TD's Ongoing Energy, GHG, and Water Reduction Initiatives in 2018

INITIATIVE	DESCRIPTION	ESTIMATED ANNUAL REDUCTION	ESTIMATED ANNUAL GHG REDUCTION	ESTIMATED ANNUAL COST SAVINGS ($CAD)	TOTAL ESTIMATED COST TO DATE ($CAD)
LED Lighting Retrofit U.S. Retail Program	Phase I and II of the U.S. interior and exterior retail LED Lighting Retrofit Program was completed across over 1,500 locations in 2017 and generated close to 18.1 million kWh in annual savings. Phase III and IV will commence in FY2019.	18,114,356 kWh	8,251 tCO_2e[1]	$5,057,635	$19,831,436
LED Lighting Retrofit for U.S. Corporate	In 2018 we rolled out a Pilot Phase of U.S. Corporate LED retrofits at 2 corporate sites in Mt. Laurel NJ.	910,172 kWh	415 tCO_2e	$195,162	$266,951
LED Lighting Retrofit Program for Canadian Retail	In 2018 we rolled out LED lighting retrofit upgrades to 770 branches across Canada.	13,022,111 kWh	1,838 tCO_2e	$2,996,828	$6,324,263
Variable Frequency Drive Retrofits	Variable Frequency Drives were retrofit on HVAC equipment larger than 6.5 tons in 92 retail/corporate locations in the U.S.	909,604 kWh	414 tCO_2e	$129,767	$363,672
On-Site Solar Energy Production	On-site solar energy generation continues to be developed across our retail locations. In 2018, TD added 11 new sites with 189 kW of additional solar capacity. This contributed to a total of 14,641 MWh of solar energy across 158 sites across North America.	2,688,594 kWh	1,225 tCO_2e	$467,688	$15,056,816
Retro-Commissioning and U.S. Retail Store Improvements	As part of the U.S. Retail Renovations Process, TD developed and implemented a retro-commissioning program to target major energy consumption sources and to improve the overall performance for close to 550 retail locations to date. The implementation process follows performance improvement recommendations identified through the individual retro-commissioning reports, which include programmable thermostats and occupancy sensors to target energy performance improvements.	4,358,346 kWh	1,985 tCO_2e	$552,864	$6,616,211
Data Centre Optimization	We continue to find efficiencies in our server platform to further reduce space occupied and energy usage.	49,465,832 kWh	5,095 tCO_2e	$6,183,229	Not available
Printer Reduction	TD's Printer Reduction Program continues to be rolled out throughout the enterprise. In 2018, we continued the U.S. roll-out. We moved to multifunction devices and set duplex printing capabilities as default, which reduced energy use, and saved on printing supplies like toner and paper.	2,016,221 kWh	371 tCO_2e	$282,271	Not available
PC Power Management	PC Power Management is a parameter that can be set on a personal computer which will enable the device to go to sleep after some inactivity and wake it up at predetermined times. The project allows for in branch devices to be turned off overnight and turned on only when a change needs to be made. PC Power Management was rolled out in late 2017 and throughout 2018 for Canadian Retail Banking desktops. Consideration is being given to roll this project out for U.S. Retail.	1,689,740 kWh	261 tCO_2e	$236,563	Business as usual funding

[1] Although no new additional LED U.S. retail projects were completed in 2018, the annual kWh savings realized from the previously rolled out LED projects had a different carbon impact in 2018 based on the updated emission factors in the U.S. (2018 U.S. average CO_2/MWh)

TD's Ongoing Energy, GHG, and Water Reduction Initiatives in 2018 (continued)

INITIATIVE	DESCRIPTION	ESTIMATED ANNUAL REDUCTION	ESTIMATED ANNUAL GHG REDUCTION	ESTIMATED ANNUAL COST SAVINGS ($CAD)	TOTAL ESTIMATED COST TO DATE ($CAD)
Video Conferencing	Telepresence implementation across our U.S. and Canadian operations continues. It creates value for our business by reducing travel and associated GHG emissions, while providing a more personal collaboration experience for our employees.	44,931,111 km	17,523 tCO_2e	$28,307,200	$3,435,522
Smart Retail Control	In 2018, TD rolled out an innovative smart building system for select retail locations to provide real-time visibility, control and performance opportunities, along with improving employee comfort within our real estate portfolio.	1,011,025 kWh	461 tCO_2e	$184,790	$1,822,123
Smart Irrigation	TD's ETWater's Smart Irrigation retrofit continues to provide real-time updates based on rainfall forecasting and evapotranspiration to help reduce water consumption. The program helped TD reduce both operational costs and water consumption across 276 sites in North America.[2]	205,176 m^3	Not applicable	$357,409	$964,267

[2] In 2018, the ETWater Smart Irrigation was removed from two sites due to logistic reasons. Even though two sites were removed from the scope, the overall program still helped TD reduce both operational costs and water consumption.