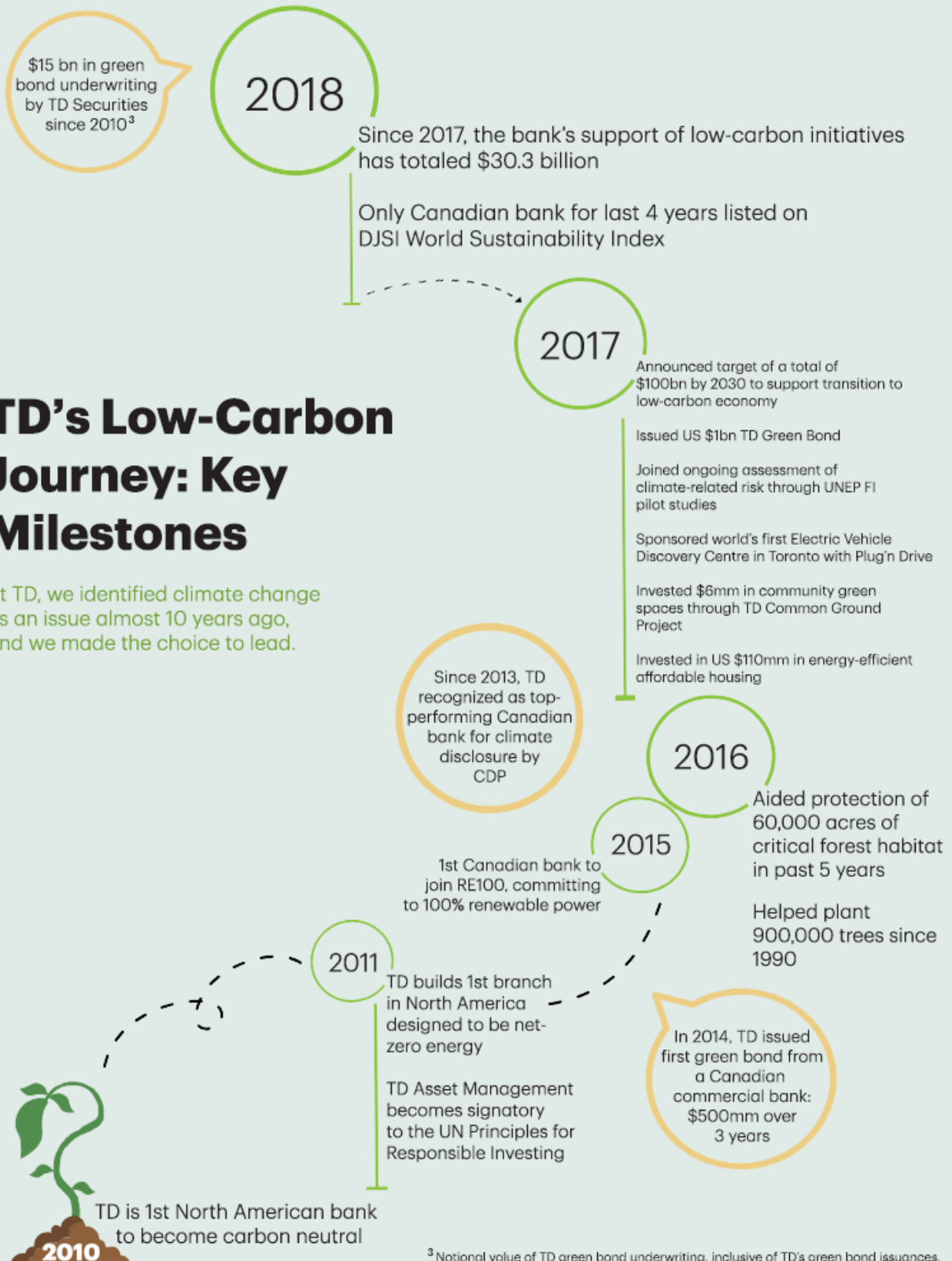
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<sup>1</sup> <https://www.ipcc.ch/sr15/>

# Introduction

## TD's Low-Carbon Journey: Key Milestones

At TD, we identified climate change as an issue almost 10 years ago, and we made the choice to lead.



<sup>3</sup> Notional value of TD green bond underwriting, inclusive of TD's green bond issuances.

# Understanding the Low-Carbon Economy

## Defining the Challenge



### The Environmental Dimension

As highlighted by organizations such as the IPCC, the environmental impacts of climate change have been the subject of scientific study for several decades and have become a topic of global concern.<sup>1</sup> As described by these scientific studies, impacts arise from increasing concentrations of greenhouse gases in the atmosphere, which result in global warming. Global warming creates a wide range of environmental impacts, such as changing weather patterns, rising sea levels, and regional severe weather impacts ranging from flooding to increased wildfires. These in turn have the potential to impact food crops and natural resources, industrial and municipal infrastructure and natural ecosystems. Impacts of global warming are occurring today and will continue to occur for many decades to come.



### The Economic Dimension

The social and economic impacts of climate change are being felt across an increasing number of cities and communities that are being impacted by severe weather events, flooding or wildfires. In 2020, the long-term financial impact of natural catastrophes is estimated<sup>2</sup> to cost Canadians \$5 billion per year and between \$21 and 43 billion by 2050. In addition, many Canadian businesses are experiencing economic disruption through a wide range of impacts, such as power outages and supply chain impacts.<sup>3</sup> Within 15 years, it is estimated that the average annual cost of coastal storms in North America will increase by over \$10 billion to an estimated \$35 billion due to higher sea levels, storm surges and an increase in hurricane activity.<sup>4</sup>

In order to limit global warming, the IPCC has called for a concerted effort across government, business, and society to reduce GHG emissions.<sup>5</sup> This is a significant undertaking since the supply of abundant and cheap energy underpins our economic growth and prosperity, and today almost 80% of our global energy supply is delivered through fossil fuels.<sup>6</sup> Despite efforts to reduce GHG emissions, forecasts show that our growing global population, expected to reach almost 10 billion by 2050, will drive demand for energy, goods and services. For example, global energy demand is forecast to nearly double between 2020 and 2050.<sup>7</sup>

<sup>1</sup> <https://www.ipcc.ch/report/ar4/wg2/>

<sup>2</sup> <https://www.td.com/document/PDF/economics/special/NaturalCatastrophes.pdf>

<sup>3</sup> <https://www.td.com/document/PDF/economics/special/NaturalCatastrophes.pdf>

<sup>4</sup> <https://riskybusiness.org/report/national/>

<sup>5</sup> <https://www.ipcc.ch/sr15/>

<sup>6</sup> World Extended Energy Balances © OECD/IEA 2017 <https://www.iea.org/statistics/balances/>

<sup>7</sup> IEA World Energy Outlook 2017, <https://www.iea.org/weo2017/>

# Understanding the Low-Carbon Economy

## Global GHG emissions by economic sector

(adapted from United States Environmental Protection Agency)<sup>1</sup>



**25%**

Electricity and  
Heat Production



**24%**

Agriculture, Forestry  
and Other Land Use



**14%**

Transportation



**6%**

Buildings



**21%**

Industry



**10%**

Other Energy

## Global Actions

Governments around the world have jointly committed to work together to reduce GHG emissions by 2050 in order to limit average global temperature increases to 2 degrees Celsius (or less) above pre-industrial levels. This commitment is spelled out in the Paris Agreement of 2015, which was signed by nearly 200 countries. Many signatory countries have set national, regional or municipal targets that support this global goal (see Table 1).

**Table 1: Examples of Regional Climate Change Targets**

Region	Climate change target
<b>Canada</b>	Emissions reduction target of 30% below 2005 levels by 2030 <sup>2</sup>
<b>Quebec, Canada</b>	Emissions reduction target of 20% below 1990 levels by 2020 <sup>3</sup>
<b>British Columbia, Canada</b>	Emissions reduction target of 40% below 2007 levels by 2030 <sup>4</sup>
<b>California, United States</b>	Emissions reduction target to 1990 levels by 2020, further reduction to 40% below 1990 levels by 2030 <sup>5</sup>
<b>New York City, United States</b>	Emissions reduction target of 40% below 1990 levels by 2030 <sup>6</sup>

<sup>1</sup> <https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data>

<sup>2</sup> <https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/progress-towards-canada-greenhouse-gas-emissions-reduction-target.html>

<sup>3</sup> <http://www.environnement.gouv.qc.ca/changementsclimatiques/engagement-quebec-en.asp>

<sup>4</sup> <https://www2.gov.bc.ca/gov/content/environment/climate-change/planning-and-action/legislation>

<sup>5</sup> [https://www.climatechange.ca.gov/state/prevent\\_prepare.html](https://www.climatechange.ca.gov/state/prevent_prepare.html) and <https://www.arb.ca.gov/cc/inventory/1990level/1990level.htm>

<sup>6</sup> <https://rev.ny.gov/rev-goals-2030/>



# Understanding the Low-Carbon Economy

Public discourse on climate change has been largely focused on environmental outcomes, but there are also important social and economic dimensions to climate change that need to be addressed. Surveys show that while citizens are strongly united in seeking a future that achieves a more sustainable and clean environment, this future cannot be at the expense of employment opportunities and economic growth.<sup>1</sup>

We hear frequent references to the 'low-carbon economy,' but it's not clear what the structure of such an economy would be. For example, how would it be different from today? Would there be major realignment of economic sectors? What would be the impact on Gross Domestic Product (GDP) – and the future impact on jobs?

These are some of the questions that TD is working on with internal and external stakeholders as we determine our own actions.

## Defining the Low-Carbon Economy

There is no widely agreed upon standard definition of the low-carbon economy. At TD we have created this simple working definition of what a low-carbon economy is:

**A low-carbon economy is one that operates with a goal of minimizing greenhouse gas emissions while achieving sustainable economic growth.**

Ideally, in a low-carbon economy, there would be a focus on reducing GHG emissions, including in:

- energy production and use in industrial processes, natural resource development, and commercial and consumer energy usage;
- communities, infrastructure and the built environment;
- commercial goods and services; and
- consumer behaviours.

The transition to a low-carbon economy will require major capital investment across all areas of the economy. Estimates of the global capital needs in order to meet the 2-degree Paris target<sup>2</sup> range up to USD90 trillion over the next 15 years.<sup>3</sup>

In its report, 'Greening of the Economy'<sup>4</sup> TD Economics observed that efforts to support a low-carbon economy are occurring across all sectors of the economy through '*the aggregation of consumer, corporate and policy efforts to increase operational efficiency and minimize environmental impact while fostering economic growth, diversification and competition*'. Corporate actions to support the low-carbon economy are broadly categorized in the report as:

**1) De-carbonization of carbon-intensive industries:** Carbon-intensive industries can achieve significant reductions in their GHG emissions through process improvements and innovations that increase energy efficiency (e.g., certified low-carbon aluminum production through use of hydro power,<sup>5</sup> concrete production with an increased proportion of lower-impact cement materials<sup>6</sup>).

**2) Reduction of embedded carbon:** Many industries create end products and services that are not directly associated with GHG emissions but may, in their manufacture and use, generate significant emissions. Examples include digital technologies that rely on electricity and smart products created through advanced materials manufacturing processes (e.g., smart phones). Considering end use energy consumption in design and sourcing lower-carbon energy supply for manufacturing can greatly reduce emissions from these industries.

**3) Low-Carbon Technologies (Cleantech):** These consist of industries or products that are specifically designed to reduce or eliminate GHG emissions. The best known example of this group is renewable energy, but clean technologies are being developed and applied across a wide range of industry sectors, ranging from transportation and waste management through to agriculture and forestry.

## Taking Action

As a Top 10 North American bank based on assets, TD has an important role to play in supporting the transition to a low-carbon economy in North America. This is why we have committed to a target of a total of \$100 billion in low-carbon lending, financing, asset management and internal corporate programs by 2030.

As we evolve our low-carbon economy program over the next decade, we will seek to provide a 'roadmap' of this transition that provides:

- a practical understanding of the key drivers of the low-carbon economy and how they may evolve over time;
- implications for key business sectors, including both risks and opportunities for innovation; and
- potential impacts to the environment, the economy and jobs.

TD was the first Canadian-based bank, and one of a handful of banks globally, to commit to a low-carbon financing target. This progress report describes our inclusion criteria and results for our first two years of reporting covering fiscal years 2017 and 2018. Going forward we intend to publish annual progress updates in our Environmental, Social, and Governance (ESG) report. The global professional services firm PwC supported TD by providing technical advice on the inclusion criteria, the accounting methodology, and data collection and analysis.

<sup>1</sup> Canadian Environmental Barometer, Environics Research, 2018.

<sup>2</sup> At the Paris UN climate conference (COP 21) in December 2015, 195 countries adopted the first ever universal, legally binding climate deal. The agreement sets out a global action plan to put the world on track to avoid dangerous climate change by limiting global warming to well below 2 degrees Celsius. For more information, see: [https://ec.europa.eu/clima/policies/international/negotiations/paris\\_en](https://ec.europa.eu/clima/policies/international/negotiations/paris_en).

<sup>3</sup> New Climate Economy, 2016, 'The Sustainable Infrastructure Imperative,' [https://newclimateeconomy.report/2016/wp-content/uploads/sites/4/2014/08/NCE\\_2016Report.pdf](https://newclimateeconomy.report/2016/wp-content/uploads/sites/4/2014/08/NCE_2016Report.pdf)

<sup>4</sup> TD Economics, 2013, 'The Greening of the Canadian Economy' and TD Economics, 2013, 'The Greening of the U.S. Economy.'




<sup>5</sup> <https://www.reuters.com/article/us-aluminium-sales-environment/hydro-powered-smelters-charge-premium-prices-for-green-aluminum-idUSKBN1A1ICF>

<sup>6</sup> <https://reader.chathamhouse.org/making-concrete-change-innovation-low-carbon-cement-and-concrete#>

## Our Approach

Key elements of the low-carbon economy considered by TD in its annual data collection are shown in Table 2.

**Table 2: Elements of the low-carbon economy considered**

	Description	Categories
<b>Power generation</b> 	Technologies that help supply energy from low-carbon sources	<ul style="list-style-type: none"> <li>• Wind energy</li> <li>• Geothermal energy</li> <li>• Solar energy</li> <li>• Tidal and ocean energy generation</li> <li>• Biomass</li> <li>• Hydropower</li> <li>• Nuclear energy</li> </ul>
<b>Energy efficiency and management</b> 	Technologies and programs that help reduce energy consumption or help manage and store energy	<ul style="list-style-type: none"> <li>• Energy reduction through building efficiency (e.g., LEED- or BOMA-certified properties<sup>1</sup>)</li> <li>• Energy reduction through industrial efficiency</li> <li>• Energy reduction through transportation efficiency</li> <li>• Energy distribution, storage, and management</li> <li>• Eco-efficient products, production technologies, and processes</li> </ul>
<b>Green infrastructure and sustainable land use</b> 	Technologies or programs that support conservation, air quality, sustainable land, waste or water management and enhance climate resiliency	<ul style="list-style-type: none"> <li>• Sustainable agriculture and forestry practices (including primary producers and downstream forest products)</li> <li>• Water, wastewater management and treatment</li> <li>• Sustainable waste management</li> <li>• Pollution prevention and control</li> <li>• Conservation</li> </ul>

<sup>1</sup> LEED (Leadership in Energy and Environmental Design) is a building certification program run by the U.S. Green Building Council. BOMA (Building Owners and Managers Association of Canada) has a sustainability certification system called BOMA Building Environmental Standards.



### 3.0

## Our Approach

The methodology developed with help from PwC tracks TD's support for the low-carbon economy in relation to TD's businesses and by market sector.

#### Business lines include:

<b>Retail banking and insurance</b>	Providing banking and insurance products to our retail customers that support the low-carbon economy (e.g., electric vehicle insurance coverage)
<b>Lending</b>	Providing credit to our clients through wholesale and business banking
<b>Investment banking</b>	Providing capital markets advisory, access to debt and equity markets, and merger and acquisition support
<b>Asset management</b>	Managing the assets of clients in equity and debt instruments through TD Asset Management (TDAM)
<b>Green bond underwriting</b>	Supporting clients' green bond issuances through underwriting <sup>1</sup>
<b>Internal corporate programs</b>	TD's corporate spending on environmental programs, energy and water efficiency initiatives within our facilities, and donations to community-based environmental organizations and activities that are designed to help advance the low-carbon economy. This also includes green bonds held within TD's own treasury.

#### Market sectors include:

<b>Energy</b>	Power utilities, independent power producers, developers of energy storage and smart grid solutions, energy efficiency projects, low-carbon biofuels, and power transmission projects that improve access to low-carbon energy and connect remote communities to cleaner power sources
<b>Real estate</b>	Certified 'green' commercial and residential developments and real estate developers that are developing predominantly certified 'green' buildings
<b>Recycling</b>	Companies that support the reduction of virgin material extraction and the implications of it
<b>Sustainable land use</b>	Companies across the forest products value chain that use certified sustainable wood fibre
<b>Auto and transportation</b>	Passenger rail development, low-carbon buses and transit, subways and streetcars, and purchase or insurance of low-carbon vehicles
<b>Multi-sector</b>	Companies developing technology and business model solutions that help address the challenges of climate change across many industries, including companies listed on the Toronto Stock Exchange Clean Technology Index <sup>2</sup>

<sup>1</sup> TD's own green bond issuances are captured within our lending businesses.

<sup>2</sup> Clean Technology Index: <https://www.tmxmoney.com/en/research/cleantech.html>

## Our Approach

### Inclusion Criteria

TD is engaged in many types of finance, and we have sought to include as many parts of our business as possible in this important target. We developed a set of inclusion criteria to determine which transactions we will count toward the low-carbon economy target. While we recognize that these may evolve over time as our knowledge and understanding of the low-carbon economy grow, we also developed a set of underlying principles to help guide our development and application of the inclusion criteria:







#### Principles in developing and applying the inclusion criteria:

- We have included only projects or companies whose activities are aimed at helping to reduce or eliminate GHG emissions (as described in Table 2).
- We have used existing third-party standards for defining the low-carbon economy (e.g., certification schemes) where they exist.
- We have included only projects or companies that clearly meet our inclusion criteria. Where relevant information or data are not available to determine whether our criteria are met, we have not included that project or company.
- We have taken steps to prevent double counting; for example, if an existing financing commitment is increased the following financial year, only the increase will be considered in the low-carbon finance total for that year.
- We will revisit our inclusion criteria at a minimum of every three years or if there are significant developments in the global definition of sustainable finance and the low-carbon economy.

## Our Approach

A summary of our inclusion criteria by industry is in Table 3. More information on how we developed our inclusion criteria and accounting methodology can be found in Appendix A.

**Table 3: Summary of inclusion criteria**

Client	Inclusion criteria
<b>Energy</b> 	<ul style="list-style-type: none"> <li>Companies with a minimum of 80% energy generation capacity from low-carbon sources</li> <li>Companies and projects connecting low-carbon energy generation capacity to the grid</li> </ul>
<b>Real estate</b> 	<ul style="list-style-type: none"> <li>Projects related to the construction or operation of LEED- or BOMA-certified buildings</li> <li>Real estate developers with 80% or more of their portfolio as certified green buildings</li> </ul>
<b>Auto</b> 	<ul style="list-style-type: none"> <li>Companies and projects related to hybrid, electric, or ultra-low emissions vehicles (ULEVs)<sup>1</sup></li> </ul>
<b>Transportation</b> 	<ul style="list-style-type: none"> <li>Companies and projects related to urban rail or long-range passenger rail and no- or low-emission buses</li> </ul>
<b>Forestry and wood product</b> 	<ul style="list-style-type: none"> <li>Companies with products consisting of a minimum of 80% wood fibre from sustainable sources (i.e., sources certified to FSC, SFI or PEFC standards<sup>2</sup>)</li> <li>Environmental conservation projects such as those funded through TD's corporate giving programs</li> </ul>
<b>Recycling</b> 	<ul style="list-style-type: none"> <li>Companies and projects related to recycling</li> </ul>

### Impact Measurement

We aim to support a transition to a low-carbon economy that not only reduces GHG emissions but also has positive economic and societal impacts. We have therefore chosen the following metrics to measure the impact of our low-carbon economy program:

- reduction in GHG emissions,
- contribution to economic activity (GDP), and
- jobs supported.

We have used the following widely accepted measurement approaches (for more information, see Appendix A)<sup>3</sup>:

- GHG emissions avoided: Estimated GHG emissions avoided through reduced energy consumption or alternative energy production enabled by TD's low-carbon transactions

- GDP and jobs supported: National and provincial economic multipliers used to calculate industry-specific direct and indirect economic impacts associated with the low-carbon company or project

TD's share of the total project financing is used to calculate TD's share of the impact created by the project. For each transaction, the annual impact is calculated and included only once (i.e., in the year the transaction occurred) rather than including the total impact over the estimated project life. This is a conservative approach as many of the transactions will finance projects or activities that will continue to have positive impacts into the future. For example, financing the operation of a LEED-certified building will create energy savings and consequent GHG emissions reductions over the lifetime of the building.

<sup>1</sup> Ultra-low emissions vehicles are defined as those that emit less than 75g of CO<sub>2</sub>/km.  
<https://www.smmmt.co.uk/industry-topics/technology-innovation/ultra-low-emission-vehicles-ulevs/>

<sup>2</sup> FSC: Forest Stewardship Council, SFI: Sustainable Forestry Initiative, PEFC: Programme for the Endorsement of Forest Certification.

<sup>3</sup> The low-carbon economy total impact values (GHG, GDP, jobs) are inclusive of Green Bond finance impact values.

## Results

In the first two years of our commitment, TD has directed \$30.3 billion in support of the transition to a low-carbon economy through our lending, financing, asset management and internal corporate programs. Our results show that there is capital flow across multiple market sectors, demonstrating market demand for products and services that create business value and at the same time reflect a strong commitment to reducing GHG emissions.<sup>1</sup>

**Figure 1: Progress to date – TD's financial support of the low-carbon economy by market sector<sup>2</sup>**



**19%**  
Multi-Sector



**47%**  
Energy



**17%**  
Real Estate



**4%**  
Recycling



**3%**  
Sustainable Land Use



**10%**  
Auto and Transportation

<sup>1</sup> TD Economics, 2013, 'The Greening of the Canadian Economy' and TD Economics, 2013, 'The Greening of the U.S. Economy'

<sup>2</sup> Figure shows market sector breakdown of the \$30.3 billion (CAD) total. Reflects cumulative total of 2017 and 2018.

## Results

**Figure 2: Progress to date – TD's financial support of the low-carbon economy by TD business segment**

(based on inclusion criteria)<sup>1</sup>



**35%**

Investment Banking



**19%**

Green Bond Underwriting



**15%**

Asset Management



**11%**

Retail Banking/Insurance



**2%**

Corporate Programs



**18%**

Lending (debt/credit)

These results yield several important insights:

- Energy (low-carbon power generation, distribution, utilities and energy efficiency) is the largest low-carbon market sector represented in our low-carbon portfolio, representing 47% of the cumulative total. Much of this activity is directed toward the ongoing greening of North American electricity supply and distribution.
- Green bonds support activities. Green bond underwriting represents 19% of our cumulative total, demonstrating the importance of green bonds in directing global capital flows toward the low-carbon economy.<sup>2</sup>
- Within our low-carbon book of business, there is strong representation of cleantech companies listed on the Toronto Stock Exchange Clean Technology Index, demonstrating the growing development of the cleantech sector.

<sup>1</sup> Figure shows TD business breakdown of the \$30.3 billion (CAD) total. Reflects cumulative total of 2017 and 2018. TD's own green bond issuances are captured within our lending businesses as represented by green loans funded via TD green bonds.

<sup>2</sup> TD's own green bond issuances are captured within our lending businesses.

## Results

### Impact Measurement Results

We have made a preliminary attempt to measure the impact of TD's support of the low-carbon economy through lending, financing, asset management and internal corporate programs and philanthropy in terms of both environmental and economic contribution. While the data requirements and methodologies required to do a full analysis of impacts are still being developed within the financial sector, our results provide an indication of the potential impact the low-carbon economy can have to help drive future prosperity.<sup>1</sup>

Over 2017 and 2018, our low-carbon finance transactions have helped to avoid approximately 787,700 tonnes of GHGs, the majority of which come from low-carbon energy transactions.<sup>2</sup> The estimated GHGs avoided are equivalent to the annual energy use of almost 94,400 North American homes.<sup>3</sup> From an economic perspective, we have estimated that our low-carbon financing activities have supported more than 76,000 jobs<sup>4</sup> and contributed approximately \$15.2 billion to GDP,<sup>5</sup> demonstrating that support of the low-carbon economy can help reduce GHG emissions and generate economic benefit. Figure 3 shows a breakdown of jobs supported by market sector.

**Figure 3: Breakdown of jobs supported by market sector<sup>6</sup>**



**46%**  
Energy



**26%**  
Real Estate



**21%**  
Auto and Transportation



**4%**  
Sustainable Land Use



**3%**  
Recycling

These impact results are likely to be underestimated as we could not assess the impact of all low-carbon finance transactions, demonstrating the need within the financial sector to enhance data collection and methodologies relevant to environmental and economic impact analysis.

TD is participating in the three UN Environment Program Financial Initiative (UNEPFI) Taskforce on Climate-related Financial Disclosure (TCFD)<sup>7</sup> pilot studies related to lending, insurance and asset management. It is anticipated that methodologies developed through these studies may assist in estimating these impact areas in the future.

<sup>1</sup> The low-carbon economy total impact values (GHG, GDP, jobs) are inclusive of Green Bond finance impact values.

<sup>2</sup> PwC analysis. This total only represents a portion of TD's low-carbon transactions. We have not attempted to quantify the GHGs avoided from the bank's transactions in the multi-sector or recycling and sustainable land use market sectors due to insufficient data.

<sup>3</sup> <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

<sup>4</sup> PwC analysis. Number of jobs is measured in full-time equivalents (FTE).

<sup>5</sup> PwC analysis.

<sup>6</sup> Represents 2017 and 2018 excluding the impact of multi-sector transactions as these could not be accurately estimated using the current methodology.

<sup>7</sup> [https://www.td.com/document/PDF/TD\\_Green\\_Bond\\_Framework.pdf](https://www.td.com/document/PDF/TD_Green_Bond_Framework.pdf)



## Where Do We Go From Here?

The results for our first two years represent significant progress toward our 2030 target. As we continue to work to understand and help support the transition to a low-carbon economy, we will take a balanced approach that considers the energy needs and economic realities of today while building for the future. We will share information on our progress in future annual reports. We will review our approach on a regular basis as methodologies for identifying and reporting on the low-carbon economy continue to evolve. Most importantly, we know that the successful transition to a low-carbon economy will require the concerted efforts of governments, businesses and society, and we will continue to collaborate with others as we work toward our common goals.

## Disclosures

The information in this document is intended to provide general information on matters of interest to readers. Although the information contained in this document has been obtained from sources that TD believes to be reliable, TD does not guarantee its accuracy, and in certain cases, the information may be incomplete or condensed. All opinions, estimates and other information included in this document constitute TD's judgment as of the date hereof and, by their very nature, are based on assumptions made on TD's part and are subject to inherent risks and uncertainties, general and specific, which could cause the information presented in this document to differ materially from that presented herein. Information may change as definitions and methodologies relating to calculating low-carbon impacts continue to evolve. TD may update the information and content included in this document at any time without notifying you, and TD has no duty to update or correct any information or content included in this document. Information, estimates, opinions and assumptions contained in this document are for informational purposes only and are not intended to provide professional advice and should not be relied upon in that regard. To the fullest extent permissible pursuant to applicable law, TD disclaims all warranties, express or implied, including but not limited to implied warranties of fitness for a particular purpose.

# Appendix A – Detailed Accounting Methodology

## Developing the Inclusion Criteria

The low-carbon inclusion criteria are a modified, and broader, version of our Green Bond criteria.<sup>1</sup> This includes:

- Low-carbon energy sources, including solar, wind, geothermal, tidal and ocean power, as well as biomass that does not deplete terrestrial carbon pools, hydropower that already exists in temperate zones, and new hydropower development under 25MW capacity;
- Energy efficiency and management in buildings, industry and transportation, energy distribution and storage, as well as products, processes and production methods that reduce energy consumption;
- Green infrastructure and sustainable land use such as sustainable agriculture and forestry, water and waste management, conservation and pollution prevention and control.

The Green Bond criteria were linked to the relevant industry codes (NAICS or SIC<sup>2</sup>) to help identify eligible low-carbon industries. For cases where 100% of a client's activities meet an eligible industry code, the full finance commitment is included. For example, if 100% of a client's activities are classified by the hydropower generation industry code, our total finance commitment for that client would count toward our low-carbon target.

Where industry codes alone are not sufficient to identify low-carbon economy clients, we applied additional criteria. Table A1 gives some examples of these additional criteria by industry:

**Table A1: Additional inclusion criteria for financial transactions**

Client industry	Inclusion criteria
Diversified utilities	We include companies if their energy production is from 80% low-carbon sources or higher. We also include project financing where the project will connect low-carbon energy generation capacity to the grid.
Real estate	We include real estate developer clients with 80% or more of their portfolio as certified green buildings (e.g., LEED or BOMA). Similarly, if we are providing project-specific finance for a LEED- or BOMA-certified building, then this project would be included (even if general purpose lending to the client would not count).
Autos	We include financing and insurance related to hybrid, electric, or ultra-low emissions vehicles (ULEVs). <sup>3</sup>
Transportation	We include financing related to urban rail or long-range passenger rail and no- or low-emission buses.
Forestry and wood products	We include companies where 80% or more of the wood fibre that goes into their products is certified from sustainable sources (i.e., sources certified to FSC, SFI or PEFC standards <sup>4</sup> ). We also include financing for environmental conservation projects such as those funded through TD's corporate giving programs.

<sup>1</sup> [https://www.td.com/document/PDF/TD\\_Green\\_Bond\\_Framework.pdf](https://www.td.com/document/PDF/TD_Green_Bond_Framework.pdf)

<sup>2</sup> NAICS: North American Industry Classification System, SIC: Standard Industrial Classification.

<sup>3</sup> Ultra-low emissions vehicles are defined as those that emit less than 75g of CO<sub>2</sub>/km. <https://www.smmmt.co.uk/industry-topics/technology-innovation/ultra-low-emission-vehicles-ulevs/>

<sup>4</sup> FSC: Forest Stewardship Council, SFI: Sustainable Forestry Initiative, PEFC: Programme for the Endorsement of Forest Certification.

# Appendix A – Detailed Accounting Methodology

## Accounting Choices

- Much of the financing TD provides is direct financing as the sole lender or as part of a lending syndicate. In public markets when TD plays a lead role in raising capital as a ‘book runner’,<sup>1</sup> the total financing amount is apportioned by the number of book runners. This is aligned with data externally reported in league tables.<sup>2</sup>
- Where TD has acted as an advisor to a low-carbon deal (such as in our Mergers & Acquisitions advisory business) or acts as a broker for green real estate, we consider TD’s role to be key in the growth of the low-carbon economy, so the full financial value of the deal total is included regardless of the number of advisors.
- We have taken the innovative step of including our asset management business (TD Asset Management [TDAM]) in our low-carbon results. While methodologies for assessing low-carbon investments are still evolving, we believe it is important to attempt to track demand by institutional investors. Companies held by TDAM are assessed using the low-carbon economy inclusion criteria described above. For FY17, our baseline year, the total value of all low-carbon assets under management as of October 31<sup>st</sup> was calculated. For subsequent years, we include the year-over-year difference in value of low-carbon assets held as at fiscal year end (October 31<sup>st</sup>).<sup>3</sup>

## Developing the Impact Measurement Approach

Impact area	Measurement approach
<b>Greenhouse gas emissions avoided</b>	<ul style="list-style-type: none"> <li>• Applied regional electricity grid factors to measure the GHG emissions avoided by a reduction in energy use.</li> <li>• Energy consumption reductions were calculated based on energy savings from the low-carbon project versus the ‘brown’ alternative. For example, energy consumption reduction of a TD-financed, LEED-certified building is calculated based on a comparison of average energy use of an equivalent non-green certified building.</li> </ul>
<b>GDP and jobs supported</b>	<ul style="list-style-type: none"> <li>• Standard economic models for Canada (provided by Statistics Canada) and the US (provided by IMPLAN<sup>4</sup>) were used.</li> <li>• Direct impacts include the number of employees and the revenues of the business that directly receive TD’s financing.</li> <li>• Indirect impacts arise from the activities of the upstream companies providing inputs to the business receiving financing (i.e., the number of employees and revenues of the suppliers). Estimates of the induced impact of TD financing are not included.<sup>5</sup></li> </ul>

<sup>1</sup> A book runner role is where TD is an underwriter in the issuance of a new equity, debt, or security.

<sup>2</sup> League tables include Bloomberg, Thomson Reuters, Dealogic, and Dealmakers Data/Infomart (National Post).

<sup>3</sup> We only include the year-over-year increase. If the total value of low-carbon assets under management decreases year over year, then we report a zero contribution for that fiscal year.

<sup>4</sup> For more information on IMPLAN modelling, please access <http://www.implan.com/>

<sup>5</sup> Induced impacts result from consumer spending by employees of the businesses supported by direct and indirect expenditures.