

# TransCanada PipeLines Limited

2017 Annual information form

March 12, 2018





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## Presentation of information

Unless the context indicates otherwise, a reference in this Annual information form (AIF) to TransCanada PipeLines Limited (TCPL) or the *Company, we, us* and *our* includes TCPL's parent, TransCanada Corporation (TransCanada) and the subsidiaries of TCPL through which its various business operations are conducted, and a reference to *TransCanada* includes TransCanada Corporation and the subsidiaries of TransCanada Corporation, including TCPL. Where TCPL is referred to with respect to actions that occurred prior to its 2003 plan of arrangement (the Arrangement) with TransCanada, which is described below under the heading *TransCanada PipeLines Limited – Corporate structure*, these actions were taken by TCPL or its subsidiaries. The term *subsidiary*, when referred to in this AIF, with reference to TCPL means direct and indirect wholly owned subsidiaries of, and legal entities controlled by, TransCanada or TCPL, as applicable.

Unless otherwise noted, the information contained in this AIF is given at or for the year ended December 31, 2017 (Year End). Amounts are expressed in Canadian dollars unless otherwise indicated. Information in relation to metric conversion can be found at *Schedule A* to this AIF. The *Glossary* found at the end of this AIF contains certain terms defined throughout this AIF and abbreviations and acronyms that may not otherwise be defined in this document.

Certain portions of TCPL's management's discussion and analysis dated February 14, 2018 (MD&A) are incorporated by reference into this AIF as stated below. The MD&A can be found on SEDAR ([www.sedar.com](http://www.sedar.com)) under TCPL's profile.

Financial information is presented in accordance with U.S. generally accepted accounting principles (GAAP). We use certain financial measures that do not have a standardized meaning under GAAP and therefore they may not be comparable to similar measures presented by other entities. Refer to the *About this document – Non-GAAP measures* section of the MD&A for more information about the non-GAAP measures we use and a reconciliation to their GAAP equivalents, which section of the MD&A is incorporated by reference herein.

## Forward-looking information

This AIF, including the MD&A disclosure incorporated by reference herein, contains certain information that is forward-looking and is subject to important risks and uncertainties. We disclose forward-looking information to help current and potential investors understand management's assessment of our future plans and financial outlook, and our future prospects overall.

Statements that are *forward-looking* are based on certain assumptions and on what we know and expect today and generally include words like *anticipate, expect, believe, may, will, should, estimate* or other similar words.

Forward-looking statements included or incorporated by reference in this document include information about the following, among other things:

- planned changes in our business
- our financial and operational performance, including the performance of our subsidiaries
- expectations or projections about strategies and goals for growth and expansion
- expected cash flows and future financing options available to us
- expected dividend growth
- expected costs for planned projects, including projects under construction, permitting and in development
- expected schedules for planned projects (including anticipated construction and completion dates)
- expected regulatory processes and outcomes
- expected outcomes with respect to legal proceedings, including arbitration and insurance claims
- expected capital expenditures and contractual obligations
- expected operating and financial results
- the expected impact of future accounting changes, commitments and contingent liabilities
- the expected impact of H.R. 1, the Tax Cuts and Jobs Act (U.S. Tax Reform)
- expected industry, market and economic conditions.

Forward-looking statements do not guarantee future performance. Actual events and results could be significantly different because of assumptions, risks or uncertainties related to our business or events that happen after the date of this document.

Our forward-looking information is based on the following key assumptions, and subject to the following risks and uncertainties:

### **Assumptions**

- planned wind-down of our U.S. Northeast power marketing business
- inflation rates and commodity prices
- nature and scope of hedging
- regulatory decisions and outcomes
- interest, tax and foreign exchange rates, including the impact of U.S. Tax Reform
- planned and unplanned outages and the use of our pipeline and energy assets
- integrity and reliability of our assets
- access to capital markets
- anticipated construction costs, schedules and completion dates.

### **Risks and uncertainties**

- our ability to successfully implement our strategic priorities and whether they will yield the expected benefits
- the operating performance of our pipeline and energy assets
- amount of capacity sold and rates achieved in our pipeline businesses
- the availability and price of energy commodities
- the amount of capacity payments and revenues from our energy business
- regulatory decisions and outcomes
- outcomes of legal proceedings, including arbitration and insurance claims
- performance and credit risk of our counterparties
- changes in market commodity prices
- changes in the political environment
- changes in environmental and other laws and regulations
- competitive factors in the pipeline and energy sectors
- construction and completion of capital projects
- costs for labour, equipment and materials
- access to capital markets
- interest, tax and foreign exchange rates, including the impact of U.S. Tax Reform
- weather
- cyber security
- technological developments
- economic conditions in North America as well as globally.

You can read more about these factors and others in reports we have filed with Canadian securities regulators and the U.S. Securities and Exchange Commission (SEC).

As actual results could vary significantly from the forward-looking information, you should not put undue reliance on forward-looking information and should not use future-oriented financial information or financial outlooks for anything other than their intended purpose. We do not update our forward-looking statements due to new information or future events, unless we are required to by law.

# TransCanada PipeLines Limited

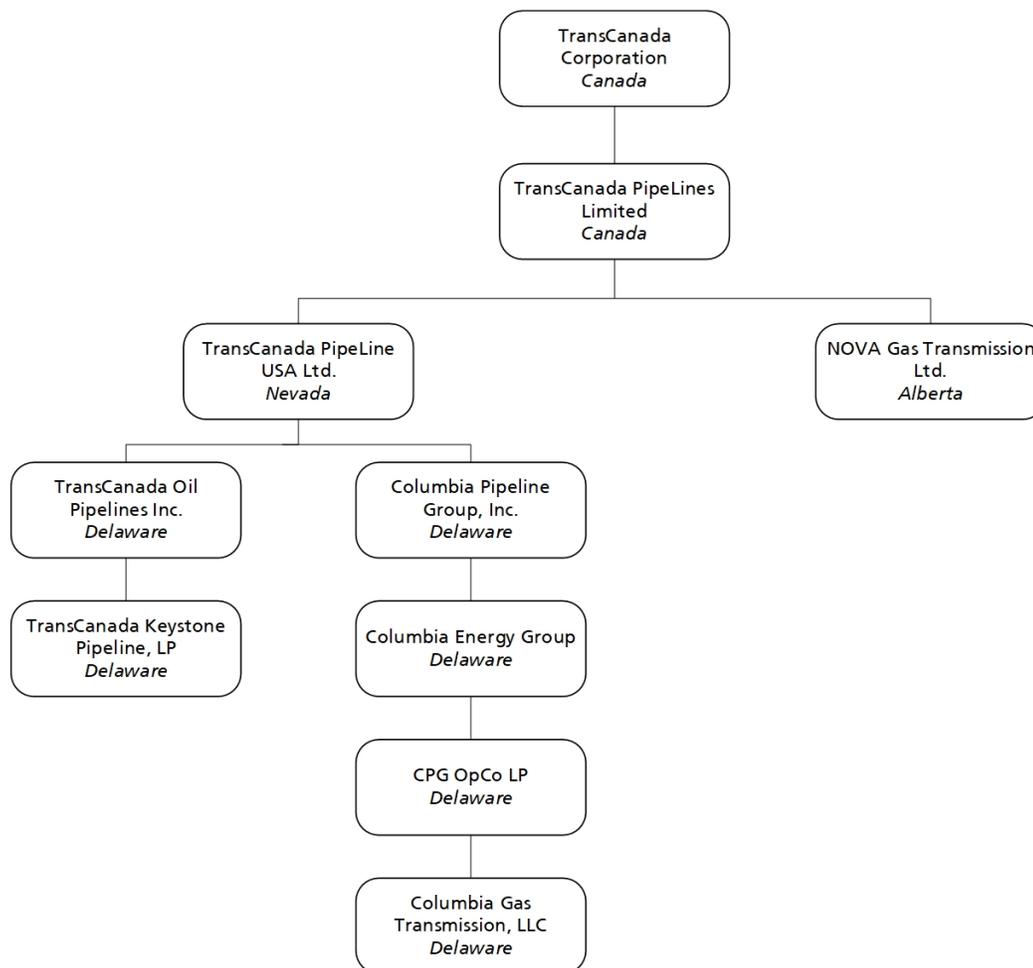
## CORPORATE STRUCTURE

TCPL's head office and registered office are located at 450 - 1<sup>st</sup> Street S.W., Calgary, Alberta, T2P 5H1. TCPL is a reporting issuer in the jurisdictions of Canada. Significant dates and events are set forth below.

Date	Event
March 21, 1951	Incorporated by Special Act of Parliament as Trans-Canada Pipe Lines Limited.
April 19, 1972	Continued under the <i>Canada Corporations Act</i> by Letters Patent, which included the alteration of its capital and change of name to TransCanada PipeLines Limited.
June 1, 1979	Continued under the <i>Canada Business Corporations Act</i> (CBCA).
July 2, 1998	Certificate of Arrangement issued in connection with the Plan of Arrangement with NOVA Corporation under which the companies merged and then split off the commodity chemicals business carried on by NOVA Corporation into a separate public company.
January 1, 1999	Certificate of Amalgamation issued reflecting TCPL's vertical short form amalgamation with a wholly owned subsidiary, Alberta Natural Gas Company Ltd.
January 1, 2000	Certificate of Amalgamation issued reflecting TCPL's vertical short form amalgamation with a wholly owned subsidiary, NOVA Gas International Ltd.
May 4, 2001	Restated TCPL Articles of Incorporation filed.
June 20, 2002	Restated TCPL Limited By-Laws filed.
May 15, 2003	Certificate of Arrangement issued in connection with the plan of arrangement with TransCanada. TransCanada was incorporated pursuant to the provisions of the CBCA on February 25, 2003. The arrangement was approved by TCPL common shareholders on April 25, 2003 and following court approval, Articles of Arrangement were filed making the arrangement effective May 15, 2003. The common shareholders of TCPL exchanged each of their common shares of TCPL for one common share of TransCanada. The debt securities and preferred shares of TCPL remained obligations and securities of TCPL. TCPL continues to carry on business as the principal operating subsidiary of the TransCanada group of entities.

## INTERCORPORATE RELATIONSHIPS

The following diagram presents the name and jurisdiction of incorporation, continuance or formation of TCPL's principal subsidiaries as at Year End. Each of the subsidiaries shown has total assets that exceeded ten per cent of the total consolidated assets of TCPL as at Year End or revenues that exceeded ten per cent of the total consolidated revenues of TCPL as at Year End. TCPL beneficially owns, controls or directs, directly or indirectly, 100 per cent of the voting shares or units in each of these subsidiaries.



The above diagram does not include all of the subsidiaries of TCPL. The assets and revenues of excluded subsidiaries in the aggregate did not exceed 20 per cent of the total consolidated assets of TCPL as at Year End or total consolidated revenues of TCPL as at Year End.

## General development of the business

We operate in three core businesses - Natural Gas Pipelines, Liquids Pipelines and Energy. As a result of our acquisition of Columbia Pipeline Group, Inc. (Columbia) on July 1, 2016 and the sale of the U.S. Northeast power business, we determined that a change in our operating segments was appropriate. Accordingly, we consider ourselves to be operating in the following five segments: Canadian Natural Gas Pipelines, U.S. Natural Gas Pipelines, Mexico Natural Gas Pipelines, Liquids Pipelines and Energy. This provides information that is aligned with how management decisions about our business are made and how performance of our business is assessed. We also have a non-operational Corporate segment consisting of corporate and administrative functions that provide governance and other support to our operational business segments.

Natural Gas Pipelines and Liquids Pipelines are principally comprised of our respective natural gas and liquids pipelines in Canada, the U.S. and Mexico, as well as our regulated natural gas storage operations in the U.S. Energy includes our power operations and the non-regulated natural gas storage business in Canada.

Summarized below are significant developments that have occurred in our Natural Gas Pipelines, Liquids Pipelines and Energy businesses, respectively, and certain acquisitions, dispositions, events or conditions which have had an influence on those developments, during the last three financial years and year to date in 2018. Further information about changes in our business that we expect to occur during the current financial year can be found in the *Canadian Natural Gas Pipelines, U.S. Natural Gas Pipelines, Mexico Natural Gas Pipelines, Liquids Pipelines* and *Energy* sections of the MD&A, which sections of the MD&A are incorporated by reference herein.

### NATURAL GAS PIPELINES

#### Developments in the Canadian Natural Gas Pipelines Segment

Date	Description of development
<b>CANADIAN REGULATED PIPELINES</b>	
<b>NGTL System</b>	
2015	The NGTL System had approximately \$6.7 billion of new supply and demand facilities under development and we continued to advance several of these capital expansion projects by filing the regulatory applications with the National Energy Board (Canada) (NEB). In 2015, we placed approximately \$0.35 billion of facilities in service.
2016	In 2016, the NGTL System continued to develop new supply and demand facilities. We had approximately \$2.3 billion of facilities that received regulatory approval and approximately \$0.45 billion under construction. On October 6, 2016, the NEB recommended government approval of the Towerbirch Project and the continued use of the existing rolled-in toll methodology for the project. On October 31, 2016, the Government of Canada also approved our application for a \$1.3 billion NGTL System expansion program. This NGTL System expansion program consists of five pipeline loops ranging in size from 24 to 48-inch pipe of approximately 230 km (143 miles) in length, and two compressor station unit additions of approximately 46.5 MW (62,360 hp). In December 2016, we announced the \$0.6 billion Saddle West expansion of the NGTL System to increase natural gas transportation capacity on the northwest portion of our system, consisting of 29 km (18 miles) of 36-inch pipeline looping of existing mainlines, the addition of five compressor units at existing station sites and new metering facilities. The project is underpinned by incremental firm service contracts and is expected to be in-service in 2019. In 2016, we placed approximately \$0.5 billion of facilities in service.
2017	In March 2017, the Government of Canada approved the \$0.4 billion Towerbirch Project, which consists of a 55 km (34 mile), 36-inch pipeline loop and a 32 km (20 mile), 30-inch pipeline extension of the NGTL System in northwest Alberta and northeast British Columbia (B.C.), which was subsequently placed in service in November 2017. In June 2017, we announced a new \$2 billion expansion program on our NGTL System based on new contracted customer demand for approximately 3.2 PJ/d (3 Bcf/d) of incremental firm receipt and delivery services, subject to regulatory approvals. In 2017, we placed approximately \$1.7 billion of new facilities in service on the NGTL System, and reduced project estimates by \$0.6 billion.
2018	In February 2018, we announced a new NGTL System expansion totaling \$2.4 billion, with in-service dates between 2019 and 2021. The new expansion program includes approximately 375 km (233 miles) of 16- to 48-inch pipeline, four compressor units totaling 120 MW, and associated metering stations and facilities. We anticipate incremental firm receipt contracts of 664 TJ/d (620 MMcf/d) and firm delivery contracts to our major border export and intra-basin delivery locations of 1.1 PJ/d (1.0 Bcf/d).

Date	Description of development
<b>NGTL Revenue Requirement Settlements</b>	
2015	In February 2015, we received NEB approval for our revenue requirement settlement with our shippers on the NGTL System. The terms of the settlement included the continuation of the 2014 return on equity (ROE) of 10.1 per cent on 40 per cent deemed equity, continuation of the 2014 depreciation rates and a mechanism for sharing variances above and below a fixed operating, maintenance and administration (OM&A) expense amount that was based on an escalation of 2014 actual costs. In December 2015, we reached a two-year revenue requirement agreement (2016-2017 Settlement) with customers and other interested parties on the annual costs, including ROE and depreciation required to operate the NGTL System for 2016 and 2017. The 2016-2017 Settlement fixed ROE at 10.1 per cent on 40 per cent deemed equity, established depreciation at a forecast composite rate of 3.16 per cent and fixed OM&A costs at \$222.5 million annually. An incentive mechanism for variances enabled NGTL to capture savings from improved performance and provided for the flow-through of all other costs, including pipeline integrity expenses and emissions costs.
2017	The 2016-2017 Settlement expired on December 31, 2017. We continue to work with interested parties towards a new revenue requirement arrangement for 2018 and longer. While these discussions are underway, NGTL is operating under interim tolls for 2018 that were approved by the NEB on November 24, 2017.
<b>North Montney</b>	
2015	In June 2015, the NEB approved the \$1.7 billion North Montney Mainline (NMML) project, subject to certain terms and conditions. Under one of these conditions, construction on the NMML project was only to begin after a positive final investment decision (FID) had been made on the Pacific North West liquefied natural gas (LNG) project (PNW LNG). The NMML project provides substantial new capacity on the NGTL System to meet the transportation requirements associated with rapidly increasing development of natural gas resources in the Montney supply basin in northeastern B.C. The NMML project connects Montney and other Western Canadian Sedimentary Basin (WCSB) supply to existing and new natural gas markets, including LNG markets. The project also includes an interconnection with our Prince Rupert Gas Transmission Project (PRGT) to provide natural gas supply to the proposed PNW LNG liquefaction and export facility near Prince Rupert, B.C.
2016	In September 2016, the Government of Canada approved a sunset clause extension request that we filed in March 2016, for the NMML Certificate of Public Convenience and Necessity, for one year to June 10, 2017.
2017	In March 2017, we filed an application with the NEB for a variance to the existing approvals for the NMML project on the NGTL System to remove the condition that the NMML project could only proceed once a positive FID was made for the PNW LNG project. The NMML project is now underpinned by restructured 20-year commercial contracts with shippers and is not dependent on PNW LNG project proceeding. A hearing on the matter began the week of January 22, 2018 and a decision from the NEB is anticipated in second quarter 2018.
<b>Sundre Crossover Project</b>	
2017	On December 28, 2017, the NEB approved the Sundre Crossover project on the NGTL System. The approximate \$100 million, 21 km (13 mile), 42-inch pipeline project will increase delivery of 245 TJ/d (229 MMcf/d) to the Alberta/ B.C. border to connect with TransCanada downstream pipelines. In-service is planned for April 1, 2018.
<b>Canadian Mainline – Kings North and Station 130 Facilities</b>	
2016	In fourth quarter 2016, we placed in service the approximate \$310 million Kings North Connector and the approximate \$75 million compressor unit addition at Station 130 on the Canadian Mainline system. These two projects are consistent with our current LDC Settlement (defined below) with our shippers and provide optionality to access alternative supply sources while contracting for increased short-haul transportation service within the Eastern Triangle area of the Canadian Mainline system.
<b>Canadian Mainline – Eastern Mainline Project</b>	
2015	In August 2015, we announced that we had reached an agreement with eastern local distribution companies (LDCs) that resolved their issues with the Energy East pipeline project and the Eastern Mainline project. Application amendments were filed in December 2015 that reflected the agreement. The agreement provided gas consumers in eastern Canada with sufficient natural gas transmission capacity and provides for reduced natural gas transmission costs.
2016	The Eastern Mainline project was conditioned on the approval and construction of the Energy East pipeline. Refer to the <i>General development of the business – Liquids Pipelines</i> section for information on Energy East.
2017	In October 2017, after a careful review of the changed circumstances, we informed the NEB that we would not be proceeding with the Energy East and Eastern Mainline project applications, that in effect provided public notice that the projects were canceled. Refer to the <i>General development of the business – Liquids Pipelines</i> section for information on Energy East.

Date	Description of development
<b>Canadian Mainline – Other Expansions</b>	
2016	In addition to the Eastern Mainline Project, new facilities investments totaling approximately \$700 million over the 2016-2017 period in the Eastern Triangle portion of the Canadian Mainline were required to meet contractual commitments from shippers. In third quarter 2016, we launched an open season for the Canadian Mainline, seeking binding commitments on our new long-term, fixed-price proposal to transport WCSB supply from the Empress receipt point in Alberta to the Dawn hub in Southern Ontario. The open season for the proposed service resulted in bids that fell short of the volumes required to make the proposal viable. On November 15, 2016 we announced we would not proceed with the service offering. Refer to the <i>Canadian Mainline – Kings North and Station 130 Facilities</i> section above.
2017	Including the Vaughan Loop, which was placed in service in November 2017, we had approximately \$245 million of additional investment to meet contractual commitments from shippers that went into service in 2017 on the Canadian Mainline. The Canadian Mainline also received requests for expansion capacity to the southern Ontario market plus delivery to Atlantic Canada via the Trans-Québec & Maritimes and PNGTS (defined below) systems. The requests for approximately 86 TJ/d (80 MMcf/d) of firm service underpin the need for new compression at the existing Maple compressor site. Customers have executed 15-year precedent agreements to proceed with the project, which has an estimated cost of \$110 million. An application to the NEB seeking project approval was filed on November 2, 2017. We have requested a decision by the NEB to proceed with the project in first quarter 2018 to meet an anticipated in-service date of November 1, 2019.
<b>Dawn Long-Term Fixed-Price Service</b>	
2017	On November 1, 2017, we began offering a new NEB-approved service on the Mainline referred to as the Dawn Long-Term Fixed-Price (LTFP) service. This LTFP service enables WCSB producers to transport up to 1.5 PJ/d (1.4 Bcf/d) of natural gas at a simplified toll of \$0.77/GJ from the Empress receipt point in Alberta to the Dawn hub in Southern Ontario. The LTFP service is underpinned by ten-year contracts that have early termination rights after five years. Any early termination will result in an increased toll for the last two years of the contract.
<b>Canadian Mainline Settlement</b>	
2015	In 2015, the Canadian Mainline began operating under the NEB-approved Canadian Mainline's 2015-2030 Tolls and Tariff Application.
2017	While the 2015-2030 settlement (LDC Settlement) specified tolls for 2015 to 2020, the NEB ordered a toll review halfway through this six-year period, to be filed by December 31, 2017. The 2018-2020 toll review must include costs, forecast volumes, contracting levels, the deferral account balance, and any other material changes. A supplemental agreement for the 2018-2020 period was executed between TransCanada and eastern LDCs on December 8, 2017, and filed for approval with the NEB on December 18, 2017 (the Supplemental Agreement). The Supplemental Agreement, supported by a majority of Canadian Mainline stakeholders, proposes lower tolls, preserves an incentive arrangement that provides an opportunity for 10.1 per cent, or greater return, on a 40 per cent deemed equity and describes the revenue requirements and billing determinants for the 2018-2020 period. We anticipate the NEB will provide directions and process to adjudicate the application in first quarter 2018. Interim tolls for 2018, as established by the Supplemental Agreement, were filed and subsequently approved by the NEB on December 19, 2017.
<b>LNG PIPELINE PROJECTS</b>	
<b>Prince Rupert Gas Transmission</b>	
2015	In June 2015, PNW LNG announced a positive FID for its proposed liquefaction and export facility, subject to two conditions. The first condition, approval by the Legislative Assembly of B.C. of a project development agreement between PNW LNG and the Province of B.C., was satisfied in July 2015. The second condition was a positive regulatory decision on PNW LNG's environmental assessment by the Government of Canada. Environmental permits for the project were received in November 2014 from the B.C. Environmental Assessment Office (BCEAO). In third quarter 2015, we received all remaining permits from the B.C. Oil and Gas Commission (OGC). With these permits, PRGT received all of the primary regulatory permits required for the project.
2016	In September 2016, PNW LNG received an environmental certificate from the Government of Canada for a proposed LNG plant at Prince Rupert, B.C. In December 2016, PNW LNG received an LNG export license from the NEB which extended the export term from 25 years to 40 years. We continued our engagement with Indigenous groups and signed project agreements with 14 First Nation groups along the pipeline route, which outlined financial and other benefits and commitments that would be provided to each First Nation for as long as the project was in service.
2017	In July 2017, we were notified that PNW LNG would not be proceeding with their proposed LNG project and that Progress Energy would be terminating their agreement with us for development of the PRGT project. In accordance with the terms of the agreement, we received a payment of \$0.6 billion from Progress Energy in October 2017 for full recovery of our costs plus carrying charges.

Date	Description of development
<b>Coastal GasLink</b>	
2016	<p>In first quarter 2016, we continued to engage with Indigenous groups and announced project agreements with 11 First Nation groups along the pipeline route which outlined financial and other benefits and commitments that would be provided to each First Nation group for as long as the project was in service. We also continued to engage with stakeholders along the pipeline route and progressed detailed engineering and construction planning work to refine the capital cost estimate. In response to feedback received, we applied for a minor route amendment to the BCEAO in order to provide an option in the area of concern. In July 2016, the LNG Canada joint venture participants announced a delay to their FID for the proposed LNG facility in Kitimat, B.C. We worked with LNG Canada to maintain the appropriate pace of the Coastal GasLink development schedule and work activities. We continued our engagement with Indigenous groups along our pipeline route and concluded long-term project agreements with 17 First Nation communities.</p>
2017	<p>The continuing delay in the FID for the LNG Canada project triggered a restructuring of the provisions in the Coastal GasLink project agreement with LNG Canada that resulted in the payment of certain amounts to TransCanada with respect to carrying charges on costs incurred. In September 2017, an approximate \$80 million payment was received related to costs incurred since inception of the project. Following a payment of \$8 million in fourth quarter 2017, additional quarterly payments of approximately \$7 million will be received until further notice. We continue to work with LNG Canada under the agreement towards an FID. Coastal GasLink filed an amendment to the Environmental Assessment Certificate in November 2017 for an alternate route on a portion of the pipeline. A decision from the BCEAO is expected in 2018. Should the project not proceed, our project costs, including carrying charges are fully recoverable.</p>

## Developments in the U.S. Natural Gas Pipelines Segment

Date	Description of development
<b>U.S. NATURAL GAS PIPELINES - COLUMBIA</b>	
<b>Columbia Acquisition</b>	
2016	On July 1, 2016, we acquired 100 per cent ownership of Columbia for a purchase price of US\$10.3 billion in cash. The acquisition was initially financed through proceeds of \$4.4 billion from the sale of subscription receipts, draws on acquisition bridge facilities in the aggregate amount of US\$6.9 billion and existing cash on hand. The sale of the subscription receipts was completed on April 1, 2016, through a public offering, and following the closing of the acquisition, the subscription receipts were exchanged into 96.6 million TransCanada common shares.
<b>Columbia Pipeline Partners LP (CPPL)</b>	
2016	In November 2016, we announced that we entered into an agreement and plan of merger through which Columbia agreed to acquire, for cash, all of the outstanding publicly held common units of CPPL.
2017	In February 2017, we completed the acquisition, for cash, of all outstanding publicly held common units of CPPL at a price of US\$17.00 and a stub period distribution of US\$0.10 per common unit for an aggregate transaction value of US\$921 million.
<b>Leach XPress</b>	
2015	The Federal Energy Regulatory Commission (U.S.) (FERC) 7(C) application for this Columbia Gas project was filed in June 2015. The project transports approximately 1.6 PJ/d (1.5 Bcf/d) of Marcellus and Utica gas supply to delivery points along the pipeline and to the Leach interconnect with Columbia Gulf. The project consists of 260 km (160 miles) of 36-inch greenfield pipe, 39 km (24 miles) of 36-inch loop, three km (two miles) of 30-inch greenfield pipe, 82.8 MW (111,000 hp) of greenfield compression and 24.6 MW (33,000 hp) of brownfield compression.
2016	The Final Environmental Impact Statement (FEIS) for the project was received in September 2016.
2018	The US\$1.6 billion project was placed in service on January 1, 2018.
<b>Mountaineer XPress</b>	
2016	The FERC 7(C) application for this Columbia Gas project was filed in April 2016. The project is designed to transport approximately 2.9 PJ/d (2.7 Bcf/d) of Marcellus and Utica gas supply to delivery points along the pipeline and to the Leach interconnect with Columbia Gulf. The project consists of 275 km (171 miles) of 36-inch greenfield pipeline, ten km (six miles) of 24-inch lateral pipeline, 0.6 km (0.4 miles) of 30-inch replacement pipeline, 114.1 MW (153,000 hp) of greenfield compression and 55.9 MW (75,000 hp) of brownfield compression.
2017	The FERC certificate for the Mountaineer Xpress project was received on December 29, 2017. The project is expected to have a US\$0.6 billion increase in its capital project cost due to increased construction cost estimates. As a result of a cost sharing mechanism, overall project returns are not anticipated to be materially affected. The US\$2.6 billion project is expected to be placed in service in fourth quarter 2018.
<b>Rayne XPress</b>	
2015	The FERC 7(C) application for this Columbia Gulf project was filed in July 2015. The project transports approximately 1.1 PJ/d (1 Bcf/d) of supply from an interconnect with the Leach XPress pipeline project and another interconnect, to markets along the system and to the Gulf Coast. The project consists of bi-directional compressor station modifications along Columbia Gulf, 38.8 MW (52,000 hp) of greenfield compression, 20.1 MW (27,000 hp) of replacement compression and six km (four miles) of 30-inch pipe replacement.
2016	The FEIS for the project was received in September 2016.
2017	The US\$0.4 billion project was placed in service on November 2, 2017.
<b>Gulf XPress</b>	
2016	The FERC 7(C) application for this Columbia Gulf project was filed in April 2016. The project is designed to transport approximately 0.9 Bcf/d associated with the Mountaineer XPress expansion to various delivery points on Columbia Gulf and the Gulf Coast. The project consists of adding seven greenfield midpoint compressor stations along the Columbia Gulf route totaling 182.7 MW (245,000 hp).
2017	The FERC certificate for Gulf Xpress project was received on December 29, 2017. We expect this project, with an estimated capital investment of US\$0.6 billion, to be placed in service in 2018.
<b>Cameron Access Project</b>	
2015	The FERC certificate for this Columbia Gulf project was received in September 2015. The project is designed to transport approximately 0.8 Bcf/d of gas supply to the Cameron LNG export terminal in Louisiana. The project consists of 55 km (34 miles) of 36-inch greenfield pipeline, 11 km (seven miles) of 30-inch looping and 9.7 MW (13,000 hp) of greenfield compression. We expect this project, with an estimated capital investment of US\$0.3 billion, to be in service in first quarter 2018.

Date	Description of development
<b>WB XPress</b>	
2015	The FERC 7(C) application for both segments of this Columbia Gas project was filed in December 2015. The project is designed to transport approximately 1.3 Bcf/d of Marcellus gas supply westbound (0.8 Bcf/d) to the Gulf Coast via an interconnect with the Tennessee Gas Pipeline, and eastbound (0.5 Bcf/d) to Mid-Atlantic markets. The project consists of 47 km (29 miles) of various diameter pipeline, 338 km (210 miles) of restoring and uprating maximum operating pressure of existing pipeline, 29.8 MW (40,000 hp) of greenfield compression and 99.9 MW (134,000 hp) of brownfield compression.
2017	The FERC certificate for the WB XPress project was received in November 2017. We expect this project, with an estimated capital investment of US\$0.8 billion, to be fully in service in 2018.
<b>Buckeye XPress</b>	
2017	The Buckeye XPress project represents an upsizing of an existing pipeline replacement project in conjunction with our Columbia Gas modernization program. The US\$0.2 billion cost to upsize the replacement pipe and install compressor upgrades will enable us to offer 290 TJ/d (275 MMcf/d) of incremental pipeline capacity to accommodate growing Appalachian production. We expect the project to be placed in service in late-2020.
<b>Modernization I &amp; II</b>	
2017	Columbia Gas and its customers entered into a settlement arrangement, approved by the FERC, which provides recovery and return on investment to modernize its system, improve system integrity, and enhance service reliability and flexibility. The modernization program includes, among other things, replacement of aging pipeline and compressor facilities, enhancements to system inspection capabilities, and improvements in control systems. The US\$1.5 billion Modernization I arrangement was completed under the terms of a 2012 settlement agreement, with the final US\$0.2 billion spent in 2017. Modernization II has been approved for up to US\$1.1 billion of work starting in 2018 and to be completed through 2020. As per terms of the arrangements, facilities in service by October 31 collect revenues effective February 1 of the following year.
<b>Gibraltar</b>	
2016	The first phase of the multi-phase project was completed in December 2016.
2017	The US\$0.3 billion Midstream project to construct an approximate 1,000 TJ/d (934 MMcf/d) dry gas header pipeline in southwest Pennsylvania was placed in service on November 1, 2017.
<b>OTHER U.S. NATURAL GAS PIPELINES</b>	
<b>ANR Pipeline</b>	
2016	ANR Pipeline filed a Section 4 Rate Case that requested an increase to ANR's maximum transportation rates in January 2016. Shifts in ANR's traditional supply sources and markets, necessary operational changes, needed infrastructure updates, and evolving regulatory requirements were driving required investment in facility maintenance, reliability and system integrity as well as an increase in operating costs that resulted in the current tariff rates not providing a reasonable return on our investment. We also pursued a collaborative process to find a mutually beneficial outcome with our customers through settlement negotiations. ANR's last rate case filing was more than 20 years ago. ANR reached a settlement with its shippers effective August 1, 2016 and received FERC approval on December 16, 2016. Per the settlement, transmission reservation rates would increase by 34.8 per cent and storage rates would remain the same for contracts one to three years in length, while increasing slightly for contracts of less than one year and decreasing slightly for contracts more than three years in duration. There is a moratorium on any further rate changes until August 1, 2019. ANR may file for new rates after that date if it has spent more than US\$0.8 billion in capital additions, but must file for new rates no later than an effective date of August 1, 2022.
<b>Great Lakes</b>	
2015	We test goodwill for impairment annually or more frequently if events or changes in circumstances lead us to believe it might be impaired. Our share of the goodwill related to Great Lakes, net of non-controlling interests, was US\$386 million at December 31, 2015.
2016	Our share of the goodwill related to Great Lakes, net of non-controlling interests, was US\$382 million at December 31, 2016.
2017	On October 30, 2017, Great Lakes filed a rate settlement with the FERC to satisfy its obligations from its previous 2013 rate settlement for new rates to be in effect by January 1, 2018. The settlement, if approved by the FERC, will decrease Great Lakes' maximum transportation rates by 27 per cent effective October 1, 2017. Great Lakes expects that the impact from other changes, including the recent long-term transportation contract with the Canadian Mainline as described below, other revenue opportunities on the system and the elimination of the revenue sharing mechanism with its customers, will essentially offset the full year impact of the reduction in Great Lakes' rates beginning in 2018. In conjunction with the Canadian Mainline's LTFP service (see <i>Canadian Regulated Pipelines – Dawn Long-Term Fixed-Price Service</i> above), Great Lakes entered into a new ten-year gas transportation contract with the Canadian Mainline. This contract received NEB approval in September 2017, effective November 1, 2017, and contains volume reduction options up to full contract quantity beginning in year three.

Date	Description of development
2017 (continued)	In relation to goodwill impairment, although evolving market conditions and other factors relevant to Great Lakes' long term financial performance have been positive, there is a risk that reductions in future cash flow forecasts or adverse changes in other key assumptions could result in a future impairment of a portion of the goodwill balance relating to Great Lakes. Our share of the goodwill related to Great Lakes, net of non-controlling interests, was US\$379 million at Year End. At Year End, the estimated fair value of Great Lakes exceeded its carrying value by less than ten per cent. Further information about impairment of goodwill can be found in the MD&A in the Other Information – Critical Accounting Estimates – Impairment of long-lived assets, equity investments and goodwill section, which section of the MD&A is incorporated by reference herein.

#### Northern Border

2017	Northern Border filed a rate settlement with the FERC on December 4, 2017, reflecting a settlement-in-principle with its shippers, which precludes the need to file a general rate case as contemplated by its previous 2012 settlement. Northern Border anticipates that the FERC will accept the settlement agreement and that it will be unopposed. This is expected to provide Northern Border with rate stability over the longer term. We have a 12.9 per cent indirect ownership interest in Northern Border through TC PipeLines, LP (TCLP).
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#### Portland Natural Gas Transmission System (PNGTS)

2016	In January 2016, we closed the sale of our 49.9 per cent of our total 61.7 per cent interest in PNGTS to TCLP for US\$223 million. Proceeds were comprised of US\$188 million in cash and the assumption of US\$35 million of a proportionate share of PNGTS debt.
2017	In June 2017, we closed the sale of a 49.34 per cent of our 50 per cent interest in Iroquois, along with an option to sell the remaining 0.66 per cent at a later date, to TCLP. At the same time, we closed the sale of our remaining 11.81 per cent interest in PNGTS to TCLP. Proceeds from these transactions were US\$765 million, before post-closing adjustments, and were comprised of US\$597 million in cash and US\$168 million representing a proportionate share of Iroquois and PNGTS debt. In December 2017, PNGTS executed precedent agreements with several LDCs in New England and Atlantic Canada to re-contract certain system capacity set to expire in 2019, as well as expand the PNGTS system to bring its certificated capacity from 222 TJ/d (210 MMcf/d) up to 290 TJ/d (275 MMcf/d). The approximate US\$80 million Portland XPress Project (PXP) will proceed concurrently with upstream capacity expansions. The in-service dates of PXP are being phased-in over a three-year period beginning November 1, 2018.

#### Iroquois Gas Transmission System, L.P. (Iroquois)

2016	FERC approvals were obtained for settlements with shippers for our Iroquois, Tuscarora and Columbia Gulf pipelines in third quarter 2016. On March 31, 2016, we acquired an additional 4.87 per cent interest in Iroquois for an aggregate purchase price of US\$54 million and on May 1, 2016, a further 0.65 per cent was acquired for US\$7 million. As a result, our interest in Iroquois increased to 50 per cent.
2017	In June 2017, we closed the sale of a 49.34 per cent of our 50 per cent interest in Iroquois, along with an option to sell the remaining 0.66 per cent at a later date, to TCLP. At the same time, we closed the sale of our remaining 11.81 per cent interest in PNGTS to TCLP. Refer to the <i>Portland Natural Gas Transmission System</i> section above.

#### Gas Transmission Northwest LLC (GTN)

2015	In April 2015, we closed the sale of our remaining 30 per cent interest in GTN to TCLP for an aggregate purchase price of US\$457 million. Proceeds were comprised of US\$264 million in cash, the assumption of US\$98 million of debt, being proportional GTN debt and US\$95 million of new Class B units of TCLP.
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#### TC Offshore LLC (TC Offshore)

2015	We entered into an agreement to sell TC Offshore to a third party. As a result, at December 31, 2015, the related assets and liabilities were classified as held for sale and were recorded at their fair values less costs to sell. This resulted in a pre-tax loss provisions of \$125 million recorded in 2015.
2016	We completed the sale of TC Offshore in March 2016.

#### LNG PIPELINE PROJECTS

##### Alaska LNG Project

2015	In November 2015, we sold our interest in the Alaska LNG project to the State of Alaska. The proceeds of US\$65 million from this sale provide a full recovery of costs incurred to advance the project since January 1, 2014 including a carrying charge. With this sale, our involvement in developing a pipeline system for commercializing Alaska North Slope natural gas ceased.
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## Developments in the Mexico Natural Gas Pipelines segment

Date	Description of development
<b>MEXICO NATURAL GAS PIPELINES</b>	
<b>Topolobampo</b>	
2016	In November 2012, we were awarded the contract to build, own and operate the Topolobampo project. Construction on the project is supported by a 25-year Transportation Service Agreement (TSA) for 717 TJ/d (670 MMcf/d) with the Comisión Federal de Electricidad (Mexico) (CFE). The Topolobampo project is a 560 km (348 mile), 30-inch pipeline that will receive gas from the upstream pipelines near El Encino, in the state of Chihuahua, and deliver natural gas from these interconnecting pipelines to delivery points along the pipeline route including our Mazatlán pipeline at El Oro, in the state of Sinaloa.
2017	The Topolobampo project is substantially complete, excluding a 20 km (12 mile) section due to delays experienced by the Secretary of Energy, the government department which conducts indigenous consultations in Mexico. The issue has been resolved and construction on this final section is expected to be completed in second quarter 2018. Under the terms of the TSA, the delays were recognized as a force majeure event with provisions allowing for the collection of revenue as per the original TSA service commencement date of July 2016. The pipeline cost estimate is approximately US\$1.2 billion, an increase of US\$0.2 billion from the original estimate, due to the delays.
<b>Mazatlán</b>	
2015	The Mazatlán project is a 430 km (267 mile), 24-inch pipeline running from El Oro to Mazatlán, in the state of Sinaloa, with an estimated cost of US\$0.4 billion. This pipeline is supported by a 25-year natural gas TSA for 214 TJ/d (200 MMcf/d) with the CFE.
2016	Physical construction was completed in 2016 and was awaiting natural gas supply from upstream interconnecting pipelines. We met our obligations and have been collecting revenue as per provisions in the contract and per the original TSA service commencement date of December 2016.
2017	The Mazatlán project was commissioned and brought into full service in July 2017.
<b>Tula</b>	
2015	In November 2015, we were awarded the contract to build, own and operate the US\$0.7 billion, 36-inch, 300 km (186 mile) pipeline with a 16-inch, 24 km (15 mile) lateral, supported by a 25-year natural gas TSA for 949 TJ/d (886 MMcf/d) with the CFE. The pipeline will transport natural gas from Tuxpan, Veracruz to markets near Tula, Querétaro extending through the states of Puebla and Hidalgo.
2017	Construction of the Tula pipeline was substantially completed in 2017, with the exception of approximately 90 km (56 miles) of the pipeline. Project completion has been revised to late 2019 due to delays experienced by the Secretary of Energy, the governmental department which conducts indigenous consultations in Mexico. The delay has been recognized by the CFE as a force majeure event and we are finalizing amending agreements to formalize the schedule and payment impacts. As a result of the delay and increased cost of land and permitting, estimated project costs have increased by US\$0.1 billion from the original estimate. Full completion of the project has been revised to the end of 2019.
<b>Villa de Reyes</b>	
2016	In April 2016, we were awarded the contract to build, own and operate the Villa de Reyes pipeline in Mexico. Construction of the pipeline is supported by a 25-year natural gas TSA for 949 TJ/d (886 MMcf/d) with the CFE. We expect to invest approximately US\$0.6 billion to construct 36- and 24-inch pipelines totaling 420 km (261 miles). The bi-directional pipeline will transport natural gas between Tula, in the state of Hidalgo, and Villa de Reyes, in the state of San Luis Potosí. The project will interconnect with our Tamazunchale and Tula pipelines as well as with other transporters in the region.
2017	Construction of the project has commenced, however, delays due to archeological investigations by state authorities have caused the in-service date to be revised to late 2018. The delay has been recognized as a force majeure event by the CFE and we are finalizing amending agreements to formalize the schedule and payment impacts. As a result of the delay and increased cost of land and permitting, estimated project costs have increased by US\$0.2 billion from the original estimate.
<b>Sur de Texas</b>	
2016	The US\$2.1 billion Sur de Texas project is a joint venture with IEnova in which we hold a 60 per cent interest representing an investment of approximately US\$1.3 billion. Construction of the pipeline is supported by a 25-year natural gas TSA for 2.8 PJ/d (2.6 bcf/d) with the CFE. The 42-inch, approximately 800 km (497 mile) pipeline will start offshore in the Gulf of Mexico, at the border point near Brownsville, Texas, and end in Tuxpan in the state of Veracruz. The project will deliver natural gas to our Tamazunchale and Tula pipelines and to other transporters in the region.
2017	Pipeline construction is progressing toward an anticipated in-service date of late 2018, with approximately 60 per cent of the off-shore construction completed as at Year End.

Further information about developments in the Natural Gas Pipelines business, including changes that we expect will occur in the current financial year, can be found in the MD&A in the *Natural Gas Pipelines business* section; *Canadian Natural Gas Pipelines – Understanding our Canadian Natural Gas Pipelines segment, Significant events, Financial results* and *Outlook* sections; *U.S. Natural Gas Pipelines – Understanding our U.S. Natural Gas Pipelines segment, Significant events, Financial results* and *Outlook* sections; and *Mexico Natural Gas Pipelines – Understanding our Mexico Natural Gas Pipelines segment, Significant events, Financial results* and *Outlook* sections, which sections of the MD&A are incorporated by reference herein.

## LIQUIDS PIPELINES

### Development in the Liquids Pipelines Segment

Date	Description of development
<b>Keystone Pipeline System</b>	
2015	In 2015, we entered into an agreement with CITGO Petroleum (CITGO) to construct a US\$65 million pipeline connection between the Keystone Pipeline and CITGO's Sour Lake, Texas terminal, which supplies their 425,000 Bbl/d Lake Charles, Louisiana refinery. We secured additional long-term contracts bringing our total contract position up to 545,000 Bbl/d.
2016	In January 2016, we entered into an agreement with Magellan Midstream Partners L.P. (Magellan) to connect our Houston Terminal to Magellan's Houston and Texas City, Texas delivery system. We will own 50 per cent of this US\$50 million pipeline project which will enhance connections for our Keystone Pipeline to the Houston market. On April 2, 2016, we shut down the Keystone Pipeline after a leak was detected along the pipeline right-of-way in Hutchinson County, South Dakota. We reported the total volume of the release of 400 barrels to the National Response Centre (NRC) and the Pipeline and Hazardous Materials Safety and Administration (PHMSA). Temporary repairs were completed and the Keystone Pipeline was restarted by mid-April 2016. Shortly thereafter in early May 2016, permanent pipeline repairs were completed and restoration work was completed by early July 2016. Corrective measures required by PHMSA were completed in September 2016. This shutdown did not significantly impact our 2016 earnings. The Houston Lateral pipeline and terminal, an extension from the Keystone Pipeline to Houston, Texas, went into service in August 2016. The terminal has an initial storage capacity for 700,000 barrels of crude oil. The HoustonLink pipeline which connects the Houston Terminal to Magellan's Houston and Texas City, Texas delivery system was completed in December 2016. The CITGO Sour Lake pipeline connection between the Keystone Pipeline and CITGO's Sour Lake, Texas terminal was placed into service in December 2016.
2017	In fourth quarter 2017, we concluded open seasons for the Keystone pipeline and Marketlink and secured incremental long-term contractual support. On November 16, 2017, the Keystone pipeline was temporarily shut down after a leak was detected in Marshall County, South Dakota. The estimated volume of the release was 5,000 barrels as reported to the NRC and the PHMSA. On November 29, 2017, the pipeline was repaired and returned to service at a reduced pressure in the affected section of the pipeline. Further investigative activities and corrective measures required by PHMSA are planned for 2018. This shutdown did not have a significant impact on our 2017 earnings.
<b>Keystone XL</b>	
2015	In January 2015, the Nebraska State Supreme Court vacated a lower court's ruling, which had given the state Public Service Commission (PSC) rather than the governor, the authority to approve an alternative route through Nebraska for Keystone XL, as unconstitutional. As a result, the Governor's January 2013 approval of the alternate route through Nebraska for Keystone XL remained valid. Landowners filed lawsuits in two Nebraska counties seeking to enjoin Keystone XL from condemning easements on state constitutional grounds. The decision on the Keystone XL Presidential permit application was delayed throughout 2015 by the U. S. Department of State (DOS) and was ultimately denied in November 2015. At December 31, 2015, as a result of the denial of the Presidential permit, we evaluated our investment in Keystone XL and related projects, including Keystone Hardisty Terminal, for impairment. As a result of our analysis, we determined that the carrying amount of these assets was no longer recoverable, and recognized a total non-cash impairment charge of \$3.7 billion (\$2.9 billion after-tax). The impairment charge was based on the excess of the carrying value of \$4.3 billion over the fair value of \$621 million, which includes \$93 million fair value for Keystone Hardisty Terminal. The calculation of this impairment is discussed further in the Other information – Critical accounting estimates section of the MD&A, which section is incorporated by reference herein. In November 2015, we withdrew our application to the PSC for approval of the route for Keystone XL in the state. The application was initially filed in October 2015. The withdrawal was made without prejudice to potentially refile if we elect to pursue the project.
2016	On January 5, 2016, the South Dakota Public Utilities Commission (PUC) accepted Keystone XL's certification that it continued to comply with the conditions in its existing 2010 permit authority in the state. On January 6, 2016, we filed a Notice of Intent to initiate a claim under Chapter 11 of North American Free Trade Agreement (NAFTA) in response to the U.S. Administration's decision to deny a Presidential permit for the Keystone XL Pipeline on the basis that the denial was arbitrary and unjustified. Through the NAFTA claim, we were seeking to recover more than US\$15 billion in costs and damages that we estimated to have suffered as a result of the U.S. Administration's breach of its NAFTA obligations. In June 2016, we filed a Request for Arbitration in a dispute against the U.S. Government pursuant to the Convention on Settlement of Investment Disputes between States and Nationals of Other States, the Rules of Procedure for the Institution of Conciliation and Arbitration Proceedings and Chapter 11 of NAFTA. On January 5, 2016, we also filed a lawsuit in the U.S. Federal Court in Houston, Texas, asserting that the U.S. President's decision to deny construction of Keystone XL exceeded his power under the U.S. Constitution. The federal court lawsuit did not seek damages, but rather a declaration that the permit denial was without legal merit and that no further Presidential action was required before construction of the pipeline could proceed.

Date	Description of development
2017	<p>On January 24, 2017, the U.S. President signed a Presidential Memorandum inviting TransCanada to refile an application for the U.S. Presidential Permit. On January 26, 2017, we filed a Presidential Permit application with the DOS for the project. In February 2017, we filed an application with the PSC to seek approval for the Keystone XL pipeline route through the state. In March 2017, the DOS issued a U.S. Presidential Permit authorizing construction of the U.S./Canada border crossing facilities of the Keystone XL project. We discontinued our claim under Chapter 11 of NAFTA and withdrew the U.S. Constitutional challenge. Later in March 2017, two lawsuits were filed in Montana District Court challenging the validity of the Presidential Permit. Along with the U.S. Government, we filed motions for dismissal of these lawsuits which were subsequently denied on November 22, 2017. The cases will now proceed to the consideration of summary judgment motions. In July 2017, we launched an open season to solicit additional binding commitments from interested parties for transportation of crude oil on the Keystone pipeline and for the Keystone XL project from Hardisty, Alberta to Cushing, Oklahoma and the U.S. Gulf Coast. The successful open season concluded on October 26, 2017. On November 20, 2017, we received PSC approval for the alternative mainline route. On November 24, 2017, we filed a motion with the PSC to reconsider its ruling and permit us to file an amended application that would support their decision and would address certain issues related to their selection of the alternative route, which was denied on December 19, 2017. On December 27, 2017, opponents of the Keystone XL project and intervenors in the Keystone XL Nebraska regulatory proceeding filed an appeal of the PSC decision seeking to have that decision overturned. TransCanada supports the decision of the PSC and will actively participate in the appeal process to defend that decision. In January 2018, we secured sufficient commercial support to commence construction preparation for the Keystone XL project. Subject to certain conditions, we expect to commence primary construction in 2019, and once commenced, construction is anticipated to take approximately two years to complete.</p>

### Energy East

2015	<p>In April 2015, we announced that the proposed marine terminal and associated tank terminal in Cacouna, Québec would not be built as a result of the recommended reclassification of the beluga whale, indigenous to the site, as an endangered species. In November 2015, following consultation with stakeholders and shippers, we announced the intention to amend the Energy East pipeline application to remove a port in Québec and proceed with a single marine terminal in Saint John, New Brunswick. In December 2015, we filed an amendment to the existing project application with the NEB that adjusted the proposed route, scope and capital cost of the project reflecting refinement and scope change including the removal of the port in Québec.</p>
2016	<p>In May 2016, we filed a consolidated application with the NEB for the Energy East pipeline. In June 2016, Energy East achieved a major milestone with the NEB's announcement determining the Energy East pipeline application was sufficiently complete to initiate the formal regulatory review process. However, in August 2016, panel sessions were canceled as three NEB panelists recused themselves from continuing to sit on the panel to review the project due to allegations of reasonable apprehension of bias. The Chair of the NEB and the Vice-Chair, who is also a panel member, recused themselves of any further duties related to the project. As a result, all hearings for the project were adjourned until further notice.</p>
2017	<p>On January 9, 2017, the NEB appointed three new permanent panel members to undertake the review of the Energy East and Eastern Mainline projects. On January 27, 2017, the new NEB panel members voided all decisions made by the previous hearing panel members and all decisions were removed from the official hearing record. We were not required to refile the application and parties were not required to reapply for intervenor status. On September 7, 2017, we requested the NEB suspend the review of the Energy East and Eastern Mainline project applications for 30 days to provide time for us to conduct a careful review of the NEB's changes, which were announced on August 23, 2017, regarding the list of issues and environmental assessment factors related to the projects and how these changes impact the projects' costs, schedules and viability. On October 5, 2017, after careful review of the changed circumstances, we informed the NEB that we would not be proceeding with the Energy East and Eastern Mainline project applications. We also notified Québec's Ministère du Développement durable, de l'Environnement et la Lutte contre les changements climatiques (MDDELCC) that we were withdrawing the Energy East project from the environmental review process. As the Energy East pipeline was also to provide transportation services for the Upland pipeline, the DOS was notified in October 2017, that we would no longer be pursuing the U.S. Presidential Permit application for that project. We reviewed the \$1.3 billion carrying value of the projects, including allowance of funds used during construction (AFUDC) capitalized since inception, and recorded a \$954 million after-tax non-cash charge in our fourth quarter 2017 results. We ceased capitalizing AFUDC on the projects effective August 23, 2017, the date of the NEB's announced scope changes. With Energy East's inability to reach a regulatory decision, no recoveries of costs from third parties are forthcoming.</p>

Date	Description of development
<b>Grand Rapids</b>	
2015	In August 2015, we announced a joint venture between Grand Rapids and Keyera Corp. (Keyera) for provision of diluent transportation service on the 20-inch pipeline between Edmonton and Fort Saskatchewan, Alberta. The joint venture was incorporated into Grand Rapids to provide enhanced diluent supply alternatives to our shippers.
2016	Construction continued on the Grand Rapids pipeline. We entered into a partnership with Brion Energy Corporation (Brion) to develop Grand Rapids with each party owning 50 per cent of the pipeline project. Our partner also entered into a long-term transportation service contract in support of the project. Construction progressed on the 20-inch diluent joint venture pipeline between Edmonton and Fort Saskatchewan, Alberta. The joint venture between Grand Rapids and Keyera was incorporated into Grand Rapids to provide enhanced diluent supply alternatives to our shippers.
2017	In late August 2017, the Grand Rapids pipeline, jointly owned by TransCanada and PetroChina Canada Ltd. (formerly Brion), was placed in service. The 460 km (287 mile) crude oil transportation system connects producing areas northwest of Fort McMurray, Alberta to terminals in the Edmonton/ Heartland region.
<b>Northern Courier</b>	
2016	Construction continued on the Northern Courier pipeline to transport bitumen and diluent between the Fort Hills mine site and Suncor Energy's terminal located north of Fort McMurray, Alberta. The project is fully underpinned by long-term contracts with the Fort Hills partnership.
2017	In November 2017, the Northern Courier pipeline, a 90 km (56 mile) pipeline system, achieved commercial in-service.
<b>White Spruce</b>	
2016	In December 2016, we finalized a long-term transportation agreement to develop and construct the 20-inch White Spruce pipeline, which would transport crude oil from Canadian Natural Resources Limited's Horizon facility in northeast Alberta, to the Grand Rapids pipeline system. The total capital cost for the project amounts to approximately \$200 million.
2018	In first quarter 2018, we anticipate receiving a decision from the AER on the regulatory permit to construct the \$200 million White Spruce pipeline. Due to the delay in the regulatory process, we expect the White Spruce pipeline to be in-service in
<b>Upland Pipeline</b>	
2015	In April 2015, we filed an application to obtain a U.S. Presidential permit for the Upland pipeline, which would provide crude oil transportation from and between multiple points in North Dakota and interconnect with the Energy East pipeline system at Moosomin, Saskatchewan. The commercial contracts that we executed for Upland pipeline were conditioned on the Energy East pipeline project proceeding.
2016	We reviewed the Canadian federal government's interim measures for pipeline reviews to assess their impact to Upland Pipeline.
2017	On October 5, 2017, after careful review of the changed circumstances, we informed the NEB that we would not be proceeding with the Energy East and Eastern Mainline project applications. We notified MDDELCC that we were withdrawing the Energy East project from the environmental review process. As the Energy East pipeline was also to provide transportation services for the Upland pipeline, the DOS was notified on October 5, 2017, that we would no longer be pursuing the U.S. Presidential Permit application for that project. Refer to the <i>Energy East</i> section above.
<b>Liquids Marketing</b>	
2015	We established a liquids marketing business to expand into other areas of the liquids business value chain. Our liquids marketing business provides customers with a variety of crude oil marketing services including transportation, storage and crude oil supply, primarily transacted through purchase and sale of physical crude oil.

Further information about developments in the Liquids Pipelines business, including changes that we can expect will occur in the current financial year, can be found in the MD&A in the *Liquids Pipelines – Understanding our Liquids Pipelines business*, *Significant events*, *Financial results* and *Outlook* sections, which sections of the MD&A are incorporated by reference herein.

## ENERGY

### Development in the Energy Segment

Date	Description of development
<b>CANADIAN POWER</b>	
<b>Alberta PPAs</b>	
2015	In June 2015, the Alberta government announced a renewal and change to the Specified Gas Emitters Regulation (SGER) in Alberta. Since 2007, under the SGER, established industrial facilities with greenhouse gas (GHG) emissions above a certain threshold are required to reduce their emissions by 12 per cent below an average intensity baseline, and a carbon levy of \$15 per tonne is placed on emissions above this target. The changes to the SGER included an increase in the emissions reductions target to 15 per cent in 2016 and 20 per cent in 2017, along with an increase in the carbon levy to \$20 per tonne in 2016 and \$30 per tonne in 2017. Starting in 2018, coal-fired generators will pay \$30 per tonne of CO <sub>2</sub> on emissions above what Alberta's cleanest natural gas-fired plant would emit to produce an equivalent amount of electricity.
2016	On March 7, 2016, we issued notice to the Balancing Pool to terminate our Alberta PPAs. On July 22, 2016, we, along with the ASTC Power Partnership (ASTC), issued a notice referring the matter to be resolved by binding arbitration pursuant to the dispute resolution provisions of the PPAs. On July 25, 2016, the Government of Alberta brought an application in the Court of Queen's Bench to prevent the Balancing Pool from allowing termination of a PPA held by another party which contains identically worded termination provisions to our PPAs. The outcome of this court application could have affected resolution of the arbitration of the Sheerness, Sundance A and Sundance B PPAs. In December 2016, management engaged in settlement negotiations with the Government of Alberta and finalized terms of the settlement of all legal disputes related to the PPA terminations. The Government of Alberta and the Balancing Pool agreed to our termination of the PPAs resulting in the transfer of all our obligations under such PPAs to the Balancing Pool. Upon final settlement of the PPA terminations, we transferred to the Balancing Pool a package of environmental credits held to offset the PPA emissions costs and recorded a non-cash charge of \$92 million before-tax (\$68 million after-tax) related to the carrying value of our environmental credits. In first quarter 2016, as a result of our decision to terminate the PPAs, we recorded a non-cash impairment charge of \$240 million before-tax (\$176 million after-tax) comprised of \$211 million before-tax (\$155 million after-tax) related to the carrying value of our Sundance A and Sheerness PPAs and \$29 million before-tax (\$21 million after-tax) on our equity investment in the ASTC which previously held the Sundance B PPA.
<b>Ontario Cap and Trade</b>	
2016	Legislation enabling Ontario's cap and trade program came into force effective July 1, 2016. This regulation set a limit on annual province-wide GHG emissions beginning in January 2017 and introduced a market to administer the purchase and trading of emissions allowances. The regulation places the compliance obligation for emissions from our natural gas-fired power facilities on local gas distributors, with the distributors then flowing the associated costs to the facilities themselves. The IESO has proposed contract amendments for contract holders to address costs and other issues associated with this change in law. We do not expect a significant overall impact to our Energy business as a result of this new regulation.
<b>Napanee</b>	
2015	In January 2015, we began construction activities on our 900 MW natural gas-fired power plant at Ontario Power Corporation's (OPG) Lennox site in the town of Greater Napanee.
2017	Construction continued on the power plant. We expect to invest approximately \$1.3 billion in the Napanee facility during construction and commercial operations are expected to begin in fourth quarter 2018. Costs have increased due to delays in the construction schedule. Once in service, production from the facility is fully contracted with IESO for a 20-year period.
<b>Bécancour</b>	
2015	We executed an agreement with Hydro-Québec Distribution (HQ) allowing HQ to dispatch up to 570 MW of peak winter capacity from our Bécancour facility for a term of 20 years commencing in December 2016.
2016	In November 2016, HQ released a new ten-year supply plan indicating additional peak winter capacity from Bécancour is not required at this time. Prior to this development, the regulator in Québec, Régie de l'énergie, reversed its initial decision to approve this agreement. Management does not expect further developments at Bécancour until November 2019 when the next ten-year supply plan is filed.
<b>Bruce Power</b>	
2015	Bruce Power entered into an agreement with the IESO to extend the operating life of the facility to the end of 2064. This new agreement represents an extension and material amendment to the earlier agreement that led to the refurbishment of Units 1 and 2 at the site. The amended agreement, effective January 1, 2016, allows Bruce Power to immediately invest in life extension activities for Units 3 through 8. Our estimated share of investment in the Asset Management program to be completed over the life of the agreement is approximately \$2.5 billion (2014 dollars). Our estimated share of investment in the Major Component Replacement (MCR) work that is expected to begin in 2020 is approximately \$4 billion (2014 dollars). Under certain conditions, Bruce Power and the IESO can elect to not proceed with the remaining MCR investments should the cost exceed certain thresholds or prove to not provide sufficient economic benefits. The agreement was structured to account for changing cost inputs over time, including ongoing operating costs and additional capital investments.

Date	Description of development
2015 (continued)	Beginning in January 2016, Bruce Power received a uniform price of \$65.73 per MWh for all units, which included certain flow-through items such as fuel and lease expense recovery. Over time, the uniform price is subject to adjustments for the return of and on capital invested at Bruce Power under the Asset Management and MCR capital programs, along with various other pricing adjustments that would allow for a better matching of revenues and costs over the long-term. In connection with this opportunity, we exercised our option to acquire an additional 14.89 per cent ownership interest in Bruce B for \$236 million from the Ontario Municipal Employees Retirement System. Subsequent to this acquisition, Bruce A and Bruce B were merged to form a single partnership structure, of which we hold a 48.4 per cent interest. In 2015, we recognized a \$36 million charge, representing our proportionate share on the retirement of Bruce Power debt in conjunction with this merger.
2016	Bruce Power issued bonds and borrowed under its bank credit facility as part of a financing program to fund its capital program and make distributions to its partners. Distributions received by us from Bruce Power in second quarter 2016 included \$725 million from this financing program.
2017	In February 2017, Bruce Power issued senior notes in capital markets under its financing program and distributed \$362 million to TransCanada.

#### Ontario Solar

2017	On October 24, 2017, we entered into an agreement to sell our Ontario solar assets comprised of eight facilities with a total generating capacity of 76 MW, to Axiom Infinity Solar LP. On December 19, 2017, we closed the sale for \$541 million resulting in a gain of \$127 million (\$136 million after-tax).
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#### U.S. POWER

##### Monetization of U.S. Northeast Power Business

2016	In November 2016, we announced the sale of Ravenswood, Ironwood, Ocean State Power and Kibby Wind to Helix Generation, LLC, an affiliate of LS Power Equity Advisors and the sale of TC Hydro to Great River Hydro, LLC, an affiliate of ArcLight Capital Partners, LLC.
2017	In April 2017, we closed the sale of TC Hydro to Great River Hydro, LLC for US\$1.07 billion, before post-closing adjustments and recorded a gain of \$715 million (\$440 million after-tax). In June 2017, we closed the sale of Ravenswood, Ironwood, Ocean State Power and Kibby Wind to Helix Generation, LLC for US\$2.029 billion, before post-closing adjustments. In addition to the pre-tax losses of approximately \$829 million (\$863 million after-tax) that we recorded in 2016 upon entering into agreements to sell these assets, an additional pre-tax loss on sale of approximately \$211 million (\$167 million after-tax) was recorded in 2017, primarily related to an adjustment to the purchase price and repair costs for an unplanned outage at Ravenswood prior to close, partially offset by insurance recoveries for a portion of the repair costs. Proceeds from the sale transactions were used to fully retire the remaining bridge facilities that partially funded the acquisition of Columbia. On December 22, 2017, we entered into an agreement to sell our U.S. power retail contracts as part of the continued wind down of our U.S. power marketing operations. The transaction is expected to close in first quarter 2018, subject to regulatory and other approvals.

##### Ironwood

2016	In February 2016, we acquired the 778 MW Ironwood natural gas fired, combined cycle power plant located in Lebanon, Pennsylvania for US\$653 million in cash after post-acquisition adjustments. The Ironwood power plant delivers energy into the PJM Interconnection area power market. Refer to the <i>Monetization of U.S. Northeast Power Business</i> section above.
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Further information about developments in the Energy business, including changes that we expect will occur in the current financial year, can be found in the MD&A in the *About our business – Our strategy, Energy – Understanding our Energy business, Significant events, Financial results* and *Outlook* sections, which sections of the MD&A are incorporated by reference herein.

## Business of TCPL

We are a leading North American energy infrastructure company focused on Natural Gas Pipelines, Liquids Pipelines and Energy. Refer to the **About our business – Three core businesses – 2017 Financial highlights - Consolidated results** section of the MD&A for our revenues from operations by segment, for the years ended December 31, 2017 and 2016, which section of the MD&A is incorporated by reference herein.

The following is a description of each of TransCanada's three core businesses.

### NATURAL GAS PIPELINES

Our natural gas pipeline network transports natural gas from supply basins to local distribution companies, power generation and individual facilities, interconnecting pipelines and other businesses across Canada, the U.S. and Mexico. Our Natural Gas Pipelines business is split into three operating segments representing its geographic diversity: Canadian Natural Gas Pipelines, U.S. Natural Gas Pipelines and Mexico Natural Gas Pipelines.

A description of the natural gas pipelines and regulated natural gas storage assets we operate in addition to further information about our pipeline holdings, developments and opportunities, significant regulatory developments and competitive position which relate to our Natural Gas Pipelines business can be found in the **Natural Gas Pipelines Business, Canadian Natural Gas Pipelines, U.S. Natural Gas Pipelines** and **Mexico Natural Gas Pipelines** sections of the MD&A, which sections of the MD&A are incorporated by reference herein.

### LIQUIDS PIPELINES

Our existing liquids pipelines infrastructure connects Alberta crude oil supplies to U.S. refining markets in Illinois and Oklahoma, as well as connecting U.S. crude oil supplies from the Cushing, Oklahoma hub to refining and export markets in the U.S. Gulf Coast. We also provide intra-Alberta liquids transportation. Our proposed future pipeline infrastructure would expand capacity for Canadian and U.S. crude oil to access key markets. We will also pursue enhancing our transportation service offerings to other areas of the liquids pipelines business value chain.

A description of pipelines and properties we operate, in addition to further information about our pipeline holdings, developments and opportunities, significant regulatory developments and competitive position which relate to our Liquids Pipelines business can be found in the MD&A in the **Liquids Pipelines** section, which section of the MD&A is incorporated by reference herein.

## REGULATION OF NATURAL GAS PIPELINES AND LIQUIDS PIPELINES

### Canada

#### Natural Gas Pipelines

The NGTL System, Canadian Mainline, and Foothills System (collectively, the Systems) are regulated by the NEB under the **National Energy Board Act (Canada)**. The NEB regulates the construction and operation of facilities, and the terms and conditions of services, including rates, for these Canadian regulated natural gas transmission systems.

The NEB approves tolls and services that provide TransCanada the opportunity to recover costs of transporting natural gas, including the return of capital (depreciation) and return on the average investment base for each of the Systems. Generally, Canadian natural gas pipelines request the NEB to approve the pipeline's cost of service and tolls once a year, and recover or refund the variance between actual and expected revenues and costs in future years. The Canadian Mainline, however, operates under a fixed toll arrangement for its longer term firm transportation service and has the flexibility to price its shorter term and discretionary services in order to maximize its revenue. A Supplemental Agreement for the 2018-2020 period for the Canadian Mainline was filed for approval with the NEB in December 2017. Further information relating to the Canadian Mainline LDC Settlement and Supplemental Agreement can be found in the **General developments of the business – Natural Gas Pipelines – Developments in the Canadian Natural Gas Pipelines Segment – Canadian Mainline Settlement** section above. In addition, the NGTL System concluded its two-year settlement arrangement in 2017 and is currently working with interested parties for a new arrangement for 2018 and longer.

New facilities on or associated with the Systems are approved by the NEB before construction begins and the NEB regulates the operations of each of the Systems. Net earnings of the Systems may be affected by changes in investment base, the allowed ROE and any incentive earnings.

## West Coast LNG – Natural Gas Pipeline Project

The Coastal GasLink natural gas pipeline project is being proposed and developed primarily under the regulatory regime administered by the OGC and the BCEAO. The OGC is responsible for overseeing oil and gas operations in B.C., including exploration, development, pipeline transportation and reclamation. The BCEAO is an agency that manages the review of proposed major projects in B.C., as required by the B.C. *Environmental Assessment Act*.

### Liquids Pipelines

The NEB regulates the terms and conditions of service, including rates, construction and operation of the Canadian portion of the Keystone Pipeline System. The rates for transportation service on the Keystone Pipeline System are calculated in accordance with a methodology agreed to in transportation service agreements between Keystone and its shippers, and approved by the NEB. The Northern Courier and Grand Rapids pipelines are regulated by the AER. The AER regulates the construction and operation of pipelines and associated facilities in Alberta.

### Liquids Pipelines Projects

The White Spruce pipeline is under development and is primarily under the regulatory regime administered by the AER. The AER administers approvals required to construct and operate the pipelines and associated facilities in accordance with *Directive 56*, approvals to obtain land access under the *Public Land Act* and environmental approvals under the *Environmental and Protection Enhancement Act*.

## United States

### Natural Gas Pipelines

TransCanada is subject to regulation by various federal, state and local governmental agencies, including those specifically described below.

The Company's wholly owned and partially owned U.S. pipelines are considered *natural gas companies* operating under the provisions of the *Natural Gas Act of 1938* and the *Natural Gas Policy Act of 1978*, and are subject to the jurisdiction of the FERC. *The Natural Gas Act of 1938* grants the FERC authority over the construction, acquisition and operation of pipelines and related facilities utilized in the transportation and sale of natural gas in interstate commerce, including the extension, enlargement or abandonment of service using such facilities. The FERC also has authority to regulate rates and charges for transportation and storage of natural gas in interstate commerce.

TransCanada holds certificates of public convenience and necessity issued by the FERC, authorizing us to operate pipelines, facilities and properties now in operation and to transport and store natural gas in interstate commerce. Our regulated natural gas storage business also has facilities that are regulated by the FERC. The Company is also subject to the *Natural Gas Pipeline Safety Act of 1968* and the *Pipeline Safety Improvement Act of 2002*, which regulate the safety of natural gas pipelines.

### Liquids Pipelines

The FERC regulates the terms and conditions of service, including transportation rates, of interstate liquids pipelines, including the U.S. portion of the Keystone Pipeline System and Marketlink. The siting and construction of pipeline facilities are regulated by the specific state regulator in which the pipeline facilities are located. Pipeline safety is regulated by PHMSA. Liquids pipelines that cross the international border between Canada and the U.S., such as the Keystone and Keystone XL pipelines, require a Presidential Permit from the DOS.

## Mexico

### Natural Gas Pipelines

TransCanada's pipelines in Mexico are regulated by the Comisión Reguladora de Energía (CRE) who approve construction of new pipeline facilities and ongoing operations of the infrastructure. Our Mexican pipelines have approved tariffs, services and related rates; however, the contracts underpinning the construction and operation of the facilities are long-term negotiated fixed rate contracts. These rates are only subject to change under specific circumstances such as certain types of force majeure events or changes in law.

## ENERGY

Our Energy business consists of power generation and unregulated natural gas storage assets.

The power business includes approximately 6,100 MW of operating generation capacity that we own, and approximately 900 MW of generation capacity under development. Our power generation assets are located in Alberta, Ontario, Québec, New Brunswick and Arizona, and are powered by natural gas, nuclear, and wind. A substantial majority of these assets are supported by long-term contracts.

We own and operate approximately 118 Bcf of unregulated natural gas storage capacity in Alberta and hold a contract with a third party for additional storage, in total accounting for approximately one-third of all storage capacity in the province.

Our U.S. Northeast power generation assets were sold in second quarter 2017, and on December 22, 2017, we entered into an agreement to sell our U.S. power retail contracts as part of the continued wind down of our U.S. power marketing operations. The transaction is expected to close in first quarter 2018, subject to regulatory and other approvals.

Further information about Energy assets we operate and Energy assets currently under construction, along with our Energy holdings and significant developments, and opportunities in relation to our Energy business, can be found in the MD&A in the *Energy* section, which section of the MD&A is incorporated by reference herein.

## General

### EMPLOYEES

At Year End, we had 6,779 employees, substantially all of whom were employed in Canada and the U.S., as set forth in the following table.

Calgary (includes U.S. employees working in Canada)	2,530
Western Canada (excluding Calgary)	547
Eastern Canada	319
Houston (includes Canadian employees working in the U.S.)	759
U.S. Midwest	708
U.S. Northeast	277
U.S. Southeast/ Gulf Coast (excluding Houston)	1,296
U.S. West Coast	75
Mexico	268
<b>Total</b>	<b>6,779</b>

### CORPORATE RESTRUCTURING AND BUSINESS TRANSFORMATION

In mid-2015, we commenced a business restructuring and transformation initiative. While there is no change to our corporate strategy, we undertook this initiative to reduce overall costs and maximize the effectiveness and efficiency of our existing operations. For more information about our corporate restructuring and business transformation, refer to the *Corporate – Corporate restructuring and business transformation* section of the MD&A, which section of the MD&A is incorporated by reference herein.

## HEALTH, SAFETY AND ENVIRONMENTAL PROTECTION AND SOCIAL POLICIES

The Health, Safety and Environment (HSE) committee of TCPL's board of directors (the Board) oversees operational risk, people and process safety, security of personnel and environmental risks, and monitors compliance with our HSE programs through regular reporting from management. We use an integrated management system that establishes a framework for managing these risks and which is used to capture, organize, document, monitor and improve our related policies, programs and procedures.

Our management system is modeled after international standards, conforms to external industry consensus standards and voluntary programs, and complies with applicable legislative requirements. It follows a continuous improvement cycle organized into four key areas:

- planning – risk and regulatory assessment, objective and target setting, defining roles and responsibilities
- implementing – development and implementation of programs, procedures and standards to manage operational risk
- reporting – incident reporting and investigation, and performance monitoring
- action – assurance activities and review of performance by management.

The HSE committee reviews HSE performance and operational risk management. It receives detailed reports on:

- overall HSE corporate governance
- operational performance and preventative maintenance metrics
- asset integrity programs
- emergency preparedness, incident response and evaluation
- people and process safety performance metrics
- our Environment Program
- developments in and compliance with applicable legislation and regulations, including those related to the environment.

The HSE committee also receives updates on any specific areas of operational and construction risk management review being conducted by management and the results and corrective action plans flowing from internal and third party audits. Information about the financial and operational effects of environmental protection requirements on the capital expenditures, profit or loss and competitive position of TCPL can be found in the MD&A in the ***Other information – Risks and Risk Management – Health, safety and environment*** section, which section of the MD&A is incorporated by reference herein. Generally, each year the committee or the committee Chair tours one of our existing assets or projects under development as part of its responsibility to monitor and review our HSE practices. Additionally, the Board and the committee have a joint site visit annually.

### Health and Safety

As one of TCPL's corporate values, safety is an integral part of the way our employees work. Each year we develop goals predicated on achieving year over year sustainable improvement in our safety performance, and meeting or exceeding industry benchmarks.

The safety of our employees, contractors and the public, as well as the integrity of our energy and pipeline infrastructure, is a top priority. All new assets are designed, constructed and commissioned with full consideration given to safety and integrity, and are brought in service only after all necessary requirements have been satisfied.

TCPL annually conducts emergency response exercises to practice effective coordination between the Company, local emergency responders, regulatory agencies and government officials in the event of an emergency. TCPL uses the Incident Command System which supports a unified approach to emergency response with these community members. TCPL also provides annual training to all field staff in the form of table top exercises, online and vendor lead training.

### Environmental risk, compliance and liabilities

We maintain an Environment Program to minimize potentially adverse environmental impacts, including risks related to climate change. This program identifies our requirements to proactively and systematically manage environmental hazards and risks throughout the lifecycle of our assets.

Our assets are subject to federal, state, provincial and local environmental statutes and regulations governing environmental protection, including, but not limited to, air and GHG emissions, water quality, species at risk, wastewater discharges and waste management. Operating our assets requires obtaining and complying with a wide variety of environmental registrations, licenses, permits and other approvals and requirements. Failure to comply could result in administrative, civil or criminal penalties, the imposition of remedial requirements and/or the issuance of orders respecting future operations.

Through the implementation of our Environment Program, we continually monitor our facilities to ensure compliance with all environmental requirements. We routinely monitor the proposed changes in environmental policy, legislation and regulation, and where the risks are uncertain or have the potential to affect our ability to effectively operate our business, we comment on proposals independently or through industry associations.

## Social Policies

TCPL has a number of policies, guiding principles and practices in place to help manage Indigenous and stakeholder relations. We have adopted a Code of Business Ethics (Code) which applies to all employees, officers and directors as well as contract workers of TCPL and its wholly-owned subsidiaries and operated entities in countries where we conduct business. All employees (including executive officers) and directors must certify their compliance with the Code.

Our approach to Indigenous and stakeholder engagement is based on building relationships, mutual respect and trust while recognizing the unique values, needs and interests of each community. Our Stakeholder Engagement Commitment Statement provides the structure to guide our teams' behavior and actions, so they understand their responsibility and extend respect, courtesy and the opportunity to respond to every stakeholder.

TCPL's Aboriginal Relations and Native American Relations Policies are guided by principles of trust, respect and responsibility. We work together with Indigenous groups to find mutually acceptable solutions and benefits. These Policies recognize the diversity and uniqueness of each Indigenous group, the importance of the land, and the imperative of building relationships based on mutual respect and trust.

TCPL also has an Avoiding Bribery and Corruption Program which includes an Avoiding Bribery and Corruption Policy, annual online training provided to all personnel, face to face training provided to personnel in higher risk areas of our business, a supplier and contractor due diligence review process, and auditing of certain types of transactions.

We strive for continuous improvement in how we navigate the interconnections and complexity of environmental, social and economic issues related to our business. These issues are of great importance to our stakeholders and Indigenous groups, and have an impact on our ability to build and operate energy infrastructure.

## Risk factors

A discussion of our risk factors can be found in the MD&A in the *Natural Gas Pipelines business – Natural Gas Pipelines – Business risks, Liquids Pipelines – Business risks, Energy – Business risks* and *Other information – Risks and risk management* sections, which sections of the MD&A are incorporated by reference herein.

## Dividends

All of TCPL's common shares are held by TransCanada and as a result, any dividends declared by TCPL on its common shares are paid to TransCanada. Our Board has not adopted a formal dividend policy. The Board reviews the financial performance of TCPL quarterly and makes a determination of the appropriate level of dividends to be declared in the following quarter. Currently, TransCanada's payment of dividends is primarily funded from dividends it receives as the sole common shareholder of TCPL. Provisions of various trust indentures and credit arrangements to which TCPL is a party restrict TCPL's ability to declare and pay dividends to TransCanada under certain circumstances and, if such restrictions apply, they may, in turn, have an impact on TransCanada's ability to declare and pay dividends. Pursuant to the terms of the unsecured, subordinate trust notes (Trust Notes) issued by TransCanada Trust (the Trust) (a financing trust subsidiary wholly owned by TCPL) and related agreements, in certain circumstances including where holders of the Trust Notes receive deferral preferred shares of TCPL in lieu of cash interest payments and where exchange preferred shares are issued to holders of the trust notes as a result of certain bankruptcy related events, TCPL would be prohibited from declaring or paying dividends on or redeeming their outstanding preferred shares (or, if none are outstanding, their respective common shares) until all such exchange or deferral preferred shares are redeemed by TCPL. Further information about such Trust Notes can be found in the *Financial condition – Junior subordinated notes issued* section of the MD&A. In the opinion of TCPL management, such provisions do not currently restrict or alter TCPL's ability to declare or pay dividends.

The dividends declared per share on our common and preferred shares during the past three completed financial years are set out in the MD&A under the heading *About our business – Quarterly dividend on our common shares* and *Corporate – Preferred share dividends*, which section of the MD&A is incorporated by reference herein.

## Description of capital structure

### SHARE CAPITAL

TCPL's authorized share capital consists of an unlimited number of common shares, of which 871,760,696 were issued and outstanding at Year End, and an unlimited number of first preferred shares and second preferred shares, issuable in series. The number of common shares issued and outstanding as at Year End are set out in the MD&A in the *Financial Condition – Share information* section, which section of the MD&A is incorporated by reference herein. The following is a description of the material characteristics of each of these classes of shares.

#### Common shares

As the holder of all of TCPL's common shares, TransCanada holds all the voting and dividend rights on those common shares.

#### Preferred shares

Subject to certain limitations, the Board may, from time to time, issue first preferred shares in one or more series and determine for any such series, its designation, number of shares and respective rights, privileges, restrictions and conditions. The first preferred shares as a class have, among others, the provisions described below.

The first preferred shares of each series rank on a parity with the first preferred shares of every other series, and are entitled to preference over the common shares and any other shares ranking junior to the first preferred shares with respect to the payment of dividends, the repayment of capital and the distribution of assets of TCPL in the event of a liquidation, dissolution or winding up of TCPL.

Except as provided by the CBCA or as referred to below, the holders of the first preferred shares will not have any voting rights nor will they be entitled to receive notice of or to attend shareholders' meetings unless and until TCPL fails to pay, in the aggregate, six quarterly dividends on the preferred shares.

The provisions attaching to the first preferred shares as a class may be modified, amended or varied only with the approval of the holders of the first preferred shares as a class. Any such approval to be given by the holders of the first preferred shares may be given by the affirmative vote of the holders of not less than  $66 \frac{2}{3}$  per cent of the first preferred shares represented and voted at a meeting or adjourned meeting of such holders.

#### Exchange preferred shares

In connection with the issuance by the Trust of consecutive series of Trust Notes, TCPL created corresponding consecutive series of first preferred shares, designated as Exchange Preferred Shares. The Board may issue Exchange Preferred Shares, consisting of such number of shares sufficient to satisfy the rights of former holders of Trust Notes to receive Exchange Preferred Shares following a bankruptcy or insolvency event of TCPL or TransCanada Corporation. The holders of Exchange Preferred Shares will be entitled to receive quarterly fixed rate cumulative preferential cash dividends, as and when declared by the Board, at an annualized rate equal to the rate of interest payable by the Trust on the Trust Notes at the time of issuance of the Exchange Preferred Shares. The Exchange Preferred Shares are not redeemable by TransCanada in whole or in part on or prior to the date that is ten years after the issuance corresponding series of Trust Notes (Redemption Date). The Exchange Preferred Shares are redeemable by TCPL in whole or in part at any time after each series' applicable Redemption Date, by the payment of an amount in cash for each share to be redeemed equal to \$1,000.00 plus all accrued and unpaid dividends thereon.

In the event of liquidation, dissolution or winding up of TransCanada, the holders of Exchange Preferred Shares shall be entitled to receive \$1,000.00 per share plus all accrued and unpaid dividends thereon in preference over the common shares or any other shares ranking junior to the Exchange Preferred Shares. Except as provided by the CBCA, the respective holders of the Exchange Preferred Shares are not entitled to receive notice of, attend at, or vote at any meeting of shareholders unless and until TCPL shall have failed to pay six quarterly dividends on such series of preferred shares, whether or not consecutive, in which case the holders of the Exchange Preferred Shares shall have the right to receive notice of and to attend each meeting of shareholders at which directors are to be elected and which take place more than 60 days after the date on which the failure first occurs, and to one vote with respect to resolutions to elect directors for each exchange preferred share, until all arrears of dividends have been paid.

So long as the Exchange Preferred Shares are outstanding, TCPL shall not declare dividends on or redeem any common shares or shares ranking junior to the Exchange Preferred Shares, unless all dividends payable on the Exchange Preferred Shares or any other shares ranking prior to or on parity with the Exchange Preferred Shares have been paid.

## Debt

The *Financial condition – Long-term debt issued* section of the MD&A includes a list of issuances by TCPL of U.S. dollar denominated senior unsecured notes and Canadian dollar denominated medium term unsecured note debentures with terms to maturity in excess of one year, during the 12 months ended December 31, 2017, which section of the MD&A is incorporated by reference herein. There are no provisions associated with this debt that entitle debt holders to voting rights. From time to time, TCPL issues commercial paper for terms not exceeding nine months.

## Credit ratings

The following table sets out the current credit ratings assigned to those outstanding classes of securities of TransCanada, TCPL, the Trust and our subsidiaries which have been rated by Moody's Investors Service, Inc. (Moody's), Standard & Poors (S&P), Fitch Ratings Inc. (Fitch) and DBRS Limited (DBRS):

	Moody's	S&P	Fitch	DBRS
TCPL - Senior unsecured debt				
Debentures	A3	A-	A-	A (low)
Medium-term notes	A3	A-	A-	A (low)
TCPL - Junior subordinated notes	Baa1	BBB	BBB	BBB
TransCanada Trust - Subordinated trust notes	Baa2	BBB	BBB	Not rated
TransCanada Corporation - Preferred shares	Not Rated	P-2	BBB	Pfd-2 (low)
Commercial paper (U.S.) (TCPL and TCPL guaranteed)	P-2	A-2	F2	Not rated
Commercial paper (Canadian) (TCPL and TCPL guaranteed)	P-2	Not Rated	F2	R-1 (low)
Trend/ rating outlook	Stable	Negative	Stable	Stable

Credit ratings are intended to provide investors with an independent measure of credit quality of an issue of securities. Credit ratings are not recommendations to purchase, hold or sell securities and do not address the market price or suitability of a specific security for a particular investor. There is no assurance that any rating will remain in effect for any given period of time or that any rating will not be revised or withdrawn entirely by a rating agency in the future if, in its judgment, circumstances so warrant.

Each of TransCanada, TCPL, the Trust and subsidiaries paid fees to each of Moody's, S&P, Fitch and DBRS for the credit ratings rendered in respect of their outstanding classes of securities noted above. In addition to annual monitoring fees for TransCanada and TCPL and their rated securities, additional payments were made to Moody's, S&P and DBRS in respect of other services provided in connection with the acquisition of Columbia.

The information concerning our credit ratings relates to our financing costs, liquidity and operations. The availability of our funding options may be affected by certain factors, including the global capital markets environment and outlook as well as our financial performance. Our access to capital markets for required capital at competitive rates is influenced by our credit rating and rating outlook, as determined by credit rating agencies such as Moody's, S&P, Fitch and DBRS, and if our ratings were downgraded, TransCanada's financing costs and future debt issuances could be unfavourably impacted. A description of the rating agencies' credit ratings listed in the table above is set out below.

### MOODY'S

Moody's has different rating scales for short- and long-term obligations. Numerical modifiers 1, 2 and 3 are appended to each rating classification from Aa through Caa. The modifier 1 indicates that the obligation ranks in the higher end of its generic rating category; the modifier 2 indicates a mid-range ranking; and a modifier 3 indicates a ranking in the lower end of that generic rating category. The A3 rating assigned to TCPL's senior unsecured debt is in the third highest of nine rating categories for long-term obligations. Obligations rated A are judged to be upper medium-grade and are subject to low credit risk. The P-2 rating assigned to TCPL's and TCPL guaranteed U.S. commercial paper programs is the second highest of four rating categories for short-term debt issuers. Issuers rated P-2 have a strong ability to repay short-term debt obligations. The Baa1 and Baa2 ratings assigned to TCPL's junior subordinated notes and to the Trust's subordinated trust notes, respectively, are in the fourth highest of nine rating categories for long-term obligations, with the junior subordinated notes ranking higher within the Baa rating category with a modifier of 1 as opposed to the modifier of 2 on the subordinated trust notes. Obligations rated Baa are judged to be medium-grade and are subject to moderate credit risk and, as such, may possess certain speculative characteristics.

## **S&P**

S&P has different rating scales for short- and long-term obligations. Ratings from AA through CCC may be modified by the addition of a plus (+) or minus (-) sign to show the relative standing within a particular rating category. The A- rating assigned to TCPL's senior unsecured debt is in the third highest of ten rating categories for long-term obligations. An A rating indicates the obligor's capacity to meet its financial commitment is strong; however, the obligation is somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than obligations in higher rated categories. TCPL's and TCPL guaranteed U.S. commercial paper programs are each rated A-2 which is the second highest of six rating categories for short-term debt issuers. Short-term debt issuers rated A-2 have satisfactory capacity to meet their financial commitments, however they are somewhat more susceptible to adverse effects of changes in circumstances and economic conditions than obligors in the higher rating categories. The BBB rating assigned to TCPL's junior subordinated notes and to the Trust's subordinated trust notes is in the fourth highest of ten rating categories for long-term debt obligations. The P-2 rating assigned to TransCanada's preferred shares is the second highest of eight rating categories for Canadian preferred shares. There is a direct correspondence between the specific ratings assigned on S&P's Canadian preferred share ratings scale and the global debt ratings scale. The BBB and P-2 ratings assigned to TCPL's junior subordinated notes, the Trust's subordinated trust notes and TransCanada's preferred shares exhibit adequate protection parameters; however, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity of the obligor to meet its financial commitment on the obligation.

## **FITCH**

Fitch has different rating scales for short- and long-term obligations. Ratings from AA through D may be modified by the addition of a plus (+) or minus (-) sign to show the relative standing within a particular rating category. The A- rating assigned to TCPL's senior unsecured debt is in the third highest of ten rating categories for long-term obligations. An A rating indicates that expectations of default risk are low and that the obligor's capacity to meet its financial commitment is considered strong; however, the obligation is more vulnerable to the adverse effects of changes in circumstances and economic conditions than obligations in higher rated categories. The F2 rating assigned to TCPL's and TCPL guaranteed U.S. commercial paper programs is the second highest of seven rating categories for short-term debt issuers. Issuers rated F2 have good intrinsic capacity for timely payments of short-term debt obligations. The BBB rating assigned to TCPL's junior subordinated notes and to the Trust's subordinated trust notes is in the fourth highest of ten rating categories for long-term debt obligations. The BBB ratings assigned to TransCanada's preferred shares, TCPL's junior subordinated notes and the Trust's subordinated trust notes indicate that expectations of default risk are currently low and that the capacity for payment of financial commitments is considered adequate; however, adverse economic conditions or adverse business conditions are more likely to impair the capacity of the obligor to meet its financial commitment on the obligation.

## **DBRS**

DBRS has different rating scales for short- and long-term debt and preferred shares. High or low grades are used to indicate the relative standing within all rating categories other than AAA and D and other than in respect of DBRS' ratings of commercial paper and short-term debt, which utilize high, middle and low subcategories for its R-1 and R-2 rating categories. In respect of long-term debt and preferred share ratings, the absence of either a high or low designation indicates the rating is in the middle of the category. The R-1 (low) rating assigned to TCPL's and TCPL guaranteed short-term debt is in the third highest of ten rating categories and indicates good credit quality. The capacity for payment of short-term financial obligations as they fall due is substantial. The overall strength is not as favourable as higher rating categories. Short-term debt rated R-1 (low) may be vulnerable to future events, but qualifying negative factors are considered manageable. The A (low) rating assigned to TCPL's senior unsecured debt is in the third highest of ten categories for long-term debt. Long-term debt rated A is good credit quality. The capacity for the payment of financial obligations is substantial, but of lesser credit quality than that of AA rated securities. Long-term debt rated A may be vulnerable to future events but qualifying negative factors are considered manageable. The BBB rating assigned to junior subordinated notes is in the fourth highest of the ten categories for long-term debt. Long-term debt rated BBB is of adequate credit quality. The capacity for the payment of financial obligations is considered acceptable, but long-term debt rated BBB may be vulnerable to future events. The Pfd-2 (low) rating assigned to TransCanada's preferred shares is in the second highest of six rating categories for preferred shares. Preferred shares rated Pfd-2 are of satisfactory credit quality. Protection of dividends and principal is still substantial; however, earnings, the balance sheet and coverage ratios are not as strong as Pfd-1 rated companies. In general, Pfd-2 ratings correspond with companies whose long-term debt is rated in the A category.

## Market for securities

TransCanada holds all of the common shares of TCPL and these are not listed on a public market. TCPL's Formosa Bonds are listed on the Taipei Exchange. Since the date of issuance no Formosa Bonds have been traded on the Taipei Exchange.

During 2017, 12,498,915 common shares of TCPL were issued to TransCanada as set out in the following table:

<b>Date</b>	<b>Number of TCPL common shares</b>	<b>Price per TCPL common share</b>	<b>Aggregate issuance price</b>
January 31, 2017	3,032,268	\$61.67	\$187,000,000
April 28, 2017	3,380,726	\$63.30	\$214,000,000
July 31, 2017	2,992,125	\$63.50	\$190,000,000
October 31, 2017	3,093,796	\$61.09	\$189,000,000

TCPL has not sold or issued any securities that are not listed or quoted on a market place during the year ended December 31, 2017, other than the common shares listed in the table above and the (i) U.S.\$1.5 billion principal amount of 5.55 per cent junior subordinated notes due 2077, on March 2, 2017, (ii) \$1.5 billion principal amount of 4.90 per cent junior subordinated notes due 2077, on May 18, 2017, (iii) \$300 million principal amount of 3.39 per cent medium term note debentures due 2028, on September 15, 2017, (iv) \$700 million principal amount of 4.33 per cent medium term note debentures due 2047, on September 15, 2017, (v) U.S.\$550 million principal amount of floating rate senior notes due 2019, on November 17, 2017, and (vi) U.S.\$700 million principal amount of 2.125 per cent senior notes due 2019, on November 17, 2017.

## Directors and officers

As of March 12, 2018, the directors and officers of TCPL as a group beneficially owned, or exercised control or direction over, directly or indirectly, an aggregate of 639,157 common shares of TransCanada. This constitutes less than one per cent of TransCanada's common shares. The Company collects this information from our directors and officers but otherwise we have no direct knowledge of individual holdings of TransCanada's securities.

### DIRECTORS

The following table sets forth the names of the directors who serve on the Board, as of March 12, 2018 (unless otherwise indicated), together with their jurisdictions of residence, all positions and offices held by them with TCPL, their principal occupations or employment during the past five years and the year from which each director has continually served as a director of TransCanada and, prior to the Arrangement, with TCPL. Positions and offices held with TCPL are also held by such person at TransCanada. Each director holds office until the next annual meeting or until his or her successor is earlier elected or appointed.

Name and place of residence	Principal occupation during the five preceding years	Director since
Kevin E. Benson Calgary, Alberta Canada	Corporate director. Director, Winter Sport Institute (non-profit) since February 2015. Director, Calgary Airport Authority from January 2010 to December 2013.	2005
Derek H. Burney, O.C. Ottawa, Ontario Canada	Senior strategic advisor, Norton Rose Fulbright (law firm). Chairman, GardaWorld International Advisory Board (risk management and security services) since April 2008. Advisory Board member, Paradigm Capital Inc. (investment dealer) since May 2011. Director (Chair), Liquor Stores N.A. Ltd. since June 2017.	2005
Stéphan Crétier Dubai, United Arab Emirates	Chairman, President and Chief Executive Officer of Garda World Security Corporation (Garda World) (private security services) and director of a number of Garda World's direct and indirect subsidiaries, since 1999. Director, ORTHOsoft Inc. (formerly ORTHOsoft Holdings Inc.) (medical software technology) from August 2004 to November 2004. Director, BioEnvelop Technologies Corp. (manufacturing) from 2001 to 2003. Director, President and Chief Executive Officer, Rafale Capital Corp. (manufacturing) from 1999 to 2001.	2017
Russell K. Girling <sup>1</sup> Calgary, Alberta Canada	President and Chief Executive Officer, TransCanada since July 2010. Chief Operating Officer from July 2009 to June 2010, and President, Pipelines from June 2006 to June 2010. Director, American Petroleum Institute since January 2015. Director, Nutrien Ltd. (formerly Agrium Inc.) (agriculture) since May 2006.	2010
S. Barry Jackson Calgary, Alberta Canada	Corporate director. Director, WestJet Airlines Ltd. (airline) since February 2009. Director, Laricina Energy Ltd. (oil and gas, exploration and production) from December 2005 to November 2017. Director, Nexen Inc. (Nexen) (oil and gas, exploration and production) from 2001 to June 2013, and Chair of the Board, Nexen from 2012 to June 2013.	2002
John E. Lowe Houston, Texas U.S.A.	Non-executive Chairman of the Board, Apache Corporation (Apache) (oil and gas) since May 2015. Director, Phillips 66 Company (energy infrastructure) since May 2012. Director, Apache since July 2013. Senior Executive Adviser at Tudor, Pickering, Holt & Co. LLC (energy investment and merchant banking) since September 2012.	2015
Paula Rospit Reynolds Seattle, Washington U.S.A.	Corporate director. Director, CBRE Group, Inc. (commercial real estate) since March 2016. Director, BP p.l.c. (oil and gas) since May 2015. Director, BAE Systems plc. (aerospace, defence, information security) since April 2011. Director, Siluria Technologies Inc. (natural gas) from February 2015 to June 2017. Director, Delta Air Lines, Inc. (airline) from August 2004 to June 2015. Director, Anadarko Petroleum Corporation (oil and gas, exploration and production) from August 2007 to May 2014.	2011
Mary Pat Salomone Naples, Florida U.S.A.	Corporate director. Director, Herc Rentals (equipment rental) since July 2016. Director, Intertape Polymer Group (manufacturing) since November 2015. Senior Vice-President and Chief Operating Officer, The Babcock & Wilcox Company (energy infrastructure) from January 2010 to June 2013. Director, United States Enrichment Corporation (basic materials, nuclear) from December 2011 to October 2012.	2013
Indira Samarasekera Vancouver, British Columbia Canada	Senior Advisor, Bennett Jones LLP (law firm) since September 2015. Director, Magna International Inc. (automotive manufacturing) since May 2014 and the Bank of Nova Scotia (Scotiabank) (chartered bank) since May 2008. Member, selection panel for Canada's outstanding chief executive officer. Member, The TriLateral Commission since August 2016.	2016
D. Michael G. Stewart Calgary, Alberta Canada	Corporate director. Director, Pengrowth Energy Corporation (oil and gas, exploration and production) since December 2010. Director, CES Energy Solutions Corp. (oilfield services) since January 2010. Director, Northpoint Resources Ltd. (oil and gas, exploration and production) from July 2013 to February 2015. Director, C&C Energia Ltd. (oil and gas) from May 2010 to December 2012.	2006

Siim A. Vanaselja Toronto, Ontario Canada	Corporate director. Chair of the Board, TransCanada since May 2017. Director, RioCan Real Estate Investment Trust (real estate) since May 2017. Director, Great-West Lifeco Inc. (financial services) since May 2014. Director, Maple Leaf Sports and Entertainment Ltd. (sports, property management) from August 2012 to June 2017. Executive Vice-President and Chief Financial Officer, BCE Inc. and Bell Canada (telecommunications and media) from January 2001 to June 2015.	2014
Thierry Vandal Mamaroneck, New York U.S.A.	President, Axiom Infrastructure US, Inc. (independent infrastructure fund management firm) and Director, Axiom infrastructure Inc. since 2015. Director, Royal Bank of Canada (chartered bank) since 2015. Member, International Advisory Board of École des Hautes Etudes Commerciales Montréal from 2006 to October 2017.	2017 <sup>2</sup>
Richard E. Waugh Calgary, Alberta Canada	Corporate director. Advisor, Acasta Enterprises Inc. (asset management/investment) since June 2015. President and Chief Executive Officer, Scotiabank from March 2003 to November 2013 and Deputy Chairman from November 2013 to January 2014. Director, Catalyst Inc. (non-profit) from February 2007 to November 2013 and Chair, Canadian Advisory Board, Catalyst Canada Inc. from February 2007 to October 2013.	2012

Notes:

(1) As President and CEO of TransCanada, Mr. Girling is not a member of any Board Committees, but is invited to attend committee meetings as required.

(2) Effective November 6, 2017.

### Cease Trade Orders, Bankruptcies, Penalties or Sanctions

Except as indicated below, no other director or executive officer of the Company is or was a director, chief executive officer or chief financial officer of another company in the past ten years that:

- was the subject of a cease trade or similar order, or an order denying that company any exemption under securities legislation, that was in effect for a period of more than 30 consecutive days
- was involved in an event that resulted in the company being subject to one of the above orders after the director or executive officer no longer held that role with the company, which resulted from an event that occurred while that person was acting in the capacity as director, chief executive officer or chief financial officer
- while acting in that capacity, or within a year of acting in that capacity, became bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency or was subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver manager or trustee appointed to hold the assets of that company.

Canwest Global Communications Corp. voluntarily entered into the *Companies' Creditors Arrangement Act* (CCAA) and obtained an order from the Ontario Superior Court of Justice to start proceedings on October 6, 2009. Although no cease trade orders were issued, Canwest shares were de-listed by the TSX after the filing and started trading on the TSX Venture Exchange. Canwest emerged from CCAA protection and Postmedia Network acquired its newspaper business on July 13, 2010 while Shaw Communications Inc. acquired its broadcast media business on October 27, 2010. Mr. Burney was a director of Canwest from April 2005 to October 2010.

Laricina Energy (Laricina) voluntarily entered into the CCAA and obtained an order from the Court of Queen's Bench of Alberta, Judicial Centre of Calgary for creditor protection and stay of proceedings effective March 26, 2015. A final court order was granted on January 28, 2016, allowing Laricina to exit from protection under the CCAA and concluding the stay of proceedings against Laricina and its subsidiaries. Mr. Jackson was a director of Laricina from December 2005 to November 2017.

On May 6, 2009, Crucible Materials Corp. (Crucible) and one of its affiliates filed voluntary petitions for relief under Chapter 11 of the U.S. Bankruptcy Code in the U.S. Bankruptcy Court for the District of Delaware (the Bankruptcy Court). On August 26, 2010, the Bankruptcy Court entered an order confirming Crucible's Second Amended Chapter 11 Plan of Liquidation. Ms. Salomone was a director of Crucible from May 2008 to May 1, 2009.

No director or executive officer of the Company has within the past ten years:

- become bankrupt
- made a proposal under any legislation relating to bankruptcy or insolvency
- become subject to or launched any proceedings, arrangement or compromise with any creditors, or
- had a receiver, receiver manager or trustee appointed to hold any of their assets.

No director or executive officer of the Company has been subject to:

- any penalties or sanctions imposed by a court relating to securities legislation or by a securities regulatory authority or has entered into a settlement agreement with a securities regulatory authority, or
- any other penalties or sanctions imposed by a court or regulatory body that would likely be considered important to a reasonable investor in making an investment decision.

## BOARD COMMITTEES

TCPL has four committees of the Board, which are the same committees and are comprised of the same membership as TransCanada: the Audit committee, the Governance committee, the Health, Safety & Environment committee and the Human Resources committee. The voting members of each of these committees, as of March 12, 2018, are identified below. Information about the Audit committee can be found in this AIF under the heading *Audit committee*.

Director	Audit committee	Governance committee	Health, Safety & Environment committee	Human Resources committee
Kevin E. Benson	✓	Chair		
Derek H. Burney	✓	✓		
Stéphan Crétier	✓		✓	
S. Barry Jackson		✓		✓
John E. Lowe	Chair		✓	
Paula Rospot Reynolds		✓		Chair
Mary Pat Salomone			✓	✓
Indira Samarasekera	✓	✓		
D. Michael G. Stewart	✓		Chair	
Siim A. Vanaselja (Chair)		✓		✓
Thierry Vandal	✓		✓	
Richard E. Waugh			✓	✓

## OFFICERS

With the exception of Stanley G. Chapman, III, all of the executive officers and corporate officers of TCPL reside in Calgary, Alberta, Canada. Positions and offices held with TCPL are also held by such person at TransCanada. As of the date hereof, the officers of TCPL, their present positions within TCPL and their principal occupations during the five preceding years are as follows:

### Executive officers

Name	Present position held	Principal occupation during the five preceding years
Russell K. Girling	President and Chief Executive Officer	President and Chief Executive Officer.
Stanley G. Chapman, III	Executive Vice-President and President, U.S. Natural Gas Pipelines	Prior to April 2017, Senior Vice-President and General Manager, U.S. Natural Gas Pipelines. Prior to July 2016 Executive Vice-President and Chief Commercial Officer of Columbia Pipeline Group, Inc.
Kristine L. Delkus	Executive Vice-President, Stakeholder Relations and Technical Services and General Counsel	Prior to April 2017, Executive Vice-President, Stakeholder Relations and General Counsel. Prior to October 2015, Executive Vice-President, General Counsel and Chief Compliance Officer. Prior to March 2014, Senior Vice-President, Pipelines Law and Regulatory Affairs (TCPL).
Wendy L. Hanrahan	Executive Vice-President, Corporate Services	Executive Vice-President, Corporate Services.
Karl R. Johansson	Executive Vice-President and President, Canada and Mexico Natural Gas Pipelines and Energy	Prior to April 2017, Executive Vice-President, Natural Gas Pipelines.
Donald R. Marchand	Executive Vice-President and Chief Financial Officer	Prior to February 1, 2017, Executive Vice-President, Corporate Development and Chief Financial Officer. Prior to October 2015, Executive Vice-President and Chief Financial Officer.
Paul E. Miller	Executive Vice-President and President, Liquids Pipelines	Prior to March 2014, Senior Vice-President, Oil Pipelines.

Dean C. Patry	Senior Vice-President, Liquids Pipelines	Prior to November 2017, Senior Vice-President, Liquids Pipelines (TCPL). Prior to February 2017, Senior Vice-President, Business Transformation (TCPL). Prior to October 2015, Vice-President, Major Projects Development (TCPL). Prior to July 2014, Vice-President, U.S. Natural Gas Pipelines Central (TCPL). Prior to March 2014, Vice-President, U.S. Pipelines Central (TCPL).
Francois L. Poirier	Executive Vice-President, Strategy and Corporate Development	Prior to February 1, 2017, Senior Vice-President, Strategy and Corporate Development. Prior to October 2015, President, Energy East Pipeline. Prior to September 2015, President, Wells Fargo Securities Canada, Ltd.
Tracy A. Robinson	Senior Vice-President, Canadian Natural Gas Pipelines	Prior to November 2017, Senior Vice-President, Canada, Natural Gas Pipelines Division, Canada (TCPL). Prior to April 2017, Senior Vice-President, Canada, Natural Gas Pipelines Division (TCPL). Prior to March 2017, Vice-President, Supply Chain (TCPL). Prior to October 2015, Vice-President, Transportation, Liquids Pipelines Division (TCPL). Prior to September 2014, Vice-President, Marketing and Sales, Canadian Pacific Railway Limited.

## Corporate officers

Name	Present position held	Principal occupation during the five preceding years
Sean M. Brett	Vice-President, Risk Management	Prior to August 2015, Vice-President and Treasurer.
Dennis P. Hebert	Vice-President, Taxation	Prior to June 2017, Vice-President, Tax and Insurance, Spectra Energy (Spectra). Prior to June 2014, General Manager, Tax (Spectra).
R. Ian Hendy	Vice-President and Treasurer	Prior to December 2017, Director, Financial Trading and Assistant Treasurer (TCPL).
Joel E. Hunter	Senior Vice-President, Capital Markets	Prior to December 2017, Vice-President, Finance and Treasurer. Prior to August 2015, Vice-President, Finance.
Christine R. Johnston	Vice-President, Law and Corporate Secretary	Prior to June 2014, Vice-President and Corporate Secretary. Prior to March 2012, Vice-President, Finance Law.
G. Glenn Menuz	Vice-President and Controller	Vice-President and Controller.

## CONFLICTS OF INTEREST

Directors and officers of TCPL and its subsidiaries are required to disclose any existing or potential conflicts in accordance with TCPL policies governing directors and officers and in accordance with the CBCA. The Code covers potential conflicts of interest. Further information regarding our policies related to conflicts of interest can be found at *Schedule B* to this AIF under the headings *Board characteristics – Independence - Serving on other boards* and *Governance philosophy – Conflicts of interest*.

### Serving on other boards

The Board believes that it is important for it to be composed of qualified and knowledgeable directors. As a result, due to the specialized nature of the energy infrastructure business, some of our directors are associated with or sit on the boards of companies that ship natural gas or liquids through our pipeline systems. Transmission services on most of TransCanada's pipeline systems in Canada and the U.S. are subject to regulation and accordingly we generally cannot deny transportation services to a creditworthy shipper. The Governance committee monitors relationships among directors to ensure that business associations do not affect the Board's performance.

The Board considers whether directors serving on the boards of other entities including public and private companies, Crown corporations and other state-owned entities, and non-profit organizations pose any potential conflict. The Board reviews these relationships annually to determine that they do not interfere with any of our director's ability to act in our best interests. If a director declares a material interest in any material contract or material transaction being considered at the meeting, the director is not present during the discussion and does not vote on the matter.

Our Code requires employees to receive consent before accepting a directorship with an entity that is not an affiliate. The chief executive officer and executive vice-presidents (our executive leadership team) must receive the consent of the Governance committee. All other employees must receive the consent of the Corporate Secretary or her delegate.

### Affiliates

The Board oversees relationships between TransCanada and any affiliates to avoid any potential conflicts of interest. This includes our relationship with TCLP, a master limited partnership listed on the NYSE.

### Corporate Governance

Information about TCPL's corporate governance, including the Company's Board committees and their charters, can be found at *Schedule B* to this AIF, which is excerpted from TransCanada's Management information circular dated February 20, 2018 (TransCanada's Circular).

## Audit committee

The Audit committee is responsible for assisting the Board in overseeing the integrity of our financial statements and our compliance with legal and regulatory requirements. It is also responsible for overseeing and monitoring the internal accounting and reporting process and the process, performance and independence of our internal and external auditors. The charter of the Audit committee can be found in *Schedule B* of this AIF.

### RELEVANT EDUCATION AND EXPERIENCE OF MEMBERS

The members of the Audit committee as of March 12, 2018 are John E. Lowe (Chair), Kevin E. Benson, Derek H. Burney, Stéphan Crétier, Indira Samarasekera, D. Michael G. Stewart and Thierry Vandal. Mr. Vandal joined the committee effective November 8, 2017.

The Board believes that the composition of the Audit committee reflects a high level of financial literacy and expertise. Each member of the Audit committee has been determined by the Board to be *independent* and *financially literate* within the meaning of the definitions under Canadian and U.S. securities laws and the NYSE rules. In addition, the Board has determined that Mr. Lowe, Mr. Benson and Mr. Vandal are *Audit Committee Financial Experts* as that term is defined under U.S. securities laws. The Board has made these determinations based on the education and breadth and depth of experience of each member of the Audit committee. The following is a description of the education and experience, apart from their respective roles as directors of TransCanada, of each member of the Audit committee that is relevant to the performance of his responsibilities as a member of the Audit committee.

### **John E. Lowe (Chair)**

Mr. Lowe holds a Bachelor of Science degree in Finance and Accounting from Pittsburg State University and is a Certified Public Accountant (inactive). He has been the non-executive Chairman of Apache Corporation's board of directors since May 2015. He also currently serves on the board of directors for Phillips 66 Company and has been the Senior Executive Adviser at Tudor, Pickering, Holt & Co. LLC since September 2012. Mr. Lowe has previously served on the audit committees for Agrium Inc. and DCP Midstream LLC. He has also held various executive and management positions with ConocoPhillips for more than 25 years.

### **Kevin E. Benson**

Mr. Benson is a Chartered Accountant (South Africa) and was a member of the South African Society of Chartered Accountants. He serves as a director of the Winter Sport Institute, and was the President and Chief Executive Officer of Laidlaw International, Inc. until October 2007. In prior years, he has held several executive positions including as President and Chief Executive Officer of The Insurance Corporation of British Columbia and has served on other public company boards and on the audit committees of all of those boards.

### **Derek H. Burney**

Mr. Burney earned a Bachelor of Arts (Honours) and Master of Arts from Queen's University. He is currently a senior strategic advisor at Norton Rose Fulbright. He has also been the Chairman of GardaWorld's International Advisory Board since April 2008, a member of the Paradigm Capital Inc. Advisory Board since May 2011, and has served as Chair of the board of directors of Liquor Stores N.A. Ltd. since June 2017. He previously served as President and Chief Executive Officer of CAE Inc. and as Chair and Chief Executive Officer of Bell Canada International Inc. Mr. Burney was the lead director at Shell Canada Limited from April 2001 until May 2007 and was the Chair of Canwest Global Communications Corp. from August 2006 until October 2010. He has served on one other organization's audit committee and has participated in Financial Reporting Standards Training offered by KPMG.

### **Stéphan Crétier**

Mr. Crétier earned a Master of Business Administration from the University of California (Pacific). He is the Chairman, President and CEO of a multinational corporation, Garda World, with over 20 years of experience in providing company-wide operational and financial oversight. Mr. Crétier also serves as director of a number of Garda World's direct and indirect subsidiaries. He previously served as a director of three public companies, ORTHOsoft Inc. (formerly ORTHOsoft Holdings Inc.), BioEnvelop Technologies Corp. and Rafale Capital Corp.

### **Indira Samarasekera**

Dr. Samarasekera earned a Master of Science from the University of California and was granted a PhD in metallurgical engineering from the University of British Columbia. She also holds honorary degrees from the Universities of Alberta, British Columbia, Toronto, Waterloo, Montreal and Western in Canada and Queen's University in Belfast, Ireland. Dr. Samarasekera is currently a senior advisor for Bennett Jones LLP and serves on the board of directors of the Bank of Nova Scotia, Magna International Inc., Asia-Pacific Foundation, and the Rideau Hall Foundation. She is also a member of the TriLateral Commission and sits on the selection panel for Canada's outstanding chief executive officer of the year.

### **D. Michael G. Stewart**

Mr. Stewart earned a Bachelor of Science in Geological Sciences with First Class Honours from Queen's University. He currently serves on the board of directors of Pengrowth Energy Corporation and CES Energy Solutions Corp. He has also previously served on the board of directors of several other public companies and organizations and was on the audit committee and the Chair of the audit committee of certain of those boards. Mr. Stewart held a number of senior executive positions with Westcoast Energy Inc. including Executive Vice-President, Business Development. He has been active in the Canadian energy industry for over 40 years.

### **Thierry Vandal**

Mr. Vandal earned a Masters of Business Administration in Finance from the École des Hautes Etudes Commerciales Montréal. He is the President of Axiom Infrastructure US, Inc. and serves on the board of directors for Axiom Infrastructure Inc. and on the international advisory board of École des Hautes Études Commerciale Montréal. He also serves on the board of directors for the Royal Bank of Canada (RBC) where he is designated as RBC's audit committee's financial expert. Mr. Vandal previously served on the audit committee for Veresen Inc. until July 2017 and has over nine years' experience of serving with Hydro-Québec where he also held the position of President and Chief Executive Officer until May 2015.

## PRE-APPROVAL POLICIES AND PROCEDURES

TCPL's Audit committee has adopted a pre-approval policy with respect to permitted non-audit services. Under the policy, the Audit committee has granted pre-approval for specified non-audit services. For engagements of up to \$250,000, approval of the Audit committee Chair is required, and the Audit committee is to be informed of the engagement at the next scheduled Audit committee meeting. For all engagements of \$250,000 or more, pre-approval of the Audit committee is required. In all cases, regardless of the dollar amount involved, where there is a potential for conflict of interest involving the external auditor to arise on an engagement, the Audit committee must pre-approve the assignment.

To date, all non-audit services have been pre-approved by the Audit committee in accordance with the pre-approval policy described above.

## EXTERNAL AUDITOR SERVICE FEES

The table below shows the services KPMG provided during the last two fiscal years and the fees we paid them:

(\$ millions)	2017	2016
<b>Audit fees</b>	\$9.7 <sup>(1)</sup>	\$8.2
<ul style="list-style-type: none"><li>• audit of the annual consolidated financial statements</li><li>• services related to statutory and regulatory filings or engagements</li><li>• review of interim consolidated financial statements and information contained in various prospectuses and other securities offering documents</li></ul>		
<b>Audit-related fees</b>	\$0.1	\$0.1
<ul style="list-style-type: none"><li>• services related to the audit of the financial statements of certain TransCanada post-retirement and post-employment plans, and pipeline abandonment trusts</li></ul>		
<b>Tax fees<sup>(2)</sup></b>	\$0.8	\$0.6
<ul style="list-style-type: none"><li>• Canadian and international tax planning and tax compliance matters, including the review of income tax returns and other tax filings</li></ul>		
<b>All other fees</b>	\$0.2	–
<ul style="list-style-type: none"><li>• French translation services</li></ul>		
<b>Total fees</b>	<b>\$10.8</b>	<b>\$8.9</b>

Notes:

(1) The increase in audit fees from 2016 reflects the transfer of the Columbia audit to KPMG, following TransCanada's acquisition of Columbia in 2016.

(2) The tax fees principally related to fees incurred on account of compliance matters.

## Loans to directors and executives

As of the date of this AIF, none of our directors or executives had any loans from TCPL or any of our subsidiaries. This is also true for:

- former executives or directors of TCPL or any of our subsidiaries
- this year's nominated directors, and
- any associate of a director, executive officer or nominated director.

None of the above owe money to another entity that is the subject of a guarantee, support agreement, letter of credit or other similar arrangement or understanding provided by TCPL or any of our subsidiaries.

## Securities owned by directors

The table below shows the total value of each director's common shares of TransCanada as of March 12, 2018 in addition to the total value of deferred share units (DSUs) of TransCanada or shares of our affiliates outstanding at the end of 2017, including the DSUs credited as dividend equivalents until January 31, 2018.

None of the nominated directors (or all of our directors and executives as a group) own more than one per cent of TransCanada shares, or any class of shares of its subsidiaries and affiliates.

Director	TransCanada common shares	TransCanada deferred share units
K. Benson	3,000	75,322
D. Burney	21,706	67,476
S. Crétier <sup>1</sup>	18,500	3,525
R. Girling <sup>2,3</sup>	281,842	—
S.B. Jackson	39,000	155,920
John E. Lowe	15,000	10,959
P. Rospot Reynolds	6,000	26,751
M.P. Salomone	3,000	14,558
I. Samarasekera	—	6,833
D.M.G. Stewart <sup>4</sup>	17,310	34,299
S.A. Vanaselja	12,000	20,232
T. Vandal	261	804
R. Waugh <sup>5</sup>	29,730	28,532

Refer to the *Compensation of directors* section below for further information regarding the compensation of TransCanada's directors.

Notes:

(1) Mr. Crétier's holdings include 3,120 shares held by his wife.

(2) Mr. Girling is an employee of TCPL and participates in the Company's executive share unit program. He does not participate in the DSU program. Securities owned, controlled or directed include common shares that Mr. Girling has a right to acquire through exercise of stock options that are vested under the stock option plan, which is described in Schedule D to this AIF under the heading *Compensation - Executive compensation*. Directors as such do not participate in the stock option plan. As an employee of TCPL, Mr. Girling has the right to acquire 1,964,839 TransCanada common shares under vested stock options.

(3) Mr. Girling's holdings include 4,000 shares held by his wife.

(4) Mr. Stewart's holdings include 2,129 shares held by his wife.

(5) Mr. Waugh's holdings include 4,220 shares held by his wife.

## Compensation of directors

Information relating to the compensation of directors, including information regarding compensation paid by TCPL to directors in 2017, the Company's minimum share ownership guidelines and TransCanada's share unit plan for non-employee directors, is provided in *Schedule D* to this AIF under the heading *Compensation – Director compensation*, which is excerpted from TransCanada's Circular.

## Executive compensation

Information relating to TCPL's compensation governance is provided in *Schedule D* to this AIF under the heading *Compensation – Compensation governance*, which is excerpted from TransCanada's Circular. Information relating to TCPL's executive compensation is provided in *Schedule D* to this AIF under the heading *Compensation – Executive compensation*, which is excerpted from TransCanada's Circular.

Board and committee meetings of TransCanada and TCPL run concurrently. TCPL is the principal operating subsidiary of TransCanada. Executive officers of TCPL also serve as executive officers of TransCanada. An aggregate remuneration is paid for serving as an executive of TCPL and for service as an executive officer of TransCanada. Since TransCanada does not hold any material assets directly other than the common shares of TCPL and receivables from certain of TransCanada's subsidiaries, all executive employee costs are assumed by TCPL according to a management services agreement between the two companies.

## Legal proceedings and regulatory actions

Legal proceedings, arbitrations and actions are part of doing business. While we cannot predict the final outcomes of proceedings and actions with certainty, management does not expect any potential or current proceeding or action to have a material impact on our consolidated financial position or results of operations.

## Transfer agent and registrar

TransCanada's transfer agent and registrar is Computershare Trust Company of Canada with its Canadian transfer facilities in the cities of Vancouver, Calgary, Toronto, Halifax and Montréal.

## Material contracts

Other than as disclosed in the MD&A, which is incorporated by reference herein, TCPL did not enter into any material contracts outside the ordinary course of business during the year ended December 31, 2017, nor has it entered into any material contracts outside the ordinary course of business prior to the year ended December 31, 2017 which are still in effect as at the date of this AIF.

## Interest of experts

KPMG LLP are the auditors of TCPL and have confirmed with respect to TCPL, that they are independent within the meaning of the relevant rules and related interpretations prescribed by the relevant professional bodies in Canada and any applicable legislation or regulations and also that they are independent accountants with respect to TCPL under all relevant U.S. professional and regulatory standards.

## Additional information

1. Additional information in relation to TCPL may be found under TCPL's profile on SEDAR ([www.sedar.com](http://www.sedar.com)).
2. Additional financial information is provided in TCPL's audited consolidated financial statements and MD&A for its most recently completed financial year.

# Glossary

## Units of measure

Bbl/d	Barrel(s) per day
Bcf	Billion cubic feet
Bcf/d	Billion cubic feet per day
GJ	Gigajoule
hp	horsepower
km	Kilometres
MMcf/d	Million cubic feet per day
MW	Megawatt(s)
MWh	Megawatt hours
PJ/d	Petajoules per day
TJ/d	Terajoules per day

## General terms and terms related to our operations

AFUDC	Allowance of funds used during construction
ATM	An at-the-market distribution program allowing us to issue common shares from treasury at the prevailing market price
B.C.	British Columbia
bitumen	A thick, heavy oil that must be diluted to flow (also see: diluent). One of the components of the oil sands, along with sand, water and clay
diluent	A thinning agent made up of organic compounds. Used to dilute bitumen so it can be transported through pipelines
FID	Final investment decision
FEIS	Final Environmental Impact Statement
force majeure	Unforeseeable circumstances that prevent a party to a contract from fulfilling it
GHG	Greenhouse gas
investment base	Includes rate base as well as assets under construction
LDC	Local distribution company
LNG	Liquefied natural gas
PJM Interconnection area (PJM)	A regional transmission organization that coordinates the movement of wholesale electricity in all or parts of 13 states and the District of Columbia
PPA	Power purchase arrangement
rate base	Our annual average investment used
WCSB	Western Canada Sedimentary Basin
Year End	Year ended December 31, 2017

## Accounting terms

AFUDC	Allowance for funds used during construction
DRP	Dividend reinvestment plan
GAAP	U.S. generally accepted accounting principles
OM&A	Operating, maintenance & administration
ROE	Rate of return on common equity

## Government and regulatory bodies terms

AER	Alberta Energy Regulator
BCEAO	Environmental Assessment Office (British Columbia)
CCAA	<i>Companies' Creditors Arrangement Act</i>
CBCA	<i>Canada Business Corporations Act</i>
CFE	Comisión Federal de Electricidad (Mexico)
CRE	Comisión Reguladora de Energía (Mexico)
CQDE	Québec Environmental Law Centre/ Centre québécois du droit de l'environnement
DOS	U.S. Department of State
FERC	Federal Energy Regulatory Commission (U.S.)
MDDELCC	Ministère du Développement durable, de l'Environnement et la Lutte contre les changements climatiques (Québec)
NAFTA	North American Free Trade Agreement
NEB	National Energy Board (Canada)
NRC	National Response Center
NYSE	New York Stock Exchange
OGC	Oil and Gas Commission (British Columbia)
PHMSA	Pipeline and Hazardous Materials Safety and Administration
PSC	Nebraska Public Service Commission
PUC	Public Utilities Commission
SEC	U.S. Securities and Exchange Commission
SGER	Specified Gas Emitters Regulations
TSX	Toronto Stock Exchange

## Schedule A

### Metric conversion table

The conversion factors set out below are approximate factors. To convert from Metric to Imperial multiply by the factor indicated. To convert from Imperial to Metric divide by the factor indicated.

<b>Metric</b>	<b>Imperial</b>	<b>Factor</b>
Kilometres (km)	Miles	0.62
Millimetres	Inches	0.04
Gigajoules	Million British thermal units	0.95
Cubic metres*	Cubic feet	35.3
Kilopascals	Pounds per square inch	0.15
Degrees Celsius	Degrees Fahrenheit	to convert to Fahrenheit multiply by 1.8, then add 32 degrees; to convert to Celsius subtract 32 degrees, then divide by 1.8

\* The conversion is based on natural gas at a base pressure of 101.325 kilopascals and at a base temperature of 15 degrees Celsius.

# Schedule B

## Governance

We believe that strong governance improves corporate performance and benefits all stakeholders.

This section discusses our approach to governance and describes our Board and how it works.

### About our governance practices

Our Board and management are committed to the highest standards of ethical conduct and corporate governance.

TransCanada is a public company listed on the TSX and the NYSE, and we recognize and respect rules and regulations in both Canada and the U.S.

Our corporate governance practices comply with the Canadian governance guidelines, which include the governance rules of the TSX and Canadian Securities Administrators (CSA):

- National Instrument 52-110, **Audit Committees** (NI 52-110)
- National Policy 58-201, **Corporate Governance Guidelines**
- National Instrument 58-101, **Disclosure of Corporate Governance Practice** (NI 58-101).

We also comply with the governance listing standards of the NYSE and the governance rules of the U.S. Securities and Exchange Commission (SEC) that apply, in each case, to foreign private issuers.

Our governance practices comply with the NYSE standards for U.S. companies in all significant respects, except as summarized on our website ([www.transcanada.com](http://www.transcanada.com)). As a non-U.S. company, we are not required to comply with most of the governance listing standards of the NYSE. As a foreign private issuer, however, we must disclose how our governance practices differ from those followed by U.S. companies that are subject to the NYSE standards.

We benchmark our policies and procedures against major North American companies to assess our standards and we adopt best practices as appropriate. Some of our best practices are derived from the NYSE rules and comply with applicable rules adopted by the SEC to meet the requirements of the **Sarbanes-Oxley Act of 2002** and the **Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank)**.

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## **BOARD CHARACTERISTICS**

Our Board and its members exemplify strong principles of corporate governance:

- an independent, non-executive Chair
- an effective board size
- all directors except our CEO are independent
- knowledgeable and experienced directors who ensure that we promote ethical behaviour throughout TransCanada
- qualified directors who can make a meaningful contribution to the Board, the development of our strategy and business, and oversight of our risk management processes
- significant share ownership requirements to align the directors' interests with those of our shareholders
- annual assessments of Board, Chair, committee and director effectiveness.

### **Size and composition**

TransCanada's articles state that the Board must have between eight and 15 directors. The Board has determined that 11 directors will be elected this year at the annual meeting. The Board believes this size is appropriate based on the scope of our business, the skills and experience of the nominated directors and the four standing committees, and to achieve effective decision making. It believes that all of the nominated directors are well qualified to serve on the Board.

We believe our Board must consist of qualified and knowledgeable directors, and include directors with direct experience in the oil and gas, pipelines and energy sectors.

## Board diversity

We have been committed to a diverse Board since 1999, when our Corporate governance guidelines were revised to include a variety of diversity criteria, which bring a range of perspectives to the Board that are not limited to gender diversity. TransCanada does not have term limits for directors, but does have a retirement policy to encourage Board renewal, as discussed under *Director tenure*, on page 45.

In February 2018, the Board adopted and endorsed a Board Diversity policy relating to the identification and nomination of directors. The objective of the policy is to increase Board diversity by seeking qualified director nominees, while considering diversity criteria. Diversity criteria includes skills, expertise, industry experience and personal characteristics such as age, gender, ethnicity and other distinctions of potential director nominees.

More specifically, in seeking suitable candidates, the Governance committee will:

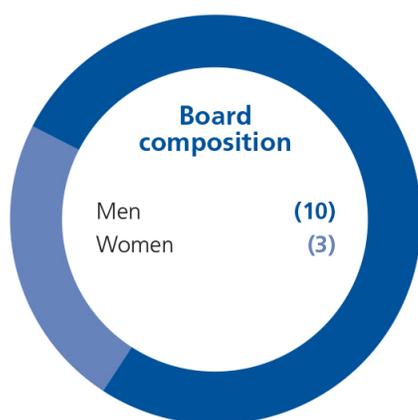
- consider all aspects of diversity
- assess the skills and backgrounds collectively represented on the Board to ensure that they reflect the diverse nature of the business environment in which we operate
- consider candidates on merit against objective criteria having due regard to the benefits of diversity on the Board
- at their discretion, engage qualified independent external advisors to identify and assess candidates that meet the Board's skills and diversity criteria.

The Board has committed to an aspirational target for the Board to be comprised of at least 30 per cent of women by the end of 2020.

Each year, the Governance committee will:

- assess the effectiveness of the Board Diversity policy
- monitor and review our progress in achieving the aspirational target for gender diversity
- monitor the implementation of the Board Diversity policy
- report to the Board and recommend any revisions that may be necessary.

Currently, 23 per cent of the Board is composed of women. After the annual meeting, if all the nominated directors are elected, 27 per cent of the Board will be comprised of women directors. The Governance committee is vigorously pursuing the goal of meeting or exceeding the previously-mentioned 30 per cent target. The committee has set 2020 as the deadline to achieve this level of gender diversity but intends to act sooner, as it identifies female candidates who are available to serve as directors.



The Board Diversity policy is posted on our website ([www.transcanada.com](http://www.transcanada.com)).

## Independence

An independent board is a fundamental principle of governance. We believe that the majority of our directors must be *independent* in accordance with applicable Canadian legal requirements and guidelines, and consistent with the applicable independence criteria of the regulations of the SEC and rules of the NYSE.

The Governance committee and the Board review the independence of each Board member and nominated director against these criteria once a year. The Governance committee also reviews family relationships and associations with companies that have relationships with TransCanada when it reviews director independence.

The Board has determined that all of the nominated directors are independent, except for Mr. Girling because of his role as President and CEO. Other than Mr. Girling, none of the directors have a direct or indirect material relationship with TransCanada that could reasonably be expected to interfere with the exercise of his or her independent judgment.

### Independent Chair

The Chair is appointed by the Board, and serves in a non-executive capacity. We have had separate Chair and CEO positions since our incorporation in 2003 and at our predecessor company since 1994. Mr. Vanaselja has served as the independent non-executive Chair since May 5, 2017.

### Independent advice

The Board and each of its four standing committees can retain independent advisors to assist in carrying out their duties and responsibilities.

### Serving on other boards

To ensure we do not have overboarding or interlocking relationships that would conflict with a director's independence or interfere with fulfilling their Board duties and responsibilities, we have the following policy:

- outside directors may not serve on more than four public company boards in total
- the CEO may not serve on more than two public company boards in total
- Audit committee members may not serve on more than three audit committees in total.

Currently, all of our directors meet our overboarding policy requirements.

We discuss the time commitment and duties and responsibilities with every candidate so they have a full understanding of the role and our expectations of directors. The Governance committee monitors director relationships to ensure their business associations do not hinder their role as a TransCanada director or Board performance overall.

The Board believes that it is important for it to be composed of qualified and knowledgeable directors. As a result, due to the specialized nature of the energy infrastructure business, some of the nominated directors are associated with or sit on the boards of companies that ship natural gas or liquids through our pipeline systems. Transmission services on most of TransCanada's pipeline systems in Canada and the U.S. are subject to regulation and, accordingly, we generally cannot deny transportation services to a creditworthy shipper. As discussed in *Conflicts of interest*, the Governance committee monitors relationships among directors to ensure that business associations do not affect the Board's performance.

See the director profiles starting on page 14 for the other public company boards each nominated director serves on.

### Independent of management

Our Corporate governance guidelines stipulate that the Board must meet at the end of each Board meeting, *in-camera*, without management present. In 2017, the independent directors met separately before and at the end of every regularly scheduled Board meeting.

Our Board has adopted the policy of holding in-camera sessions at each meeting of its committees without management. Members of management meet with the independent directors upon request.

## **GOVERNANCE PHILOSOPHY**

We believe that effective corporate governance improves corporate performance and benefits all shareholders and that honesty and integrity are vital to ensuring good corporate governance.

The Board has formally adopted the Corporate governance guidelines recommended by the Governance committee. These guidelines address the structure and composition of the Board and its committees, and clarify the responsibilities of the Board and management.

### **Ethical business conduct**

Our Code of business ethics (the Code) incorporates principles of good conduct and ethical and responsible behaviour to guide our decisions and actions and the way we conduct business.

The Code applies to all employees, officers and directors as well as contract workers of TransCanada and its wholly-owned subsidiaries and operated entities in countries where we conduct business. All employees (including executive officers) and directors must certify their compliance with the Code.

Any unusual behaviour or suspected violations of the Code must be reported immediately. Employees can report a concern to their supervisor, Corporate compliance, Internal audit, their Compliance coordinator, or to our Ethics help-line. The help-line allows anyone – employees, contractors, consultants, other stakeholders and the general public – to report a concern, confidentially and anonymously, about any perceived accounting irregularities, legal or ethical violations or other suspected breaches of the Code. The telephone number is published on our website and employee intranet, in other employee communications and in our Annual report. Our policy strictly prohibits reprisals or retaliation against anyone who files an ethics concern or complaint in good faith.

Internal audit handles most investigations, including any concerns about directors and senior management. Human resources professionals handle any concerns relating to human resource matters such as harassment.

The Audit committee monitors compliance with the Code and reports any significant violations to the Board. The committee oversees the procedures for receiving and reviewing complaints and determining a course of action. It also oversees the operation of the Ethics help-line as part of its responsibilities.

Any waiver of the Code for our executives and directors must be approved by the Board, or the appropriate committee. There were no material departures from the Code in 2017.

The Code is posted on our website ([www.transcanada.com](http://www.transcanada.com)).

### **Conflicts of interest**

The Code covers potential conflicts of interest.

### ***Serving on other boards***

The Board considers whether directors serving on the boards of, or acting as officers or in another similar capacity, for other entities including public and private companies, Crown corporations and other state-owned entities, and non-profit organizations pose any potential conflict. The Board reviews these relationships annually to determine that they do not interfere with any of our director's ability to act in our best interests. If a director declares a material interest in any material contract or material transaction being considered at a meeting, the director is not present during the discussion and does not vote on the matter.

Our Code requires employees to receive consent before accepting a directorship with an entity that is not an affiliate. The CEO and executive vice-presidents and two of our senior vice-presidents (our executive leadership team) must receive the consent of the Governance committee. All other employees must receive the consent of the Corporate Secretary or her delegate.

### ***Affiliates***

The Board oversees relationships between TransCanada and any affiliates to avoid any potential conflicts of interest. This includes our relationship with TC PipeLines, LP, a master limited partnership listed on the NYSE.

## Auditor independence

Pursuant to the Audit committee charter, the Audit committee reviews, approves and monitors adherence to our hiring policies for partners, employees and former partners and employees of our current and former external auditors to ensure auditor independence is maintained. The committee also has a pre-approval policy with respect to permitted non-audit services.

Our Annual information form (AIF) includes more information about the Audit committee, including the committee charter. The 2017 AIF is available on our website ([www.transcanada.com](http://www.transcanada.com)) and on SEDAR ([www.sedar.com](http://www.sedar.com)).

## Majority voting

Our majority voting policy applies to electing a new Board when the number of nominated directors is the same as the number of director positions available. If, prior to a meeting, a nominated director receives more "withheld" proxy votes than five per cent of the total votes cast by proxy, we will hold a vote by ballot for all directors. If a director does not receive a majority of "for" votes cast by ballot, the director must resign from the Board. The Board will accept the resignation if there are no exceptional circumstances. We expect the Board to announce its decision to either accept or reject the director's resignation in a press release within 90 days after the annual meeting, and include its reasons for rejecting the resignation, if applicable.

This policy does not apply if there is a proxy contest over the election of directors.

## Share ownership

We have share ownership requirements for our directors and executives to align their interests with those of our shareholders. Ownership levels are significant, and directors and executives must meet the requirements within five years of assuming their position.

As of February 20, 2018, all of our directors are in compliance with our director share ownership policy. Dr. Samarasekera and Mr. Vandal each have five years from the date of their appointment to meet the requirements. As Mr. Vanaselja was appointed Chair of the Board on May 5, 2017, his required share ownership level has increased to four times the Chair retainer:

Director	Date appointed	Share ownership date
Dr. Samarasekera	April 29, 2016	April 29, 2021
Mr. Vanaselja	May 5, 2017	May 5, 2022
Mr. Vandal	November 6, 2017	November 6, 2022

See *Aligning the interests of directors and shareholders* on page 61 and *Aligning the interests of executives and shareholders* on page 79 for more information.

## ROLE AND RESPONSIBILITIES OF THE BOARD

The Board's primary responsibilities are to foster TransCanada's long-term success, oversee our business and affairs and management, and to act honestly, in good faith and in the best interests of TransCanada.

The Board's main objective is to promote our best interests, to maximize long-term shareholder value and to enhance shareholder returns.

The Board has key duties and responsibilities, delegates some duties to its four standing committees, and discharges others to management for managing the day-to-day affairs of the business.

The Chair is responsible for ensuring that the Board is organized properly, functions effectively and meets its obligations and responsibilities. The Chair's role includes coordinating the affairs of the Board, working with management (primarily the CEO), and ensuring effective relations with Board members, shareholders, other stakeholders and the public.

## Charters and position descriptions

The Board and each committee have adopted a charter that outlines its principal responsibilities.

The charters are reviewed every year to ensure that they reflect current developments in corporate governance and corporate best practices, and the Board approves any necessary changes.

The Board charter describes the:

- composition and organization of the Board
- duties and responsibilities for managing the affairs of the Board
- oversight responsibilities for:
  - management and human resources
  - strategy and planning
  - financial and corporate issues
  - business and risk management, including compensation risk
  - policies and procedures
  - compliance reporting and corporate communications
  - general legal obligations, including its ability to use independent advisors as necessary.

The Board has also developed position descriptions for the Chair of the Board, each committee Chair and the CEO. The position descriptions for the Chair of the Board and the CEO are part of their terms of reference. The position descriptions for the Chair of each committee are contained in the committee charters.

See **Schedule B** for a copy of the Board charter. The Board charter, committee charters and position descriptions for the Chair of the Board and the CEO are posted on our website ([www.transcanada.com](http://www.transcanada.com)).

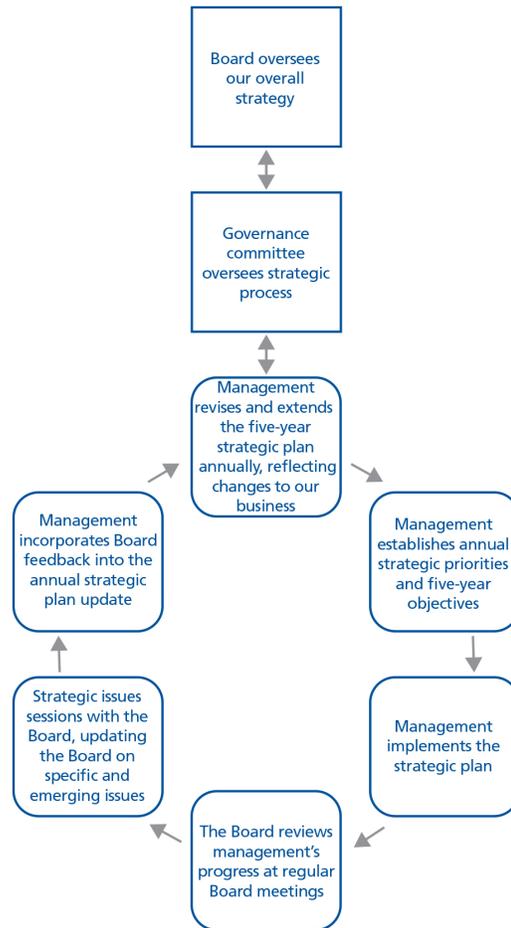
## Strategic planning

We have a multi-year strategic plan that balances risk and reward.

The Board provides oversight and direction in the strategic planning process to ensure we have a robust strategy that supports our vision of becoming North America's leading energy infrastructure company. To achieve this, we have a five-year strategic plan which we update and extend annually and hold strategic issues sessions with the Board throughout the year to consider specific and emerging issues. The Governance committee has accountability for overseeing the strategy development process and works with management to identify and discuss emerging issues, elevating topics for discussion with the entire Board as necessary. It also guides management in planning the annual strategy session.

We update our five-year strategic plan annually during a two-day strategic planning session in which the Board reviews, discusses and approves the revised and extended strategic plan. As part of this, management includes an assessment of energy fundamentals, the competitive environment and risks to identify opportunities and threats to our business and strategy. This session informs our annual strategic priorities and performance measures.

Throughout the year, the Board monitors management's progress toward achieving strategic goals. At each regularly scheduled Board meeting, management provides updates on the human, technological and capital resources required to implement our strategy and relevant regulatory, environmental and social issues that may impact the execution of our strategy.



See **Meeting attendance** on page 25 for more information about the meetings held in 2017 and **Orientation and education** on pages 40 and 41 for more information about the strategic issues and planning sessions attended by Board members in 2017.

## Risk oversight

In early 2018, management commenced a comprehensive review of the risk management process as part of our commitment to continuous improvement, to reflect the recent acquisition of Columbia, and organizational changes. Upon management's completion of the review, a strategic issues session will be scheduled with the Board to allow for input and discussion. The new risk framework is expected to be presented to the Governance committee and Board during the first half of 2018.

### Process

The Board and its committees are responsible for risk oversight including overseeing management systems and processes for identification, evaluation, prioritization, mitigation and monitoring of risk. Our directors have a broad range of experience and skills in risk management and, as a result, the Board is highly engaged and qualified to participate in a meaningful discussion of key business risks with management at Board and committee meetings.

A key business risk is generally defined as an exposure that has the potential to materially impact TransCanada's ability to meet or support its business, operational or strategic objectives.

TransCanada maintains a comprehensive corporate risk register which identifies principal risks associated with our business and seeks input across the organization to ensure it reflects any new key business risks as our business grows and our environment evolves. In addition, 'top-of-mind' concerns are solicited from our senior executives and presented to the Board. This process recognizes the dynamic and evolving business environment in which we operate and allows management to keep the Board informed of existing and emerging risks and how those risks are managed or mitigated in accordance with TransCanada's risk parameters and risk tolerance.

All risks identified under the corporate risk register are categorized using a risk responsibility matrix which establishes clear accountabilities to the Board, committees and executives responsible for specific oversight of each risk.

Our risks are categorized according to these main areas:

#### *Enterprise wide*

- corporate governance and reputation
- strategy and development
- financial management
- information systems
- organizational
- political and regulatory
- general corporate risk

#### *Business unit*

- business opportunity
- project execution
- commercial risk
- commodity and basin supply
- physical operations

The Governance committee oversees our risk management process. The committee reviews 'top-of-mind' business risks with management at each committee meeting and the risk responsibility matrix with management annually to ensure there is proper Board and committee oversight according to the terms of their charters, and that we have management programs in place to mitigate those risks. It also recommends, along with the respective committee (or executive) assigned responsibility for specific risks, any enhancements to our risk management program and policies to the Board.

In addition, all projects and opportunities recommended by management to the Board for approval include specific descriptions on the associated risks. The risk discussion associated with each project forms a part of the Board's determination of whether to approve projects or pursue opportunities.

Our process ensures that the Board is fully informed of the interrelationship between the business environment and risks, and is intended to facilitate and stimulate discussion of our key business risks.

Our AIF and Annual report include more information about the risks applicable to TransCanada. The 2017 AIF and the 2017 Annual report are available on our website ([www.transcanada.com](http://www.transcanada.com)) and on SEDAR ([www.sedar.com](http://www.sedar.com)).

## Committee responsibilities

The various Board committees are also involved in risk oversight in their respective areas to ensure a robust risk management process with appropriate expertise, attention and diligence given to each key business risk. The chart below includes the risk focus area of each committee, and information on each risk focus area. The committees receive updates regularly from management on their risk focus areas, and update the Board on their risk oversight activities regularly. In addition to its specific focus area, each committee maintains an overall awareness of risk management for TransCanada, and includes other issues in its reports to the Board as appropriate.

Committee	Risk focus	Description
Audit	Financial risk	<ul style="list-style-type: none"> <li>Oversees management's role in monitoring compliance with financial risk management policies and procedures and reviewing the adequacy of our financial risk management.</li> <li>Ensures that:               <ul style="list-style-type: none"> <li>our financial risk management strategies, policies and limits are designed to ensure our risks and related exposures are in line with our business objectives and risk tolerance</li> <li>risks are managed within limits that are ultimately established by the Board, implemented by senior management and monitored by our risk management and internal audit groups.</li> </ul> </li> <li>Oversees cyber security and its related risks to TransCanada.</li> </ul>
Governance	Risk management process and management allocation of risks	<ul style="list-style-type: none"> <li>Reviews TransCanada's 'top-of-mind' business risks with management at each committee meeting.</li> <li>Oversees the risk responsibility matrix with management annually to ensure there is proper Board and committee oversight according to the terms of their charters.</li> <li>Ensures that we have management programs in place to mitigate those risks.</li> <li>Recommends, along with the respective committee (or executive) assigned responsibility for specific risks, any enhancements to our risk management program and policies to the Board.</li> </ul>
Health, Safety & Environment	Operational risk, people and process safety, security and environmental risk	<ul style="list-style-type: none"> <li>Monitors compliance with our health, safety and environment (HSE) corporate policies through regular reporting from management, within the framework of our integrated HSE management system that is used to capture, organize and document our related policies, programs and procedures. See the next page for more details.</li> </ul>
Human Resources	Human resources and compensation risk	<ul style="list-style-type: none"> <li>Oversees the compensation policies and practices to effectively identify and mitigate compensation risks and discourage members of the executive leadership team or others from taking inappropriate or excessive risks and to ensure our compensation policies are not reasonably likely to have a material adverse effect on TransCanada.</li> <li>See <b>Compensation governance</b> starting on page 53 for more information about how we manage our compensation risk.</li> </ul>

### **HSE risk management system**

The Health, Safety and Environment committee of TransCanada's Board oversees operational risk, people and process safety, security of personnel and environmental risks, and monitors compliance with our HSE corporate policy through regular reporting from management. We have a management system that establishes a framework for managing operational risk that is used to capture, organize, document, monitor and improve our related policies, programs and procedures.

Our management system is modeled after international standards, conforms to external industry consensus standards and voluntary programs, and complies with applicable legislative requirements. It follows a continuous improvement cycle organized into four key areas:

- **Planning:** risk and regulatory assessment, objective and target setting, defining roles and responsibility
- **Implementing:** development and implementation of programs, procedures and standards to manage operational risk
- **Reporting:** incident reporting and investigation, and performance monitoring
- **Action:** assurance activities and review of performance by management.

The committee reviews HSE performance and operational risk management. It receives detailed reports on:

- overall HSE corporate governance
- operational performance and preventive maintenance metrics
- asset integrity programs
- emergency preparedness, incident response and evaluation
- people and process safety performance metrics
- developments in and compliance with applicable legislation and regulations.

The committee also receives updates on any specific areas of operational and construction risk management review being conducted by management and the results and corrective action plans flowing from internal and third party audits.

Generally, each year the committee or the committee Chair tours one of our existing assets or projects under development as part of its responsibility to monitor and review our HSE practices. Additionally, the Health, Safety and Environment committee conducts a site visit annually, which all Board members are invited to attend.

The safety of our employees, contractors and the public, as well as the integrity of our energy and pipeline infrastructure is a top priority.

## **Succession planning**

The Board is responsible for succession planning at the executive level including the development of the CEO succession plan. Succession planning for the CEO position is an ongoing process that includes analysis of each potential candidate's performance, skills and experience, assessment of the personal attributes and characteristics that the Board believes are necessary for the role, and assessment of developmental opportunities to increase senior executive bench strength.

The CEO prepares an overview of the executive vice-president roles, noting the required skills and expertise for each position and the current executive's areas of strength. He also prepares development plans for each executive and presents them to the Board. The CEO meets formally with each executive at least twice a year, and more frequently as necessary, to discuss progress on his or her development plan.

The CEO identifies potential future candidates for the executive vice-president positions and presents them to the Board for discussion. Each candidate is assessed based on their skills and experience and the competencies that are required for promotion to the senior executive level. Development opportunities are also identified so each candidate can receive additional or varied management experience, training, development and educational opportunities. The Board reviews each position and the performance assessment and competencies of potential successors at least once a year and makes decisions as appropriate.

## **Access to management**

The Board has complete access to management, but gives reasonable advance notice to avoid disrupting the business and operations. The Board Chair and committee Chairs also connect with relevant members of the executive leadership team as needed.

The Board encourages the executive leadership team to include key managers in Board and committee meetings so they can share their expertise on specific matters. This approach gives the Board an opportunity to meet individuals who have the potential to assume more senior positions in the future, and for these individuals to gain exposure to the Board.

## Management diversity

Our executive leadership team includes our President and CEO, all of our executive vice-presidents and two senior vice-presidents. Senior management includes our executive leadership team, as well as all of our senior vice-presidents and vice-presidents.

In 2013, management set and the Board reviewed goals to increase the number of women in senior management to 18 per cent by the end of 2017. We exceeded that goal, with women holding 22 per cent of senior management positions at the end of 2017. Our target is to increase this percentage to 25 per cent by the end of 2018.



Setting these goals supports our long-term commitment to ensuring TransCanada has a capable and diverse senior management team. We believe that having a defined goal for the representation of women in senior management is an effective way to increase the number of women on our executive leadership team over the long term. More women at the senior-vice president and vice-president levels provides a larger group of women that can be considered for promotion to executive positions.

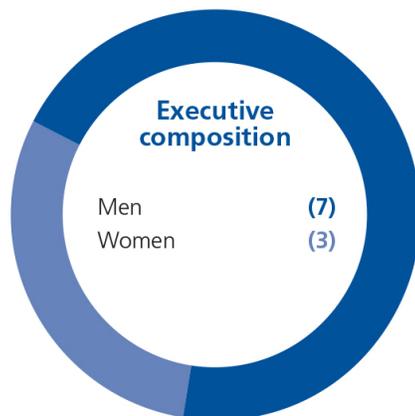
In order to achieve these goals we have focused on identifying, assessing and developing high potential candidates from our existing talent pool as well as strategic hires. High potential candidates are each assigned a sponsor on the executive leadership team who works with them to increase their exposure within the organization and to the Board.

The executive leadership team reviews and discusses this talent pool regularly and approves all senior management appointments. The Board approves all appointments to the executive leadership team.

Progress towards these goals is reviewed and assessed by the Human Resources committee and executive leadership team at least annually to ensure that we have a qualified pool of women, and that the women in senior management are being adequately supported and developed. The Board receives progress reports on our goals annually. In addition, the Human Resources committee annually reviews the company's initiatives to provide development opportunities for high potential and diverse candidates below the executive level.

The Board encourages the inclusion of women candidates for consideration for all executive leadership positions.

We do not have specific diversity goals for the executive leadership team. As of February 20, 2018, three of 10, or 30 per cent, of our executive leadership team members were women. This is an increase from February 28, 2017, when two of our nine, or 22 per cent of our executive leadership team members were women.



## ORIENTATION AND EDUCATION

New directors participate in an orientation program featuring sessions on corporate strategy, our main business issues, and historical and financial information about TransCanada. They also have an opportunity to visit and tour our facilities and project sites and meet with the executive leadership team and other directors.

We tailor the sessions for each director based on individual needs and their specific areas of interest. New directors also meet one-on-one with members of the executive leadership team for an overview of the different areas of our business and operations and a discussion of key areas of interest. Briefing sessions are also held for new committee members.

Directors receive a reference manual with:

- details about their duties and obligations as a member of the Board
- information about our business and operations
- copies of the Board and committee charters
- copies of recent public disclosure filings
- documents from recent Board meetings.

The Governance committee reviews the orientation program and manual every year so they continue to meet our needs and those of new directors.

The committee also develops the continuing education program every year based on current and emerging issues, our corporate objectives and input from other directors. Our 2017 education program included three in-depth focus sessions covering the business and industry fundamentals, which help to provide context for strategy discussions.

Continuing education helps strengthen a director's knowledge and understanding of the business, industry, governance and other issues. Senior management and external experts make presentations to the Board and committees from time to time on various topics related to the business, including changes to legal, regulatory and industry requirements. Continuing education is also conducted on an informal basis and our directors are provided with articles and publications of interest.

We suggest seminars and education programs for our directors that may be relevant, and pay the registration fee and travel expenses as appropriate. We also offer to pay annual fees for memberships with organizations that are appropriate and provide relevant publications and educational opportunities to our directors.

## 2017 Director education program

Date	Topic	Presented/hosted by	Attended by
May 4	Strategic issues session – North America Natural Gas Strategic Review and Project Accountabilities	Members of the executive leadership team	All directors
May 8 - 10	North American Occupational Safety & Health Week -TransCanada's Life Saving Rules Safety Campaign	Members of executive leadership team and management representatives	D. Michael G. Stewart
June 12	Focus sessions – <ul style="list-style-type: none"> <li>Incident Management Preparation Discussion</li> <li>Global LNG Market Opportunities and Challenges</li> </ul>	<ul style="list-style-type: none"> <li>Bartlit Beck Herman Palenchar &amp; Scott LLP</li> <li>Poten &amp; Partners</li> </ul>	All directors
June 13	Strategic issues session – U.S. Natural Gas Pipelines Business Environment and Overview	Members of the executive leadership team and management representatives	All directors
June 14	Site visit – Leach Xpress and Summerfield Compressor Station, Ohio	Leach Xpress project team	All directors
June 21 - 23	Tour of Sur de Texas Offshore Pipeline Construction, Mexico	SVP, Mexico Natural Gas Pipelines	D. Michael G. Stewart
September 18	Focus session – North American Power Sector	IHS Markit	All directors
October 11	Site visit – Bruce Power, Kincardine, Ontario	Bruce Power project team	D. Michael G. Stewart Mary Pat Salomone Dr. Indira Samarasekera Siim Vanaselja Rick Waugh
October 25	Focus session – Crude Oil Markets	IHS Markit	All directors
October 30	Best Boardroom Practices	National Association of Corporate Directors	Mary Pat Salomone
November 6 - 7	Strategic planning sessions – <ul style="list-style-type: none"> <li>Sustainable Energy and the Future of Electric Power</li> <li>Evolution of Energy Systems in Society</li> <li>Business Environment, Energy and Market Fundamentals, Natural Gas and Liquids Pipelines and Asset Allocation</li> </ul>	<ul style="list-style-type: none"> <li>Dr. Peter Fox-Penner</li> <li>Peter Tertzakian, ARC Energy Research Institute</li> <li>Members of the executive leadership team</li> </ul>	All directors
December 6	Strategic issues session – Talent Management, Portfolio Management	EVP, Corporate Services and EVP, Strategy and Corporate Development	All directors

## BOARD EFFECTIVENESS AND DIRECTOR ASSESSMENT

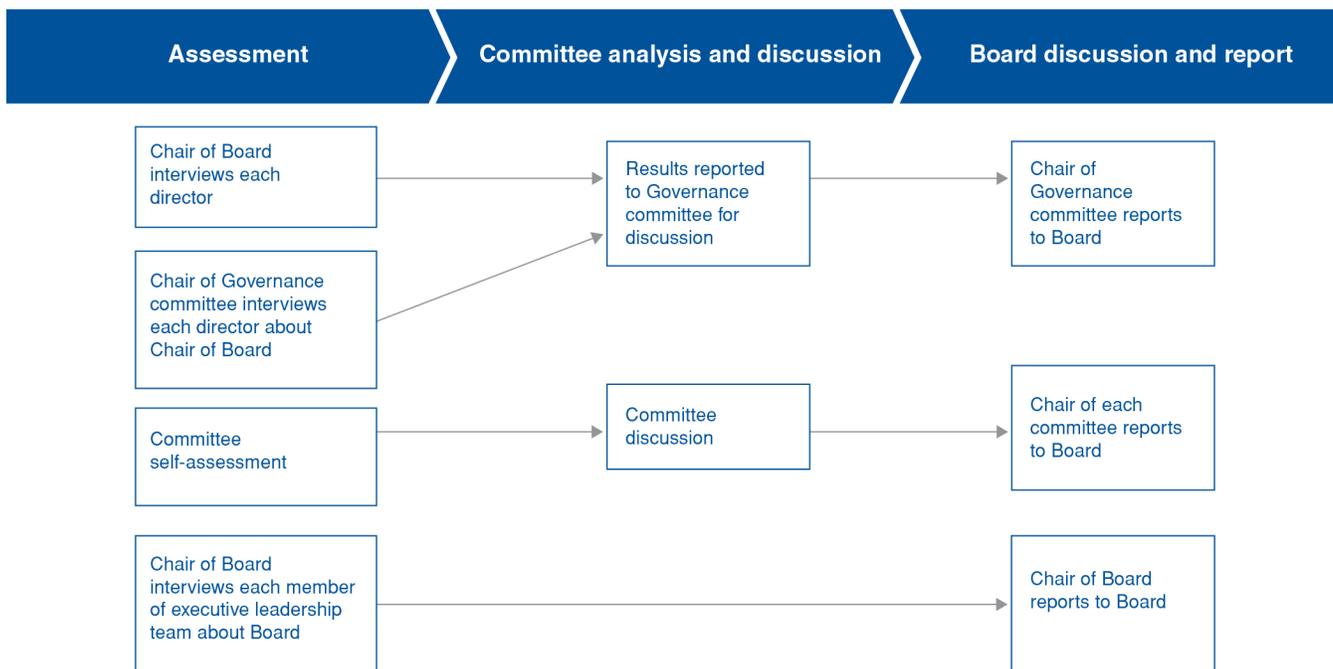
The Governance committee oversees an assessment of the performance of the Board, the Chair, committees and individual directors annually and reports the results to the Board.

In 2017, the Governance committee undertook a review of the existing Board, Chair, committee and director assessment process and considered several alternatives. The committee determined that the current process of director interviews is functioning effectively.

In 2018, as part of the Governance committee's focus on continuous improvement, the assessment process will involve both the Chair of the Board and Chair of the Governance committee meeting with each director individually for the individual director assessment. The individual director assessment will also include a discussion of expectations for directors serving on our Board, and providing specific feedback to each director on their performance as a member of the Board.

Interviews include questions about effectiveness, communication and personal and individual peer performance and solicit input from directors about areas for potential improvement. The interviews are open-ended to encourage discussion and seek specific input on topics such as risk, strategy and governance.

The Governance committee believes the interview process is the most effective way for directors to give feedback that can be reviewed by the entire Board. The committee also monitors developments in board governance and evolving best practices in corporate governance.



In 2017, the assessment process showed that the Chair, each director, and all committees are functioning effectively and fulfilling the mandates set out in the Board and committee charters.

### Financial literacy

The Board has determined that all members of the Audit committee are *financially literate*, which means each member can read and understand a set of financial statements that are generally comparable to ours in terms of breadth and complexity of accounting issues. You can find more information about their education and financial experience in the director profiles starting on page 14, in the Audit committee report on page 49 and in the AIF which is available on our website ([www.transcanada.com](http://www.transcanada.com)) and on SEDAR ([www.sedar.com](http://www.sedar.com)).

## Board renewal

The Governance committee regularly assesses the skill set of each director, and reviews it against the director retirement schedule, their ages and the composition of each committee. The review also takes into account the desirability of maintaining a reasonable diversity of backgrounds, and character and behavioural qualities such as integrity.

The Governance committee, with input from the Chair of the Board and the CEO, is responsible for identifying suitable director candidates, and canvasses the entire Board for potential nominees. The committee also uses a third party recruitment specialist to identify potential director candidates. The committee is responsible for assessing the individuals and proposing the strongest candidates for nomination. An evolving roster of suitable director candidates is maintained by the committee.

The committee looks for a mix of skills and experience required for overseeing our business and affairs. The Board considers personal characteristics such as gender, ethnic background and geographic residence when looking at diversity. While candidates are nominated as directors based on their background and ability to contribute to the Board and committee meetings, the Board also specifically considers gender diversity. Board gender diversity is discussed earlier, under the section **Governance - Board Characteristics - Board Diversity**.

Candidates who are being nominated for the first time must have experience in industries similar to ours, or experience in general business management or with corporations that are similar in size and scope. Candidates must also be willing to serve on the Board, able to devote the necessary time to fulfill their duties and responsibilities and be under 70 years old.

The committee recommends potential candidates based on their qualifications and independence and how these qualities balance with the skill set of the current Board, the structure and composition of the committees and the director retirement schedule. This assessment helps the Board determine the best mix of skills and experience to guide our business operations and our long-term strategy.

In 2017, the Governance committee reviewed and refreshed the key expertise areas considered when determining Board composition. In consultation with a third party recruitment specialist, the committee developed a revised set of key expertise areas that are fundamental to the effective functioning of our Board, and necessary to develop our strategy and facilitate long-term growth. This process included a special meeting of the Governance committee to review the existing key expertise areas, refresh key expertise areas, and a gap analysis which is used to assist in Board renewal and director candidate assessments. The committee also developed definitions for the key expertise areas, which provide a consistent guideline for director and director candidate assessment.

The committee ensures that the Board seeks expertise in the following key areas:

- Accounting/audit
- Capital markets
- CEO
- Electric power
- Energy, midstream & transportation
- Governance
- Government & regulatory
- Human resources & compensation
- Major projects
- Mergers & acquisitions
- Operations/health, safety & environment
- Risk management
- Strategy & leading growth
- Upstream oil & gas

The third party recruitment specialist also interviewed each current director, and independently assessed the experience and skills each director has in the key areas listed above. While all of our directors possess an extensive list of skills and experience, the Governance committee determined that focusing on each director's top five key expertise areas is a more effective way to assess director candidates and ensure that our Board has a deep knowledge base available in each key expertise area.

## Skills analysis

The image below shows the top five key expertise areas of each of the current directors, as assessed by an independent third party recruitment specialist. The Governance committee considers these factors and others when discussing Board renewal.

### Skills analysis

#### Area of expertise

#### Legend

Director with expertise  
 Director with expertise + retiring within three years



#### Accounting/audit



- Kevin E. Benson
- Russell K. Girling
- John E. Lowe
- Siim A. Vanaselja

#### Capital markets



- Kevin E. Benson
- Russell K. Girling
- John E. Lowe
- Siim A. Vanaselja

- Richard E. Waugh

#### CEO



- Kevin E. Benson
- Derek H. Burney
- Stéphan Crétier
- S. Barry Jackson

- Paula Rosput Reynolds
- Indira Samarasekera
- Thierry Vandal
- Richard E. Waugh

#### Electric power



- Russell K. Girling
- Mary Pat Salomone
- Thierry Vandal

#### Energy, midstream & transportation



- Russell K. Girling
- John E. Lowe
- Paula Rosput Reynolds
- D. Michael G. Stewart

- Thierry Vandal

#### Governance



- Kevin E. Benson
- Derek H. Burney
- Mary Pat Salomone
- Indira Samarasekera

- Richard E. Waugh

#### Government & regulatory



- Derek H. Burney
- Paula Rosput Reynolds
- Indira Samarasekera
- Thierry Vandal

#### Human resources & compensation



- S. Barry Jackson
- Paula Rosput Reynolds
- Mary Pat Salomone
- Indira Samarasekera

#### Major projects



- Paula Rosput Reynolds
- Mary Pat Salomone
- D. Michael G. Stewart
- Thierry Vandal

#### Mergers & acquisitions



- Stéphan Crétier
- John E. Lowe
- Siim A. Vanaselja

#### Operations/ health, safety & environment



- Kevin E. Benson
- Stéphan Crétier
- S. Barry Jackson
- Mary Pat Salomone

- D. Michael G. Stewart

#### Risk management



- Derek H. Burney
- Stéphan Crétier
- D. Michael G. Stewart
- Siim A. Vanaselja

- Richard E. Waugh

#### Strategy & leading growth



- Derek H. Burney
- Stéphan Crétier
- Russell K. Girling
- S. Barry Jackson

- Indira Samarasekera
- Siim A. Vanaselja
- Richard E. Waugh

#### Upstream oil & gas



- S. Barry Jackson
- John E. Lowe
- D. Michael G. Stewart

## Expected retirement years

This table provides the expected retirement year for each of the current non-executive directors, based on current age.

Year director(s) expected to retire			
<b>2018</b>	Derek H. Burney, Richard Waugh	<b>2029</b>	John E. Lowe
<b>2019</b>	Kevin E. Benson	<b>2030</b>	Mary Pat Salomone
<b>2022</b>	D. Michael G. Stewart, Indira Samarasekera	<b>2031</b>	Thierry Vandal
<b>2023</b>	S. Barry Jackson	<b>2033</b>	Stéphan Crétier
<b>2027</b>	Paula Rosput Reynolds, Siim A. Vanaselja		

## Director tenure

Once a director turns 70, he or she will not stand for re-election at the next annual meeting. The Board may waive the retirement age for a director if:

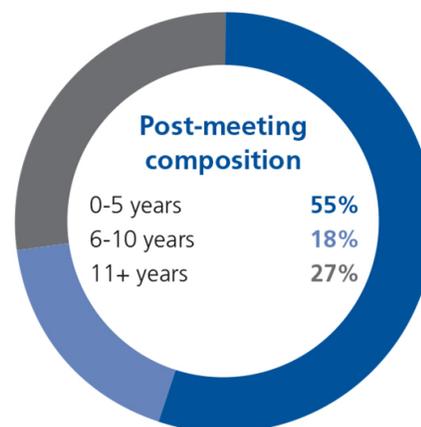
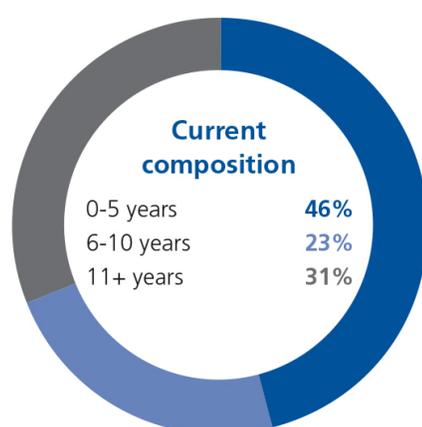
- they have not served seven consecutive years by age 70, or
- their continued service is in the best interests of the company, because of their specific skills and experience.

The Governance committee reviews factors like age, changes in principal occupation, consistently poor attendance, poor performance and other relevant circumstances that may trigger the resignation or retirement of a director.

TransCanada does not use term limits for our directors. We do not believe term limits are an effective mechanism to promote board renewal. In addition to the annual director assessment, which ensures that each of our Board members, committees and the Board is functioning effectively, the committee reviews director succession planning at least annually. This review provides the opportunity for the committee to focus on creating a board with an appropriate mix of experience and skills to guide the long-term strategy and ongoing business operations of the company. Our flexible retirement policy promotes effective Board turnover without limiting the mix of skills and experience on the Board.

The Board has waived the retirement age policy for Mr. Benson and has asked him to stand for re-election at the 2018 annual meeting. Mr. Benson's extensive business experience and management skills continue to provide valuable input into the Board's oversight of TransCanada's business and affairs. In addition, as Chair of the Governance committee, Mr. Benson is integrally involved in overseeing the director succession efforts of that committee in light of recent and pending director retirements.

The graphs below show the composition of our Board by years of service as of the date of this circular and after the annual meeting, assuming all of the nominated directors are elected.



## **ENGAGEMENT**

We believe it is important to engage with our stakeholders.

Members of our Board engage with governance organizations and shareholder advocacy groups to discuss emerging best practices and provide commentary on how we maintain our high standard of corporate governance.

TransCanada has a comprehensive program to regularly engage with our shareholders and other stakeholders. We issue press releases to announce material company developments and to report our quarterly financial results. Our executive leadership team hosts teleconferences to discuss our quarterly financial and operating results, as well as significant company developments. Our executive leadership team also hosts an annual investor day to discuss the company's strategy, recent developments and the longer-term outlook for the business. The teleconferences and investor day are webcast and available to analysts, shareholders, media and the general public. Our executive and senior management speak at investor and industry conferences and meet in person or by phone with investors one-on-one as part of our regular shareholder engagement. Our investor relations department is also available for meetings and calls to address shareholder questions and concerns and to provide public information on TransCanada.

Press releases, corporate information, frequently asked questions and details of past and upcoming investor events and presentations can be found online at [www.transcanada.com](http://www.transcanada.com).

Investor relations welcomes opportunities to engage with our shareholders and other stakeholders. You may contact our investor relations department directly by phone, email, or regular mail at:

Investor Relations  
TransCanada Corporation  
450 1<sup>st</sup> Street S.W.  
Calgary, Alberta  
Canada T2P 5H1  
[investor\\_relations@transcanada.com](mailto:investor_relations@transcanada.com)  
1.800.361.6522

## **COMMUNICATING WITH THE BOARD**

Shareholder engagement allows us to hear directly from shareholders and other important stakeholders about any issues or concerns.

Shareholders, employees and others can contact the Board directly by writing to:

Chair of the Board of Directors  
c/o Corporate Secretary  
TransCanada Corporation  
450 1<sup>st</sup> Street S.W.  
Calgary, Alberta T2P 5H1

The Board, including committee Chairs, will also be available at the annual meeting to receive questions from shareholders.

## SHAREHOLDER PROPOSALS

According to Canadian law, shareholder proposals can only be considered for the annual meeting of common shareholders if they are submitted by a specific date.

Our Corporate Secretary must receive any shareholder proposals **before 5:00 p.m. MDT on November 22, 2018** to be considered for the circular for our 2019 annual meeting of common shareholders.

## ADVANCE NOTICE BYLAW

Shareholders who wish to nominate a director for the 2018 annual meeting of common shareholders, other than by a shareholder proposal, must:

- notify the Corporate Secretary in writing, and
- provide the information required in our By-law Number 1, which can be found on our website ([www.transcanada.com](http://www.transcanada.com)) or on SEDAR ([www.sedar.com](http://www.sedar.com)).

Any notices of director nominees must be received by the Corporate Secretary **before 5:00 p.m. MDT on March 27, 2018** for an individual to be included in our list of director nominees for our 2018 annual meeting of common shareholders.

The chart below explains when advance notice of director nominations is required for annual meetings and special meetings:

Type of meeting	Announcement timing	Advance notice deadline
Annual meeting	Public announcement more than 50 days before meeting	Not less than 30 days before meeting
	Public announcement 50 days or less before meeting	Not less than 10 days following the first public announcement of the meeting
Special meeting to elect directors	Public announcement more than 50 days before meeting	Not less than 15 days before meeting
	Public announcement 50 days or less before meeting	Not less than 15 days following the first public announcement of the meeting

## BOARD COMMITTEES

The Board has four standing committees:

- Audit committee
- Governance committee
- Health, Safety and Environment committee
- Human Resources committee

Each of the committees is comprised entirely of independent directors.

The Governance committee is responsible for reviewing the composition of each committee and recommending any changes once new directors are appointed or elected to the Board. Each committee must consist entirely of independent directors, except for the Health, Safety and Environment committee, which must have a majority of independent directors. Currently, all members of the Health, Safety and Environment committee are independent. Each committee has the authority to retain advisors to help it carry out its responsibilities. The Board does not have an executive committee.

Each committee reviews its charter at least once a year, and recommends any changes to the Governance committee and the Board. You can find the committee charters on our website ([www.transcanada.com](http://www.transcanada.com)).

The Audit and the Human Resources committees hold simultaneous meetings, as do the Governance and Health, Safety and Environment committees, so each committee has sufficient time to focus on its responsibilities. As a result, Mr. Vanaselja, the independent non-executive Chair of the Board, is a voting member of the Governance committee and the Human Resources committee, and is not a member of the Audit committee or the Health, Safety and Environment committee.

The committees will be reconstituted after the annual meeting.

Each meeting has time set aside for members to discuss the committee operations and responsibilities without management present.

## Audit committee

<b>Members</b>	John E. Lowe (Chair) Kevin E. Benson Derek H. Burney (retiring April 27, 2018) Stéphan Crétier Indira Samarasekera D. Michael G. Stewart Thierry Vandal (as of November 8, 2017)
<b>Meetings in 2017</b>	5 regularly scheduled meetings (February, May, July, November, December)
<b>Independent</b>	7 independent directors, 100 per cent independent and financially literate.
	Mr. Benson, Mr. Lowe and Mr. Vandal are "audit committee financial experts" as defined by the SEC in the U.S., and each have the accounting or related financial management experience required under the NYSE rules.
<b>Mandate</b>	The Audit committee is responsible for assisting the Board in overseeing the integrity of our financial statements and our compliance with legal and regulatory requirements. It is also responsible for overseeing and monitoring the accounting and reporting process and the process, performance and independence of our internal and external auditors.

The Audit committee meets in-camera with the Chief Financial Officer (CFO) at the beginning of each meeting, and also meets separately with the external auditors and Vice-President, Corporate Compliance and Internal Audit. The committee also meets in-camera at the end of each meeting.

### 2017 highlights

- **Reviewed** our 2017 interim and annual disclosure documents including the unaudited interim and audited annual consolidated financial statements and related management's discussion and analysis, AIF and circular and recommended them for approval.
- **Oversaw** our financial reporting risks including issues relating to materiality and risk assessment.
- **Received** the external auditor's formal written statement of independence (which sets out all of its relationships with TransCanada) and its comments to management about our internal controls and procedures.
- **Reviewed** the appointment of the external auditor and estimated fees and recommended them to the Board for approval.
- **Reviewed** the audit plans of the internal and external auditors and pre-approved the non-audit services performed by KPMG relating primarily to tax and benefit plans.
- **Approved** appointment of the external auditor for 401(k) employee retirement plans.
- **Recommended** the funding of the registered pension plan and supplemental pension plan.
- **Reviewed** the major accounting policies and estimates.
- **Received** reports from management on our cybersecurity plans and initiatives.
- **Oversaw** the corporate compliance program requirements, structure and results, including foreign corrupt practices and anti-bribery statutes and policies.
- **Monitored** Canadian and U.S. financial reporting and legal and regulatory developments affecting our financial reporting process, controls and disclosure.
- **Reviewed and recommended** changes to the suite of risk management policies, and reviewed developments and reports relating to counterparty, insurance and market risks.
- **Reviewed and recommended** prospectuses relating to the issuance of securities, including an "At-the-Market" common share issuance program.
- **Recommended** amendments to the *Code of business ethics*.
- **Approved** annual election to enter into uncleared swaps as permitted under U.S. legislation and monitored compliance.
- **Received** regular reports from management on risk management, finance and liquidity, treasury, pensions, tax, compliance, material litigation and information services security controls.
- **Received** regular reports from Internal Audit.
- **Reviewed** adequacy of staff complements in accounting and tax.
- **Reviewed and Recommended** amendments to the Audit committee charter.
- **Reviewed** material litigation.

Our AIF includes more information about the Audit committee, including the committee charter, oversight responsibilities, each member's education and experience, and policies and procedures for pre-approving permitted non-audit services. The 2017 AIF is available on our website ([www.transcanada.com](http://www.transcanada.com)) and on SEDAR ([www.sedar.com](http://www.sedar.com)).

## Governance committee

<b>Members</b>	Kevin E. Benson (Chair) Derek H. Burney (retiring April 27, 2018) S. Barry Jackson Paula Rospot Reynolds (as of May 5, 2017) Indira Samarasekera Siim A. Vanaselja
<b>Meetings in 2017</b>	3 regularly scheduled meetings (February, May, December) and 1 special meeting (April)
<b>Independent</b>	6 independent directors, 100 per cent independent
<b>Mandate</b>	The Governance committee is responsible for assisting the Board with maintaining strong governance policies and practices at TransCanada, reviewing the independence and financial literacy of directors, managing director compensation and the Board assessment process, and overseeing our strategic planning process and risk management activities. It monitors the relationship between management and the Board, directors' share ownership levels, governance developments and emerging best practices. It is also responsible for identifying qualified candidates for the Board to consider as potential directors. It also recommends the meeting schedule for Board and committee meetings, site visits, and oversees matters related to the timing of our annual meeting.

The Governance committee meets in-camera at the beginning and end of each meeting.

### 2017 highlights

- **Reviewed** the independence of each director according to our written criteria to give the Board guidance in its annual assessment of independence and the structure and composition of each committee, and the other directorships held by Board members (including public and private companies, Crown corporations and non-profit organizations).
- **Oversaw** our strategic planning process, including strategic issues to be considered and planning of our strategic issues and planning sessions.
- **Oversaw** our risk management activities, including receiving updates on 'top of mind' business risks and making recommendations to the Board as appropriate.
- **Reviewed** the identified principal risks with management to ensure we have proper Board and committee oversight and management programs in place to mitigate risks.
- **Monitored** director share ownership requirements.
- **Received** information and discussed certain elements of director compensation structure.
- **Reviewed** say on pay updates and voting trends.
- **Reviewed** our lobbying policies, activities and expenditures.
- **Revised** the list of key expertise areas for our Board, including developing definitions.
- **Reviewed** our Corporate governance guidelines and committee charters and recommended appropriate changes to the Board for approval. The changes included revisions to the Governance and Human Resources committee charters to reflect existing conflict of interest and risk management oversight processes.
- **Oversaw** the annual assessment of the Board, committees and Chair.
- **Monitored** updates to securities regulations (regulation and legal updates affecting our policies, procedures and disclosure practices) and matters relating to the financial markets. The committee continues to monitor legal developments and emerging best practices in Canada, the U.S. and internationally.
- **Oversaw** the Board's retirement policy, Board renewal, and the selection of new director candidates.
- **Reviewed** external governance assessments and made recommendations for revisions to governance practices to the Board as appropriate.
- **Received** information about virtual and hybrid shareholder meetings.

## Health, Safety and Environment committee

<b>Members</b>	D. Michael G. Stewart (Chair) Stéphan Crétier John Lowe Mary Pat Salomone Thierry Vandal (as of November 8, 2017) Richard E. Waugh (retiring April 27, 2018)
<b>Meetings in 2017</b>	4 regularly scheduled meetings (February, May, June and December)
<b>Independent</b>	6 independent directors, 100 per cent independent
<b>Mandate</b>	The Health, Safety & Environment committee is responsible of oversight for health, safety, security and environmental matters (HSE matters).  The committee reviews and monitors: <ul style="list-style-type: none"> <li>• the performance and activities of TransCanada on HSE matters including compliance with applicable and proposed legislation, regulations and orders; conformance with industry standards and best practices; people, health, safety and security; process safety; asset reliability; operational risk management and asset integrity plans and programs; and emergency response plans and programs</li> <li>• the systems, programs and policies relating to HSE matters and whether they are being appropriately developed and effectively implemented</li> <li>• actions and initiatives undertaken by TransCanada to prevent, mitigate and manage risks related to HSE matters which may have the potential to adversely impact our operations, activities, plans, strategies or reputation; or prevent loss or injury to our employees and assets or operations from malicious acts, natural disasters or other crisis situations</li> <li>• any critical incidents respecting our assets or operations involving: the fatality of or a life threatening injury to a person; any pipeline ruptures resulting in significant property damage or loss of product; any whistleblower events relating to HSE matters; or any incidents involving personnel and public safety, property damage, environmental damage or physical security that have the potential to severely and adversely impact our reputation and or business continuity</li> <li>• significant regulatory audits, findings, orders, reports and/or recommendations issued by or to TransCanada related to HSE matters or issues, together with management's response thereto.</li> </ul>

The Health, Safety and Environment committee met separately with the Chief Operating Officer (for part of the year) and with representatives from senior management (for the remainder of the year) at the end of each meeting. The committee also meets in-camera at the end of each meeting.

### 2017 highlights

- **Received and reviewed** regular reports on HSE related activities, performance and compliance.
- **Received** regular reports on operational risk management, people and process safety and regulatory compliance matters related to asset integrity.
- **Reviewed** the status of critical incidents, root cause analysis and incident follow-up.
- **Monitored** management's response and the status of corrective action plans to significant audits from the National Energy Board, Pipeline and Hazardous Materials Safety Administration and other regulatory agencies.
- **Oversaw** our risk management activities related to health, safety, security and environment, and reported to the Board as appropriate.
- **Monitored** the effectiveness of HSE policies, management systems, programs, procedures and practices through the receipt of reports on four levels of governance activities related to internal and external audit findings.
- **Monitored** updates to Canadian and U.S. air emissions and greenhouse gas (GHG) legislation, climate change initiatives and related compliance matters.
- **Received** the Health and Industrial Hygiene annual review.
- **Visited** the Leach Xpress and Summerfield Compressor Station, Ohio.
- **Attended** an optional site visit to Bruce Power, Kincardine, Ontario, which included a live demonstration of the Fire Training Facility.
- **Received** and reviewed regular reports on the operational and HSE performance at Bruce Power.
- **Received** a presentation from external consultants relating to root cause analysis for historical environmental disasters.

## Human Resources committee

<b>Members</b>	Paula Rosput Reynolds (Chair) S. Barry Jackson Mary Pat Salomone Siim A. Vanaselja (as of May 5, 2017) Richard E. Waugh (retiring April 27, 2018)
<b>Meetings in 2017</b>	5 regularly scheduled meetings (January, February, July, November and December)
<b>Independent</b>	5 independent directors, 100 per cent independent
<b>Mandate</b>	The Human Resources committee is responsible for assisting the Board with developing strong human resources policies and plans, overseeing the compensation programs, and assessing the performance of the CEO and other members of the executive leadership team against pre-established objectives and recommending their compensation to the Board. It approves and, as applicable, recommends to the Board executive incentive awards, and any major changes to the compensation programs and benefits plans for employees. It also reviews the benefits under our Canadian pension plans and share ownership requirements for executives.

The Human Resources committee meets in-camera at the beginning and end of each meeting.

### 2017 highlights

- **Assessed** the performance of the executive leadership team and recommended the 2017 executive compensation awards to the Board for approval.
- **Reappointed** Meridian Compensation Partners (Meridian) as the independent compensation advisor to the committee after determining that Meridian is independent based on the factors enumerated by the NYSE.
- **Modified** the performance measure relative weightings for the named executives under the short-term incentive plan to reflect a higher weighting on Corporate and Business Unit performance.
- **Reviewed** the changes to the U.S. retirement programs to better align with U.S. market practices.
- **Reviewed** the risks associated with its compensation programs.
- **Reviewed** and approved a recalibrated named executive officer compensation peer group.
- **Approved** a defined peer group for U.S. employees beginning in 2018 as part of the integration of legacy Columbia employees into TransCanada's compensation programs.
- **Reviewed** the stock option plan and recommended changes to amendment provisions to align with best practices.
- **Reviewed** the long-term incentive mix and current market trends.
- **Reviewed** our performance measures under the Executive Share Unit (ESU) plan.
- **Reviewed** our talent strategy.
- **Reviewed** the alignment of actual compensation earned with performance over the applicable measurement periods.

# Schedule C

## Charter of the Audit Committee

### 1. PURPOSE

The Audit Committee shall assist the Board of Directors (the Board) in overseeing and monitoring, among other things, the:

- Company's financial accounting and reporting process;
- integrity of the financial statements;
- Company's internal control over financial reporting;
- external financial audit process;
- compliance by the Company with legal and regulatory requirements; and
- independence and performance of the Company's internal and external auditor.

To fulfill its purpose, the Audit Committee has been delegated certain authorities by the Board that it may exercise on behalf of the Board.

### 2. ROLES AND RESPONSIBILITIES

#### I. Appointment of the Company's External Auditor

Subject to confirmation by the external auditor of their compliance with Canadian and U.S. regulatory registration requirements, the Audit Committee shall recommend to the Board the appointment of the external auditor, such appointment to be confirmed by the Company's shareholders at each annual meeting. The Audit Committee shall also recommend to the Board the compensation to be paid to the external auditor for audit services. The Audit Committee shall also be directly responsible for the oversight of the work of the external auditor (including resolution of disagreements between management and the external auditor regarding financial reporting) for the purpose of preparing or issuing an audit report or related work. The external auditor shall report directly to the Audit Committee.

The Audit Committee shall review and approve the audit plan of the external auditor. The Audit Committee shall also receive periodic reports from the external auditor regarding the auditor's independence, discuss such reports with the auditor, consider whether the provision of non-audit services is compatible with maintaining the auditor's independence and take appropriate action to satisfy itself of the independence of the external auditor.

#### II. Oversight in Respect of Financial Disclosure

The Audit Committee shall, to the extent it deems it necessary or appropriate:

- (a) review, discuss with management and the external auditor and recommend to the Board for approval, the Company's audited annual consolidated financial statements, annual information form, management's discussion and analysis (MD&A), all financial information in prospectuses and other offering memoranda, financial statements required by securities regulators, all prospectuses and all documents which may be incorporated by reference into a prospectus, including, without limitation, the annual management information circular, but excluding any pricing or prospectus supplement relating to the issuance of debt securities of the Company;
- (b) review, discuss with management and the external auditor and recommend to the Board for approval, the release to the public of the Company's interim reports, including the consolidated financial statements, MD&A and press releases on quarterly financial results;
- (c) review and discuss with management and the external auditor the use of non-GAAP information and the applicable reconciliation;
- (d) review and discuss with management any financial outlook or future-oriented financial information disclosure in advance of its public release; provided, however, that such discussion may be done generally (consisting of discussing the types of information to be disclosed and the types of presentations to be made). The Audit Committee need not discuss in advance each instance in which the Company may provide financial projections or presentations to credit rating agencies;

- (e) review with management and the external auditor major issues regarding accounting policies and auditing practices, including any significant changes in the Company's selection or application of accounting policies, as well as major issues as to the adequacy of the Company's internal controls and any special audit steps adopted in light of material control deficiencies that could significantly affect the Company's financial statements;
- (f) review and discuss quarterly findings reports from the external auditor on:
  - (i) all critical accounting policies and practices to be used;
  - (ii) all alternative treatments of financial information within generally accepted accounting principles that have been discussed with management, ramifications of the use of such alternative disclosures and treatments, and the treatment preferred by the external auditor; and
  - (iii) other material written communications between the external auditor and management, such as any management letter or schedule of unadjusted differences.
- (g) review with management and the external auditor the effect of regulatory and accounting developments on the Company's financial statements;
- (a) review with management and the external auditor the effect of any off-balance sheet structures on the Company's financial statements;
- (i) review with management, the external auditor and, if necessary, legal counsel, any litigation, claim or contingency, including arbitration and tax assessments, that could have a material effect upon the financial position of the Company, and the manner in which these matters have been disclosed in the financial statements;
- (j) review disclosures made to the Audit Committee by the Company's Chief Executive Officer (CEO) and Chief Financial Officer (CFO) during their certification process for the periodic reports filed with securities regulators about any significant deficiencies in the design or operation of internal controls or material weaknesses therein and any fraud involving management or other employees who have a significant role in the Company's internal controls; and
- (k) discuss with management the Company's material financial risk exposures and the steps management has taken to monitor and control such exposures, including the Company's risk assessment and risk management policies.

### **III. Oversight in Respect of Legal and Regulatory Matters**

- (a) review with the Company's General Counsel legal matters that may have a material impact on the financial statements, the Company's compliance policies and any material reports or inquiries received from regulators or governmental agencies.

### **IV. Oversight in Respect of Internal Audit**

- (a) review and approve the audit plans of the internal auditor of the Company including the degree of coordination between such plans and those of the external auditor and the extent to which the planned audit scope can be relied upon to detect weaknesses in internal control, fraud or other illegal acts;
- (b) review the significant findings prepared by the internal audit department and recommendations issued by it or by any external party relating to internal audit issues, together with management's response thereto;
- (c) review compliance with the Company's policies and avoidance of conflicts of interest;
- (d) review the report prepared by the internal auditor on officers' expenses and aircraft usage;
- (e) review the adequacy of the resources of the internal auditor to ensure the objectivity and independence of the internal audit function, including reports from the internal audit department on its audit process with subsidiaries and affiliates; and
- (f) ensure the internal auditor has access to the Chair of the Audit Committee, the Board and the CEO and meet separately with the internal auditor to review with him or her any problems or difficulties he or she may have encountered and specifically:
  - (i) any difficulties which were encountered in the course of the audit work, including restrictions on the scope of activities or access to required information, and any disagreements with management;
  - (ii) any changes required in the planned scope of the internal audit; and

(iii) the internal audit department responsibilities, budget and staffing; and to report to the Board on such meetings.

#### **V. Oversight in Respect of the External Auditor**

- (a) review any letter, report or other communication from the external auditor in respect of any identified weakness in internal control or unadjusted difference and management's response and follow-up, inquire regularly of management and the external auditor of any significant issues between them and how they have been resolved, and intervene in the resolution if required;
- (b) receive and review annually the external auditor's formal written statement of independence delineating all relationships between itself and the Company;
- (c) meet separately with the external auditor to review any problems or difficulties the external auditor may have encountered and specifically:
  - (i) any difficulties which were encountered in the course of the audit work, including any restrictions on the scope of activities or access to required information, and any disagreements with management; and
  - (ii) any changes required in the planned scope of the audit and to report to the Board on such meetings.
- (d) meet with the external auditor prior to the audit to review the planning and staffing of the audit;
- (e) receive and review annually the external auditor's written report on their own internal quality control procedures; any material issues raised by the most recent internal quality control review, or peer review, of the external auditor, or by any inquiry or investigation by governmental or professional authorities, within the preceding five years, and any steps taken to deal with such issues;
- (f) review and evaluate the external auditor, including the lead partner of the external auditor team; and
- (g) ensure the rotation of the lead (or coordinating) audit partner having primary responsibility for the audit and the audit partner responsible for reviewing the audit as required by law, but at least every five years.

#### **VI. Oversight in Respect of Audit and Non-Audit Services**

- (a) pre-approve all audit services (which may entail providing comfort letters in connection with securities underwritings) and all permitted non-audit services, other than non-audit services where:
  - (i) the aggregate amount of all such non-audit services provided to the Company that were not pre-approved constitutes not more than five percent of the total fees paid by the Company and its subsidiaries to the external auditor during the fiscal year in which the non-audit services are provided;
  - (ii) such services were not recognized by the Company at the time of the engagement to be non-audit services; and
  - (iii) such services are promptly brought to the attention of the Audit Committee and approved, prior to the completion of the audit, by the Audit Committee or by one or more members of the Audit Committee to whom authority to grant such approvals has been delegated by the Audit Committee.
- (b) approval by the Audit Committee of a non-audit service to be performed by the external auditor shall be disclosed as required under securities laws and regulations;
- (c) the Audit Committee may delegate to one or more designated members of the Audit Committee the authority to grant pre-approvals required by this subsection. The decisions of any member to whom authority is delegated to pre-approve an activity shall be presented to the Audit Committee at its first scheduled meeting following such pre-approval; and
- (d) if the Audit Committee approves an audit service within the scope of the engagement of the external auditor, such audit service shall be deemed to have been pre-approved for purposes of this subsection.

#### **VII. Oversight in Respect of Certain Policies**

- (a) review and recommend to the Board for approval the implementation of, and significant amendments to, policies and program initiatives deemed advisable by management or the Audit Committee with respect to the Company's code of business ethics (COBE), risk management and financial reporting policies;

- (b) obtain reports from management, the Company's senior internal auditing executive and the external auditor and report to the Board on the status and adequacy of the Company's efforts to ensure its businesses are conducted and its facilities are operated in an ethical, legally compliant and socially responsible manner, in accordance with the Company's COBE;
- (c) establish a non-traceable, confidential and anonymous system by which callers may ask for advice or report any ethical or financial concern, ensure that procedures for the receipt, retention and treatment of complaints in respect of accounting, internal controls and auditing matters are in place, and receive reports on such matters as necessary;
- (d) annually review and assess the adequacy of the Company's public disclosure policy; and
- (e) review and approve the Company's hiring policy for partners, employees and former partners and employees of the present and former external auditor (recognizing the Sarbanes-Oxley Act of 2002 does not permit the CEO, controller, CFO or chief accounting officer to have participated in the Company's audit as an employee of the external auditor during the preceding one-year period) and monitor the Company's adherence to the policy.

**VIII. Oversight in Respect of Financial Aspects of the Company's Canadian Pension Plans (the Company's pension plans), specifically:**

- (a) review and approve annually the Statement of Investment Beliefs for the Company's pension plans;
- (b) delegate the ongoing administration and management of the financial aspects of the Canadian pension plans to the Pension Committee comprised of members of the Company's management team appointed by the Human Resources Committee, in accordance with the Pension Committee Charter, which terms shall be approved by both the Audit Committee and the Human Resources Committee, and the terms of the Statement of Investment Beliefs;
- (c) monitor the financial management activities of the Pension Committee and receive updates at least annually from the Pension Committee on the investment of the Plan assets to ensure compliance with the Statement of Investment Beliefs;
- (d) provide advice to the Human Resources Committee on any proposed changes in the Company's pension plans in respect of any significant effect such changes may have on pension financial matters;
- (e) review and consider financial and investment reports and the funded status relating to the Company's pension plans and recommend to the Board on pension contributions;
- (f) receive, review and report to the Board on the actuarial valuation and funding requirements for the Company's pension plans;
- (g) approve the initial selection or change of actuary for the Company's pension plans; and
- (h) approve the appointment or termination of the pension plans' auditor.

**IX. U.S. Stock Plans**

- (a) review and approve the engagement and related fees of the auditor for any plan of a U.S. subsidiary that offers Company stock to employees as an investment option under the plan.

**X. Oversight in Respect of Internal Administration**

- (a) review annually the reports of the Company's representatives on certain audit committees of subsidiaries and affiliates of the Company and any significant issues and auditor recommendations concerning such subsidiaries and affiliates; and
- (b) oversee succession planning for the senior management in finance, treasury, tax, risk, internal audit and the controllers' group.

**XI. Information Security**

- (a) review quarterly, the report of the Chief Information Officer (or such other appropriate Company representative) on information security controls, education and awareness.

**XII. Oversight Function**

While the Audit Committee has the responsibilities and powers set forth in this Charter, it is not the duty of the Audit Committee to plan or conduct audits or to determine that the Company's financial statements and disclosures are complete

and accurate or are in accordance with generally accepted accounting principles and applicable rules and regulations. These are the responsibilities of management and the external auditor. The Audit Committee, its Chair and any of its members who have accounting or related financial management experience or expertise, are members of the Board, appointed to the Audit Committee to provide broad oversight of the financial disclosure, financial risk and control related activities of the Company, and are specifically not accountable nor responsible for the day to day operation of such activities. Although designation of a member or members as an “audit committee financial expert” is based on that individual’s education and experience, which that individual will bring to bear in carrying out his or her duties on the Audit Committee, designation as an “audit committee financial expert” does not impose on such person any duties, obligations or liability that are greater than the duties, obligations and liability imposed on such person as a member of the Audit Committee and Board in the absence of such designation. Rather, the role of any audit committee financial expert, like the role of all Audit Committee members, is to oversee the process and not to certify or guarantee the internal or external audit of the Company’s financial information or public disclosure.

### **3. COMPOSITION OF AUDIT COMMITTEE**

The Audit Committee shall consist of three or more directors, a majority of whom are resident Canadians (as defined in the *Canada Business Corporations Act*), and all of whom are unrelated and/or independent for the purposes of applicable Canadian and United States securities law and applicable rules of any stock exchange on which the Company’s securities are listed. Each member of the Audit Committee shall be financially literate and at least one member shall have accounting or related financial management expertise (as those terms are defined from time to time under the requirements or guidelines for audit committee service under securities laws and the applicable rules of any stock exchange on which the Company’s securities are listed for trading or, if it is not so defined, as that term is interpreted by the Board in its business judgment).

### **4. APPOINTMENT OF AUDIT COMMITTEE MEMBERS**

The members of the Audit Committee shall be appointed by the Board from time to time on the recommendation of the Governance Committee and shall hold office until the next annual meeting of shareholders or until their successors are earlier appointed or until they cease to be directors of the Company.

### **5. VACANCIES**

Where a vacancy occurs at any time in the membership of the Audit Committee, it may be filled by the Board on the recommendation of the Governance Committee.

### **6. AUDIT COMMITTEE CHAIR**

The Board shall appoint a Chair of the Audit Committee who shall:

- (a) review and approve the agenda for each meeting of the Audit Committee and, as appropriate, consult with members of management;
- (b) preside over meetings of the Audit Committee;
- (c) make suggestions and provide feedback from the Audit Committee to management regarding information that is or should be provided to the Audit Committee;
- (d) report to the Board on the activities of the Audit Committee relative to its recommendations, resolutions, actions and concerns; and
- (e) meet as necessary with the internal and external auditor.

### **7. ABSENCE OF AUDIT COMMITTEE CHAIR**

If the Chair of the Audit Committee is not present at any meeting of the Audit Committee, one of the other members of the Audit Committee present at the meeting shall be chosen by the Audit Committee to preside at the meeting.

### **8. SECRETARY OF AUDIT COMMITTEE**

The Corporate Secretary shall act as Secretary to the Audit Committee.

### **9. MEETINGS**

The Chair, or any two members of the Audit Committee, or the internal auditor, or the external auditor, may call a meeting of the Audit Committee. The Audit Committee shall meet at least quarterly. The Audit Committee shall meet periodically with management, the internal auditor and the external auditor in separate executive sessions.

**10. QUORUM**

A majority of the members of the Audit Committee, present in person or by telephone or other telecommunication device that permit all persons participating in the meeting to speak to each other, shall constitute a quorum.

**11. NOTICE OF MEETINGS**

Notice of the time and place of every meeting shall be given in writing, facsimile communication or by other electronic means to each member of the Audit Committee at least 24 hours prior to the time fixed for such meeting; provided, however, that a member may in any manner waive a notice of a meeting. Attendance of a member at a meeting is a waiver of notice of the meeting, except where a member attends a meeting for the express purpose of objecting to the transaction of any business on the grounds that the meeting is not lawfully called.

**12. ATTENDANCE OF COMPANY OFFICERS AND EMPLOYERS AT MEETING**

At the invitation of the Chair of the Audit Committee, one or more officers or employees of the Company may attend any meeting of the Audit Committee.

**13. PROCEDURE, RECORDS AND REPORTING**

The Audit Committee shall fix its own procedure at meetings, keep records of its proceedings and report to the Board when the Audit Committee may deem appropriate but not later than the next meeting of the Board.

**14. REVIEW OF CHARTER AND EVALUATION OF AUDIT COMMITTEE**

The Audit Committee shall review its Charter annually or otherwise, as it deems appropriate and, if necessary, propose changes to the Governance Committee and the Board. The Audit Committee shall annually review the Audit Committee's own performance.

**15. OUTSIDE EXPERTS AND ADVISORS**

The Audit Committee is authorized, when deemed necessary or desirable, to retain and set and pay the compensation for independent counsel, outside experts and other advisors, at the Company's expense, to advise the Audit Committee or its members independently on any matter.

**16. RELIANCE**

Absent actual knowledge to the contrary (which shall be promptly reported to the Board), each member of the Audit Committee shall be entitled to rely on (i) the integrity of those persons or organizations within and outside the Company from which it receives information, (ii) the accuracy of the financial and other information provided to the Audit Committee by such persons or organizations and (iii) representations made by management and the external auditor, as to any information technology, internal audit and other non-audit services provided by the external auditor to the Company and its subsidiaries.

# Schedule D

## Compensation

We are committed to high standards of corporate governance, including compensation governance.

This section tells you how the Board makes director and executive compensation decisions at TransCanada, and explains its decisions for 2017.

### Compensation governance

The Board, the Human Resources committee and the Governance committee are responsible for the integrity of our compensation governance practices.

#### Human Resources committee

Paula Rosput Reynolds (Chair)  
S. Barry Jackson  
Mary Pat Salomone  
Siim A. Vanaselja (as of May 5, 2017)  
Richard E. Waugh

#### Governance committee

Kevin E. Benson (Chair)  
Derek H. Burney  
S. Barry Jackson  
Paula Rosput Reynolds (as of May 5, 2017)  
Indira Samarasekera  
Siim A. Vanaselja

The Board approves all matters related to executive and director compensation. The committees are responsible for reviewing compensation matters and making any recommendations. Both committees are entirely independent. Each Human Resources committee member is independent under the NYSE compensation committee independence requirements.

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## EXPERTISE

### Human resources and executive compensation

The Human Resources committee is responsible for executive compensation. It consists of five independent directors who have an appropriate mix of skills and experience in management, business, industry, human resources, executive compensation and public accountability for carrying out their responsibilities.

Name	Human resources/ compensation experience	Capital markets	CEO experience	Accounting / Audit	Governance	Risk management
Paula Rospot Reynolds (Chair)	X		X	X	X	X
S. Barry Jackson	X		X	X	X	
Mary Pat Salomone	X			X	X	
Siim A. Vanaselja (as of May 5, 2017)		X		X	X	X
Richard E. Waugh (retiring April 27, 2018)	X	X	X	X	X	X

All of the members have experience as members of human resources or compensation committees of other public companies.

Ms. Reynolds, the committee Chair, currently serves as a member of the compensation committee for one other publicly traded company. As a former CEO of two U.S. public companies, she was responsible for overseeing compensation plans and their implementation, and has experience in designing and assessing performance-based goals for executives. She has worked closely with compensation consultants, and has been involved in all aspects of the design, implementation and administration of compensation programs.

Mr. Jackson has also served as the chair or been a member of the compensation committee for several public companies. As a former CEO of a public oil and gas company, Mr. Jackson has experience in overseeing executive compensation programs and working closely with compensation consultants, and has been involved in all aspects of the design, implementation and administration of compensation programs as a senior executive and director.

Ms. Salomone currently serves as the chair and member of compensation committees for two other publicly traded companies. She was previously the Senior Vice-President and Chief Operating Officer of a publicly traded energy infrastructure company and also held a number of senior positions within the energy infrastructure industry. As a previous executive and current director, Ms. Salomone has experience in the implementation and administration of compensation programs and performance-based goals for executives.

Mr. Vanaselja was the Executive Vice-President and CFO of a publicly traded company. He has also served on the Management Resources and Compensation committees of one publicly traded company and various private corporations, and has experience in the implementation, administration and management of executive compensation programs and plans.

Mr. Waugh, as the former CEO of a publicly traded financial institution, has experience in overseeing and administering executive compensation programs and compensation plans.

In addition to the committee's collective experience in compensation matters, all of the members stay actively informed of trends and developments in compensation matters and the applicable legal and regulatory frameworks.

### Governance

You can find specific details about each director's background and experience in the director profiles starting on page 14, and more information about the committees starting on page 48.

The Governance committee is responsible for director compensation and risk oversight. It consists of six independent directors who have a mix of skills and experience in business, risk, governance, human resources and compensation. Six of the members are currently or have been members of human resources or compensation committees of other public companies. Four of the members also have experience as a CEO of one or more public companies, which has provided each of them with experience in oversight of and direct involvement in compensation matters.

## COMPENSATION OVERSIGHT

The purpose of the Board's compensation oversight is to ensure that executives and directors are compensated fairly with respect to market in a way that does not lead to undue risk in TransCanada's business and operations.

The Board reviews our compensation policies and practices every year, considers the possibility of risks, and makes any adjustments it deems necessary to ensure that our compensation policies are not reasonably likely to have a material adverse effect on TransCanada. It carries out this work directly or through the Human Resources committee and the Governance committee.

The Board has approved various compensation policies and practices to effectively identify and mitigate compensation risks and discourage members of the executive leadership team or others from taking inappropriate or excessive risks.

### Multi-year strategic plan

We have a multi-year strategic plan that identifies our core strategies to achieve our vision of being the leading energy infrastructure company in North America. Our core strategies include:

- maximizing the full-life value of our infrastructure assets and commercial positions
- commercially developing and building new asset investment programs
- cultivating a focused portfolio of high quality development options
- maximizing our competitive strengths.

Executive compensation is closely linked to the strategic plan. Our annual corporate objectives support the strategic plan and are integrated into our compensation decision-making process. At the end of each year, the Board assesses our performance against the corporate objectives to determine the Corporate factor that is used in calculating short-term incentive awards for the executive leadership team and all other employees. The Board also ensures that the annual individual performance objectives for each member of the executive leadership team align with our corporate objectives and reflect performance areas that are specific to each role when it determines total direct compensation for each executive.

### Compensation philosophy

Our compensation philosophy guides all compensation program design and decisions. Our approach to compensation is structured to meet four key objectives: pay for performance, be market competitive, align executives' interests with those of our various stakeholders, and attract, engage and retain our executives. In setting compensation levels, each component – base salary, short-term and long-term incentives – as well as total direct compensation are determined with reference to median levels in our peer group (see pages 75 through 89 for details).

Executive compensation is designed to pay for performance, as a significant portion of total direct compensation is variable or at-risk compensation. See pages 93 through 97 for the pay mix for each named executive.

## Executive compensation structured to manage risk

The Human Resources committee and the Board have structured the executive compensation program to ensure that executives are compensated fairly and in a way that does not present undue risk to TransCanada or encourage executives to take inappropriate risks. The committee is committed to continuous improvement of executive compensation practices, and reviews prevalent best practices on a regular basis.

- **Structured process:** The committee has implemented a formal decision-making process that involves management, the committee and the Board. The committee uses a multi-step review process for all compensation matters, first adopting goals and metrics of performance, reviewing how performance compares to the pre-established metrics and then seeking Board input as to the reasonableness of the results.
- **Benchmarking to ensure fairness:** Executive compensation is reviewed every year. Director compensation is reviewed every two years by the Governance committee and the Board. Both director and executive compensation are benchmarked against size appropriate peer groups to assess competitiveness and fairness, and the appropriateness of the composition of the applicable peer groups is reviewed.
- **Modelling and stress testing:** The committee uses modelling to stress test different compensation scenarios and potential future executive compensation. This includes an analysis of the potential effect of different corporate performance scenarios on previously awarded and outstanding compensation to assess whether the results are reasonable. The committee also uses modelling to assess the payments under the terms of the executives' employment agreements for severance and change of control situations.
- **Independent advice:** The committee uses an independent external compensation consultant to provide advice in connection with executive pay benchmarking, incentive plan design, compensation governance and pay for performance.
- **Alignment with shareholders:** The committee and the Board place a significant emphasis on long-term incentives when determining the total direct compensation for the executive leadership team. Our long-term incentives include stock options and performance vesting executive share units (ESUs) – both of which encourage value creation over the long-term and align executives' interests with our shareholders.
- **Pre-established objectives:** Each year the Board approves corporate, business unit and individual objectives that are aligned with the overall business plan for each member of the executive leadership team. These objectives are used to assess performance and determine compensation.
- **Multi-year performance-based compensation:** Awards under the ESU plan are paid out based on our performance against objectives set for the three-year vesting period.
- **Limits on variable compensation payments:** Short-term incentive awards are subject to a minimum of a zero payout up to a maximum payout of two times target. Long-term incentive awards under the ESU plan are limited to a maximum payout of two times the final number of units accrued at the end of the vesting period.
- **Discretion:** The Board completes a formal assessment annually, and can then use its discretion to increase or decrease any compensation awards if it deems it appropriate based on market factors or other extenuating circumstances. However, to maintain the integrity of the metrics-based framework, the Board exercises its discretion sparingly.

## Policies and guidelines to manage risk

The Governance committee, the Human Resources committee and the Board have instituted several policies to ensure that compensation risk is appropriately managed and that the interests of both directors and executives are aligned with those of our shareholders. These policies are derived from best practices in governance and legal requirements.

- **Corporate objectives:** We adopt corporate objectives consistent with our approved strategic plan so that the Board can monitor how compensation influences business decisions.
- **Share ownership requirements:** We have share ownership requirements for both directors and executives, reflecting the Board's view that directors and executives can represent the interests of shareholders more effectively if they have a significant investment in TransCanada.
- **Prohibition on hedging:** Our trading policy includes an Anti-hedging policy preventing directors and officers from using derivatives or other instruments to insulate them from movements in our share price. This includes prepaid variable forward contracts, equity swaps, collars, units of exchange funds, and other hedging vehicles.
- **Reimbursement:** We have an Incentive compensation reimbursement policy which requires employees at the vice-president level and above to repay vested and unvested short and long-term incentive compensation (including proceeds realized from the exercise of stock options) granted in the three-year period preceding a restatement of financial results or a material error in financial reporting if the restatement or error resulted from the employee's intentional misconduct. We continue to monitor best practices for reimbursement policies and will update the policy as these practices change. In addition, if there is an incidence of misconduct with our financial reporting and we must restate our financial statements because of material non-compliance with a financial reporting requirement, our CEO and CFO are required by law to reimburse TransCanada for incentive-based compensation related to the period the misconduct occurred. They must also reimburse us for any profits they realized from trading TransCanada securities during the 12 months following the issue of the misstated financial statements.
- **Say on pay:** We implemented a non-binding advisory shareholder vote on our approach to executive compensation starting in 2010. The results shown in the table below confirm that a significant majority of shareholders have accepted our approach to executive compensation. The approval vote as a percentage of shares voted in favour of our approach to executive compensation for the last three years are as follows:

Year	Approval vote (%)
2017	97.39
2016	97.46
2015	97.10

- **Code of business ethics:** Our Code applies to employees, contract workers, independent consultants and directors. The Code incorporates principles of good conduct and ethical and responsible behaviour to guide our decisions and actions and the way we conduct business.

After considering the implications associated with our compensation policies and practices, completing a review of our policies and practices described above, and with advice from the independent consultant to the Human Resources committee, the Board believes that:

- we have the proper practices in place to effectively identify and mitigate potential risk
- TransCanada's compensation policies and practices do not encourage any member of our executive leadership team, or any employee to take inappropriate or excessive risks, and are not reasonably likely to have a material adverse effect on our company.

In addition to our compensation policies and practices, our corporate values – Safety, Responsibility, Integrity, and Collaboration – also guide director, officer and employee behaviour, underpin our company culture and define the character of the organization we share and work in every day.

## INDEPENDENT CONSULTANT

The Human Resources committee retains an independent compensation consultant to provide advice on compensation-related matters.

The committee created a mandate for the consultant that includes:

- advising on compensation levels for the CEO and named executives
- assessing the CEO's recommendations on the compensation of the other named executives
- attending all of its committee meetings (unless otherwise requested by the committee Chair)
- providing data, analysis or opinion on compensation-related matters requested by the committee or its Chair
- reporting to the committee on any matters that may arise related to executive compensation.

Meridian has been the independent compensation consultant since September 2014. The committee obtains independent advice from the consultant who provides a neutral source of data and information on compensation practices and trends. While the consultant's advice is an important tool in the committee's processes, the committee remains wholly responsible for making its own decisions and recommendations to the Board.

Meridian provides advice to the committee on matters relating to executive compensation. It does not provide consulting or other services to TransCanada, and is not permitted to provide services to management. Before engaging Meridian, and each year after considering all factors bearing on the consultant's independence, including those factors enumerated by the NYSE, the committee determined that Meridian is independent.

The table below shows the executive compensation-related fees paid in 2016 and 2017.

### Executive compensation-related fees

(\$ in millions)

Meridian	2017	2016
Consulting to the Human Resources committee	0.22	0.15
All other fees	—	—
<b>Total fees</b>	<b>\$0.22</b>	<b>\$0.15</b>

## DIRECTOR COMPENSATION CONSULTANT

The Governance committee reviews compensation every other year, and did not retain a compensation consultant in 2017. The next review of director compensation will take place in 2018.

## Director compensation discussion and analysis

### APPROACH

Our director compensation program reflects our size and complexity, and reinforces the importance we place on delivering shareholder value. Director compensation includes annual retainers and travel fees that are paid in cash and DSUs to link a significant portion of their compensation to the value of our shares (see *Deferred share units*, below for more information about the DSU plan).

The Board follows a formal performance assessment process to ensure directors are engaged and make meaningful contributions to the Board and committees they serve on.

The Governance committee reviews director compensation every two years, and makes compensation recommendations to the Board for its review and approval. Recommendations take into consideration the directors' time commitment, duties and responsibilities, and director compensation practices at comparable companies.

Directors of TransCanada also serve as directors of TCPL. Board and committee meetings of TransCanada and TCPL run concurrently, and the director compensation described below is for serving on both Boards. TransCanada does not hold any material assets directly, other than TCPL common shares and receivables from some of our subsidiaries. As a result, TCPL assumes all directors' costs according to a management services agreement between the two companies.

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## Benchmarking

Director compensation is benchmarked against two peer groups. The companies in the custom peer group are relatively consistent with the group of Canadian publicly-traded companies included in the executive compensation peer group and this group provides an industry specific market reference point. Since directors tend to be recruited from a variety of industries, the general industry peer group provides an additional market reference point of publicly-traded companies that are similar in size and scope to TransCanada. Total compensation is determined with reference to median levels in our peer groups, so we can attract and retain qualified directors. The Governance committee reviews director compensation every two years, based on independent advice respecting compensation paid by our peer companies. The Governance committee refers to the report when conducting its compensation review.

The peer groups were most recently revised in 2016, when the Governance committee reviewed director compensation. The custom peer group was revised to align with the peer group adopted by the Human Resources committee for 2016 named executive compensation.

There were no revisions to the peer groups in 2017, as the Governance Committee reviews director compensation every other year. As a result, the custom peer group includes certain companies which have merged or been acquired. The custom peer group will be revised in 2018, when the next director compensation review takes place.

### 2017 peer groups

Custom peer group	General industry peer group
American Electric Power Co. Inc.	Agrium Inc.
Canadian National Railway Company	Canadian National Railway Company
Canadian Natural Resources Ltd.	Canadian Pacific Railway Limited
Cenovus Energy Inc.	Cenovus Energy Inc.
Dominion Energy Inc.	Enbridge Inc.
Enbridge Inc.	Encana Corporation
Encana Corporation	Maple Leaf Foods Inc.
Exelon Corporation	Metro Inc.
Fortis Inc.	National Bank of Canada
Husky Energy Inc.	Potash Corporation of Saskatchewan Inc.
Imperial Oil Ltd.	Resolute Forest Products Inc.
Kinder Morgan Inc.	Suncor Energy Inc.
NextEra Energy Inc.	TELUS Corporation
Occidental Petroleum Corporation	
PG&E Company	
Southern Company	
Spectra Energy Corp.	
Suncor Energy Inc.	
Teck Resources Ltd.	
Williams Companies Inc.	

## Aligning the interests of directors and shareholders

The Board believes that directors can represent the interests of shareholders more effectively if they have a significant investment in TransCanada. Directors must hold at least four times their annual retainer in shares or DSUs within five years of joining the Board.

Directors can meet the requirements by purchasing TransCanada shares, participating in our dividend reinvestment plan or by directing all or a portion of their compensation to be paid in DSUs. We recalibrate the required ownership values if the retainer is increased.

If their holdings fall below the minimum level because of fluctuations in our share price, we expect directors to attain the minimum threshold within a reasonable amount of time set by the Governance committee.

As President and CEO, Mr. Girling must instead meet our CEO share ownership requirement which is five times his base salary. Mr. Girling meets these ownership requirements (see page 79 for details).

As of February 20, 2018, all of our directors are in compliance with our director share ownership policy. Dr. Samarasekera and Mr. Vandal each have five years from the date they were appointed to meet the director share ownership requirements. As Mr. Vanaselja was appointed Chair of the Board on May 5, 2017, his required share ownership level has increased to four times the Chair retainer:

Director	Date appointed	Share ownership date
Dr. Samarasekera	April 29, 2016	April 29, 2021
Mr. Vanaselja	May 5, 2017	May 5, 2022
Mr. Vandal	November 6, 2017	November 6, 2022

## Deferred share units

DSUs are notional shares that have the same value as TransCanada shares. DSUs earn dividend equivalents as additional units at the same rate as dividends paid on our shares.

Our DSU plan allows directors to choose to receive a portion of their retainers and travel fees in DSUs instead of cash. The plan also allows the Governance committee to use discretion to grant DSUs to directors as additional compensation (excluding employee directors such as our President and CEO). No discretionary grants of DSUs were made to directors in 2017.

Directors redeem their DSUs when they leave the Board. Directors can redeem their DSUs for cash or shares purchased on the open market.

## COMPONENTS

Directors receive annual retainers and travel fees when applicable. They are also reimbursed for out-of-pocket expenses they incur while attending meetings and other Board activities. Directors who are U.S. residents receive the same amounts in U.S. dollars. Mr. Girling is compensated in his role as President and CEO, and does not receive any director compensation. Both the annual Board retainer and the separate retainer for the Chair of the Board are paid in cash and DSUs according to the fee schedule below:

2017 compensation		
<b>Retainers</b> paid quarterly from the date the director is appointed to the Board and committees		
<b>Board</b> paid to each director except the Chair of the Board flat fee (no meeting fees paid)	\$235,000 per year (\$110,000 cash + \$125,000 in DSUs)	represented 2,032 DSUs for Canadian directors and 2,607 DSUs for U.S. directors in 2017
<b>Chair of the Board</b> receives a higher retainer because of his level of responsibility flat fee (no meeting fees paid)	\$491,000 per year (\$201,000 in cash + \$290,000 in DSUs)	represented 4,714 DSUs in 2017
<b>Committee Chairs</b> receive a higher committee retainer for additional duties and responsibilities	\$24,000 per year	Audit
	\$18,000 per year	Human Resources
	\$12,000 per year	Governance and Health, Safety & Environment
<b>Travel fees</b> if round trip travel is more than three hours	\$1,500 per round trip	

DSUs are credited quarterly, in arrears, using the closing price of TransCanada shares on the TSX at the end of each quarter.

Starting January 1, 2017, non-employee directors, except for the Chair of the Board, receive a flat fee retainer of \$235,000, \$125,000 of which is paid in mandatory DSUs. Directors no longer receive meeting fees. This change to a flat fee structure is simpler to administer, and is better aligned with the time commitment and responsibilities associated with serving on our Board. Our directors attend Board and special meetings, and also provide advice outside of meetings and are attentive to the best interests of TransCanada at all times. A majority of TransCanada's peers have adopted a flat fee structure. The Governance committee determined that a flat fee structure is a more appropriate form of compensation. The increase in retainer also aligns our compensation closer to the median of our peer groups.

Starting January 1, 2017, the Audit committee Chair retainer was increased by \$4,000, from \$20,000 to \$24,000, and the Human Resources committee Chair retainer was increased by \$3,000, from \$15,000 to \$18,000. These increases reflect the additional increased workload of chairing the Audit and Human Resources committees, and align our differentiated committee Chair retainer practices to the median of our peer groups.

## Director compensation – 2017 details

The table below shows total director compensation awarded, credited or paid in 2017.

### DIRECTOR COMPENSATION TABLE

Name	Fees earned (\$)	Share-based awards (\$)	Option-based awards (\$)	Non-equity incentive plan compensation (\$)	Pension value (\$)	All other compensation (\$)	Total (\$)
Kevin E. Benson	119,379	125,000	—	—	—	4,197	248,576
Derek H. Burney	123,121	125,000	—	—	—	—	248,121
Stéphan Crétier (joined February 17, 2017)	103,139	108,681	—	—	—	—	211,820
S. Barry Jackson	143,000	182,115	—	—	—	14,065	339,180
John Lowe	172,560	160,388	—	—	—	—	332,948
Paula Rospud Reynolds	175,764	160,388	—	—	—	—	336,152
John Richels (retired May 5, 2017)	52,308	57,229	—	—	—	—	109,537
Mary Pat Salomone	152,668	160,388	—	—	—	—	313,056
Indira Samarasekera	119,000	125,000	—	—	—	—	244,000
D. Michael G. Stewart	123,500	125,000	—	—	—	4,197	252,697
Siim A. Vanaselja	186,742	232,885	—	—	—	—	419,627
Thierry Vandal (joined November 6, 2017)	24,763	23,863	—	—	—	—	48,626
Richard E. Waugh	116,000	125,000	—	—	—	—	241,000

#### Notes

- Mr. Lowe, Ms. Reynolds, Mr. Richels, Ms. Salomone and Mr. Vandal received their share-based awards, retainers and travel in U.S. dollars. The values presented in this table are in Canadian dollars, and reflect a U.S./Canadian foreign exchange rate of 1.3322 as at March 31, 2017, 1.2977 as at June 30, 2017, 1.2480 as at September 29, 2017 and 1.2545 as at December 29, 2017.
- Mr. Girling is compensated in his role as President and CEO, and does not receive any director compensation.
- Fees earned includes Board and committee chair retainers and travel fees paid in cash, including the portion they chose to receive as DSUs.
- Share-based awards include the portion of the Board retainer (\$110,000) and the Board Chair retainer (\$290,000) that we automatically pay in DSUs. There were no additional grants of DSUs in 2017.
- In 2017, we paid \$7,903 for third-party office expenses for Mr. Jackson until May 2017 and he received a reserved parking space valued at \$6,162.
- Mr. Benson and Mr. Stewart received parking valued at \$4,197.

The table below is a breakdown of director compensation by component. It includes the total fees paid in cash and the DSUs credited as at the grant date, unless stated otherwise. *DSUs credited* includes the minimum portion of the Board retainer paid in DSUs and the retainers, meeting and travel fees that directors chose to receive as DSUs in 2017.

Name	Retainers		Travel		Totals	
	Board (\$)	Committee Chair (\$)	Travel fee (\$)	Fees paid in cash (\$)	DSUs credited (\$)	Total cash & DSUs credited (\$)
Kevin E. Benson	110,000	7,879	1,500	—	244,379	244,379
Derek H. Burney	110,000	4,121	9,000	123,121	125,000	248,121
Stéphan Crétier (joined February 17, 2017)	95,639	—	7,500	—	211,820	211,820
S. Barry Jackson	141,500	—	1,500	143,000	182,115	325,115
John Lowe	141,141	19,892	11,527	172,500	160,388	332,948
Paula Rospot Reynolds	141,141	23,096	11,527	82,097	254,055	336,152
John Richels (retired May 5, 2017)	50,361	—	1,946	—	109,537	109,537
Mary Pat Salomone	141,141	—	11,527	152,668	160,388	313,056
Indira Samarasekera	110,000	—	9,000	—	244,000	244,000
D. Michael G. Stewart	110,000	12,000	1,500	123,500	125,000	248,500
Siim A. Vanaselja	169,500	8,242	9,000	—	419,627	419,627
Thierry Vandal (joined November 6, 2017)	20,999	—	3,763	—	48,626	48,626
Richard E. Waugh	110,000	—	6,000	—	241,000	241,000

#### Notes

- Mr. Lowe, Ms. Reynolds, Mr. Richels, Ms. Salomone and Mr. Vandal received their share-based awards, retainers and travel fees in U.S. dollars. The values presented in this table are in Canadian dollars, and reflect a U.S./Canada foreign exchange rate of 1.3322 as at March 31, 2017, 1.2977 as at June 30, 2017, 1.2480 as at September 29, 2017 and 1.2545 as at December 29, 2017.
- DSUs credited include all share-based awards vested or earned by the directors in 2017. The minimum portion of the Board retainer paid in DSUs in 2017 was \$290,000 for the Chair and \$125,000 for the other directors. DSUs credited also includes the portion of the retainers and travel fees directors chose to receive in DSUs in 2017.
- Total cash and DSUs credited is the total dollar amount paid for duties performed on the TransCanada and TCPL Boards.
- DSUs were paid quarterly based on share prices of \$61.37, \$61.82, \$61.67 and \$61.18, the closing prices of TransCanada shares on the TSX at the end of each quarter in 2017. Directors are able to redeem their DSUs when they leave the Board.

## AT-RISK INVESTMENT

The table on the following page shows:

- the total value of each director's shares and DSUs or shares of our affiliates, including the DSUs credited as dividend equivalents up to January 31, 2018
- their holdings as a percentage of their 2017 annual retainer
- the minimum equity investment required, as a multiple of their annual retainer.

The change in value represents the value of DSUs received in 2017, including dividend equivalents credited up to January 31, 2018, plus any additional shares acquired in 2017. The change in value also includes increases and decreases in market value.

As of the date of this circular, all of our directors are in compliance with our director share ownership policy. Dr. Samarasekera and Mr. Vandal have five years from the date they were each appointed to meet the share ownership requirements, as described on page 61. As Mr. Vanaselja was appointed Chair of the Board on May 5, 2017, his required share ownership level has increased to four times the Chair retainer.

Mr. Girling meets the CEO ownership requirements under the executive share ownership guidelines. See pages 61 and 79 for more information about our share ownership requirements for directors and executives.

None of the nominated directors (or all of our directors and executives as a group) own more than one per cent of TransCanada shares, or any class of shares of its subsidiaries and affiliates.

In the table:

- **DSUs** include DSUs credited as dividend equivalents up to January 31, 2018.
- **Total market value** is the market value of TransCanada shares and DSUs, calculated using a closing share price on the TSX of \$61.06 on February 28, 2017 and \$56.89 on February 20, 2018. It includes DSUs credited as dividend equivalents up to January 31, 2018.
- Mr. Crétier's holdings include 3,120 shares held by his wife.
- Mr. Stewart's holdings include 2,210 shares held beneficially by his wife.
- Mr. Waugh's holdings include 4,220 shares held by his wife.

## At-risk investment

Name	Date	Common shares	DSUs	Total common shares and DSUs	At-risk investment		Minimum investment required	
					Total market value (\$)	As a multiple of annual retainer	Total value of minimum investment (\$)	Multiple of retainer
Kevin E. Benson	2018	3,000	75,322	78,322	4,455,739	18.96	940,000	4x
	2017	13,000	68,403	81,403	4,970,467	21.15	940,000	4x
	Change	(10,000)	6,919	(3,081)	(514,729)	(2.19)		
Derek H. Burney	2018	21,706	67,476	89,182	5,073,564	21.59	940,000	4x
	2017	12,910	62,782	75,692	4,621,754	19.67	940,000	4x
	Change	8,796	4,694	13,490	45,810	1.92		
Stéphan Crétier (joined February 17, 2017)	2018	18,500	3,525	22,025	1,253,002	5.33	940,000	4x
	2017	—	—	—	—	—		
	Change	18,500	3,525	22,025	1,253,002	5.33		
S. Barry Jackson	2018	39,000	155,920	194,920	11,088,999	47.19	940,000	4x
	2017	39,000	146,772	185,772	11,343,238	23.10	1,964,000	4x
	Change	—	9,148	9,148	(254,240)	24.08		
John E. Lowe	2018	15,000	10,959	25,959	1,476,808	6.28	940,000	4x
	2017	15,000	7,952	22,952	1,401,449	5.96	940,000	4x
	Change	—	3,007	3,007	75,358	0.32		
Paula Rospud Reynolds	2018	6,000	26,751	32,751	1,863,204	7.93	940,000	4x
	2017	6,000	21,613	27,613	1,686,050	7.17	940,000	4x
	Change	—	5,138	5,138	177,155	0.75		
Mary Pat Salomone	2018	3,000	14,558	17,558	998,875	4.25	940,000	4x
	2017	3,000	11,407	14,407	879,691	3.74	940,000	4x
	Change	—	3,151	3,151	119,183	0.51		
Indira Samarasekera	2018	—	6,833	6,833	388,729	1.65	940,000	4x
	2017	—	2,652	2,652	161,931	0.69	940,000	4x
	Change	—	4,181	4,181	226,798	0.97		
D. Michael G. Stewart	2018	17,310	34,299	51,609	2,936,036	12.49	940,000	4x
	2017	16,651	30,928	47,579	2,905,174	12.36	940,000	4x
	Change	659	3,371	4,030	30,862	0.13		
Siim A. Vanaselja*	2018	12,000	20,232	32,232	1,833,678	3.73	1,964,000	4x
	2017	12,000	12,719	24,719	1,509,342	6.42	940,000	4x
	Change	—	7,513	7,513	324,336	(2.69)		
Thierry Vandal (joined November 6, 2017)	2018	261	804	1,065	60,588	0.26	940,000	4x
	2017	—	—	—	—	—		
	Change	261	804	1,065	60,588	0.26		
Richard E. Waugh	2018	29,730	28,532	58,262	3,314,525	14.10	940,000	4x
	2017	29,730	23,533	53,263	3,252,239	13.84	940,000	4x
	Change	—	4,999	4,999	62,286	0.27		
Total	2018	165,507	445,211	610,718	34,743,747			
	2017	147,291	388,761	536,052	32,731,335			
	Change	18,216	56,450	74,666	2,012,412			

\*Mr. Vanaselja succeeded Mr. Jackson as chair of the Board on May 5, 2017, at which point their required share ownership values were adjusted to reflect their new retainer levels.

## INCENTIVE PLAN AWARDS

### Outstanding option-based and share-based awards

The table below shows all outstanding share-based awards previously granted to the directors that were outstanding at the end of 2017. Year-end values are based on \$61.18 being the closing price of TransCanada shares on the TSX at December 31, 2017. Non-executive directors are not eligible to participate in our stock option plan and, accordingly, none of our non-executive directors have outstanding option-based awards.

Name	Number of shares or units of share-based awards that have not vested (#)	Market or payout value of share-based awards that have not vested (\$)	Number of shares or units of vested share-based awards not paid out or distributed (#)	Market or payout value of vested share-based awards not paid out or distributed (\$)	Number of share-based awards vested during 2017	Share-based awards- value vested during 2017 (\$)
Kevin E. Benson	822	50,303	74,499	4,557,897	6,720	411,138
Derek H. Burney	736	45,064	66,739	4,083,128	4,529	277,142
Stéphan Crétier (joined February 17, 2017)	38	2,354	3,486	213,298	3,486	213,298
S. Barry Jackson	1,702	104,131	154,218	9,435,079	8,784	537,439
John Lowe	119	7,319	10,839	663,170	2,960	181,100
Paula Rospud Reynolds	292	17,865	26,458	1,618,744	5,043	308,539
Mary Pat Salomone	158	9,722	14,398	880,919	3,095	189,406
Indira Samarasekera	74	4,564	6,758	413,496	4,130	252,722
D. Michael Stewart	374	22,906	33,924	2,075,485	3,278	200,562
Siim A. Vanaselja	220	13,512	20,011	1,224,298	7,408	453,249
Thierry Vandal (joined November 6, 2017)	8	537	794	48,626	794	48,625
Richard E. Waugh	311	19,055	28,220	1,726,515	4,902	299,917

#### Notes

- All share-based awards in this chart are DSUs.
- The total *Market or payout value of share-based awards that have not vested* is \$297,332 at December 31, 2017.
- *Shares or units not vested* are dividends declared at December 31, 2017, but not payable until January 31, 2018. *Number of shares or units of share based awards that have not vested* is calculated using the closing price of TransCanada shares on the TSX at January 31, 2018 (\$56.63).
- Mr. Richels retired on May 5, 2017 and his remaining 21,989 share units were redeemed at \$709,312 on June 30, 2017.

## Human Resources committee letter to shareholders

Dear Shareholder:

The Board is holding its ninth consecutive say on pay advisory vote regarding our approach to executive compensation. We appreciate the strong shareholder support we have received in years past and hope you will similarly support our deliberations this year. We are providing this letter and the accompanying compensation discussion and analysis (CD&A) to explain how the Human Resources committee and the Board have assessed the performance of the company and the executive team in 2017, and the basis on which we reached various compensation decisions for each of our named executive officers.

TransCanada's vision – to be the leading energy infrastructure company in North America, focusing on pipeline and power generation opportunities in regions where the company has or can develop a significant competitive advantage – has remained constant for more than a decade. Our business features long-lived, capital intensive assets, most of which are subject to regulated returns or other long-term contractual arrangements. Our compensation plans are intended to foster disciplined decision-making by management, properly balancing the exigencies of near term financial performance with responsible long-term facilities development. Over the last several years, TransCanada has become one of Canada's largest companies by asset size and is a superior performer in its industry, with growth in earnings and a progressive dividend. Based on an independent analysis performed by our advisor, Meridian Compensation Partners, we find strong alignment between achieved performance and compensation for our executives.

Given this alignment and the considerable success the company has enjoyed, we have elected to maintain our compensation programs relatively unchanged over the last several years. With such continuity, the committee has observed ever-improving clarity in the corporate goal setting process, with management holding itself to progressively higher standards and accountability assigned to every individual employee. We observe the company proposing stretch targets, demonstrating agility as business conditions change, a redoubling of the commitment to safety and sustainability as well as stakeholder relations. We will, however, undertake a comprehensive review of our incentive compensation program design in 2018 to ensure continued alignment and market competitiveness.

Early last year, the Board and management agreed on an annual corporate scorecard for 2017 that featured goals in the following areas: safety (always our first priority), financial performance, optimization of TransCanada's existing asset base, excellence in project management, and the development of new asset opportunities. After year-end, we reviewed the accomplishments relative to the 2017 scorecard and carefully assessed the impact of each of these components to determine the appropriate level of annual incentive compensation for executives. We also evaluated annual base pay for market competitiveness at this time.

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For the year 2017, the company exceeded most safety targets and these targets were designed to meet or exceed the very best standards relative to the industry. Despite many progressive improvements in safety performance, there was a tragic loss of life at one of our U.S. compressor stations. Consequently, the committee recommended and the Board approved a safety score of zero for the corporate scorecard. The Board and management are committed to continuous improvement in process and personal safety; using our discretion to send a message regarding safety is consistent with the aspiration of making zero incidents a reality.

In 2017, we achieved record comparable earnings per share and cash flows, largely resulting from the successful integration of Columbia which was acquired in 2016. Comparable earnings per share (EPS) increased 11 per cent and comparable funds generated from operations were up nine per cent compared to 2016. The company also executed on new opportunities, adding over \$3 billion in new, commercially secured pipeline projects to our capital program as well as placing approximately \$5 billion of assets in service during the year. Nevertheless, TransCanada canceled its Energy East pipeline project and wrote off \$954 million after-tax of project development costs and allowance for funds used during construction (AFUDC). Given the significance of the write-down, the Board reduced the annual incentive payout associated with project execution. Although the Board supported management's decision to cancel Energy East and the associated charge is non-recurring, the scoring and resulting reduction in employee compensation recognizes the material loss of value for shareholders.

As the Board worked through the scorecard calculations in detail, it approved a Corporate factor (CF) for 2017 of 1.2. Noteworthy performance on financial, operational and growth objectives was recognized but was tempered by shortcomings in safety and the write down of a major project. The Corporate factor was used in determining annual incentive awards for all non-union employees.

As part of our longer term compensation program, in 2015 we adopted a cumulative three-year earnings per share target with attention to free cash generation necessary to support dividend growth. Achievement of the three-year cumulative earnings per share target is part of a formula that includes relative total shareholder return (TSR) and which we use to determine executive share unit payouts. The Board approved a performance multiplier of 1.43 for the 2015 ESU grant that vested in 2017, which reflected company performance compared to cumulative comparable earnings per share and relative TSR targets. Payout of the ESU grant is intended to compensate executives in a way that mirrors the shareholder experience over the same period.

While the Board applies a disciplined approach of assessing performance on a quantitative basis, we also apply our business judgment regarding the reasonableness of the results. We concluded that 2017 was a year of solid success overall and that the rewards being conferred are appropriate in light of performance.

The Human Resources committee is advised by Meridian Compensation Partners as its independent consultant on all executive compensation matters. The consultant’s mandate includes providing advice on compensation for the named executives, incentive design, compensation governance and pay for performance, attending all committee meetings, and providing data, analysis or opinions on compensation-related matters as requested. While the committee is ultimately responsible for making its own decisions and recommendations to the Board, the consultant brings expertise, experience, independence and objectivity to the committee’s deliberations. The committee meets routinely in-camera and with the consultant, thereby ensuring that the discussions regarding compensation are substantive and unconstrained. You can find additional information on the independent consultant on page 58.

**Conclusion**

The Board is keenly aware of our responsibility to ensure that our approach to executive compensation supports our strategy and aligns with the interests of our shareholders. The Board and committee are also aware that our decisions must be logical and understandable to our employees, shareholders, and other stakeholders. To this end, the circular includes significant detail in the CD&A section starting on the next page. We respond to shareholder questions on an individual basis, take input from stakeholders, and continue to re-evaluate our practices to ensure that our program remains appropriate.

We thank you for your continued confidence in our company and welcome your comments or questions. You can contact the committee or the Board through the Corporate Secretary, TransCanada Corporation, 450-1 Street S.W., Calgary, Alberta T2P 5H1.

Sincerely,



Paula Rosput Reynolds  
Chair, Human Resources Committee



Siim A. Vanaselja  
Chair of the Board of Directors

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# Executive compensation discussion and analysis

## EXECUTIVE SUMMARY

This CD&A explains our executive compensation program, our 2017 performance, the performance assessment by the Human Resources committee and the Board, and their compensation decisions for our named executives:

- Russell Girling, President and Chief Executive Officer
- Donald Marchand, Executive Vice-President and Chief Financial Officer
- Karl Johannson, Executive Vice-President and President, Canada and Mexico Natural Gas Pipelines and Energy
- Stanley Chapman III, Executive Vice-President and President, U.S. Natural Gas Pipelines
- Paul Miller, Executive Vice-President and President, Liquids Pipelines.

The named executives, three other executive vice-presidents and two of our senior vice-presidents make up our executive leadership team. In our discussion, references to our executive leadership team and executive compensation include our CEO and the seven executive vice presidents only.

## Performance results

To evaluate corporate performance for 2017, the committee and the Board reviewed the results associated with the approved scorecard. The goals involve quantitative and qualitative factors associated with the following: safety, financial performance, execution of ongoing projects and transactions, maximizing the overall performance of existing assets and progress on key growth initiatives.

Following the transformational acquisition of Columbia in 2016, the company continued to deliver strong performance overall and met or exceeded the aggressive targets we set for 2017. Along with these results, significant developments related to safety and project execution were carefully considered by the Board in its evaluation of corporate performance.

First and foremost, safety is our highest priority. Almost all of the very progressive safety standards that we set for the company in 2017 were exceeded. Tragically, we experienced the loss of life of an employee at one of our U.S. compressor stations which resulted in a score of zero for the safety objective on our corporate scorecard. Preventing lapses in safety is of paramount importance; the resulting 0.1 reduction in the Corporate factor sends an important message to all our employees about safety performance.

As for financial performance, the company achieved record comparable EPS of \$3.09, an increase of 11 per cent over 2016 and above the target for the year. Comparable funds generated from operations were also higher in 2017 than in 2016 and above target. The committee evaluated non-comparable items recorded by the company, including the positive adjustment related to the *Tax Cuts and Jobs Act (U.S. Tax Reform)*, and concluded that the use of comparable earnings was the appropriate basis for determining EPS for scorecard purposes as well as for evaluating the 2015 ESU results. The one-time charge related to the cancellation of Energy East was considered in the assessment of project execution.

We secured new contracts and settlements in 2017 that will enhance revenues in future years. Key to our success in maximizing the value of existing assets was the implementation of the Dawn Long-Term Fixed Price (LTFP) service on the Canadian Mainline, which resulted in security of volumes through the Mainline for a ten-year term and enabled additional ten-year contracts on Great Lakes Gas Transmission. We also secured incremental long-term transportation contracts on Keystone pipeline.

We progressed development and construction of our \$23 billion portfolio of near-term projects and placed approximately \$5 billion of assets in service during 2017. For our \$24 billion of medium to longer-term projects, we continued to manage costs while working to obtain the necessary permits and approvals to enable these projects to move forward once final investment decisions are made. We also completed the sale of our U.S. Northeast Power assets and received reimbursement for our development costs incurred on the Prince Rupert Gas Transmission project.

In October, after careful consideration of changed circumstances, the company made the decision to cancel the Energy East Pipeline and related projects. The committee considered the impact of Energy East both in terms of the current year financial impact and as it relates to the long-term compensation for employees.

Notwithstanding that the cancellation is a one-time charge to earnings and that most other projects successfully proceeded on time and on budget in 2017, the committee wanted to ensure there was alignment between incentive compensation and the impairment of value experienced by shareholders. Thus the committee reduced the project execution component of the scorecard to a level significantly below target to reflect the Energy East cancellation.

TransCanada captured over \$3 billion of new, commercially-backed energy infrastructure projects, including expansions to the NGTL System and additional U.S. Natural Gas Pipeline projects to grow our asset base. The completion of the acquisition of Columbia Pipeline Partners, which simplifies our corporate structure, was also assessed as part of the evaluation of growth initiatives. In addition, the committee took note that the company raised over \$7 billion in debt and subordinated capital at very attractive rates while prudently managing our capital structure and preserving our solid credit ratings.

Our total shareholder return for the year was 6.5 per cent, which compared favorably to others in the energy infrastructure industry. The Board believes that over time, our growth profile and our progressive dividend should continue to provide superior returns to shareholders.

You can read more about 2017 performance starting on page 90.

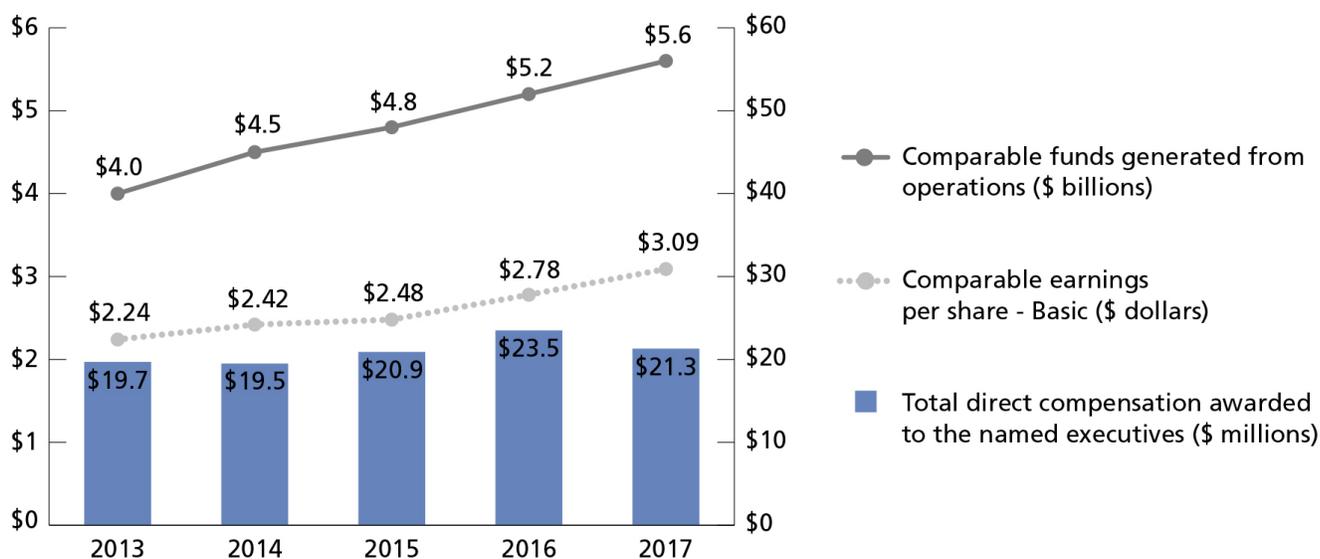
### **Compensation highlights**

The Human Resources committee and Board made the following executive compensation decisions in 2018:

- After considering the performance results and their relative weightings, overall corporate performance for 2017 was assessed as above target with a Corporate factor of 1.2. The Corporate factor is used in the determination of the short-term incentive awards for all employees, including our named executives.
- The Board approved a performance multiplier for the 2015 ESU grant of 1.43, according to the formula in effect when these grants were issued. This result reflects relative TSR performance at the 42nd percentile of the S&P/TSX 60 Index, at the 69th percentile of the ESU peer group, and comparable earnings per share above target over the three-year period ended December 31, 2017. The performance multiplier, combined with the change in valuation price from \$54.64 to \$61.95, and dividend reinvestment results in a payout that is 183 per cent of the original grant value.
- Three of our named executives received an increase to base salary to maintain competitiveness with our peer group, recognize proficiency in their roles, and reflect increases in scope of responsibility. Increases are effective March 1, 2018.
- For the 2018 ESU grant, the Board approved three-year targets for comparable earnings per share and relative TSR.
- The committee recommended and the Board approved the 2018 corporate scorecard, as well as the business unit scorecards and individual objectives for the named executives.

## Compensation vs. financial performance

The chart below compares our key financial results for the last five fiscal years to total direct compensation awarded to the named executives for the same period. Total direct compensation includes base salary, the short-term incentive award (paid in the first quarter following the performance year) and the grant value of ESU and stock option awards.



The table below shows total direct compensation awarded to our named executives as a percentage of our comparable earnings for the last five fiscal years:

	2013	2014	2015	2016	2017
Total direct compensation awarded to the named executives (as a % of comparable earnings)	1.2%	1.1%	1.2%	1.1%	0.8%

### Notes

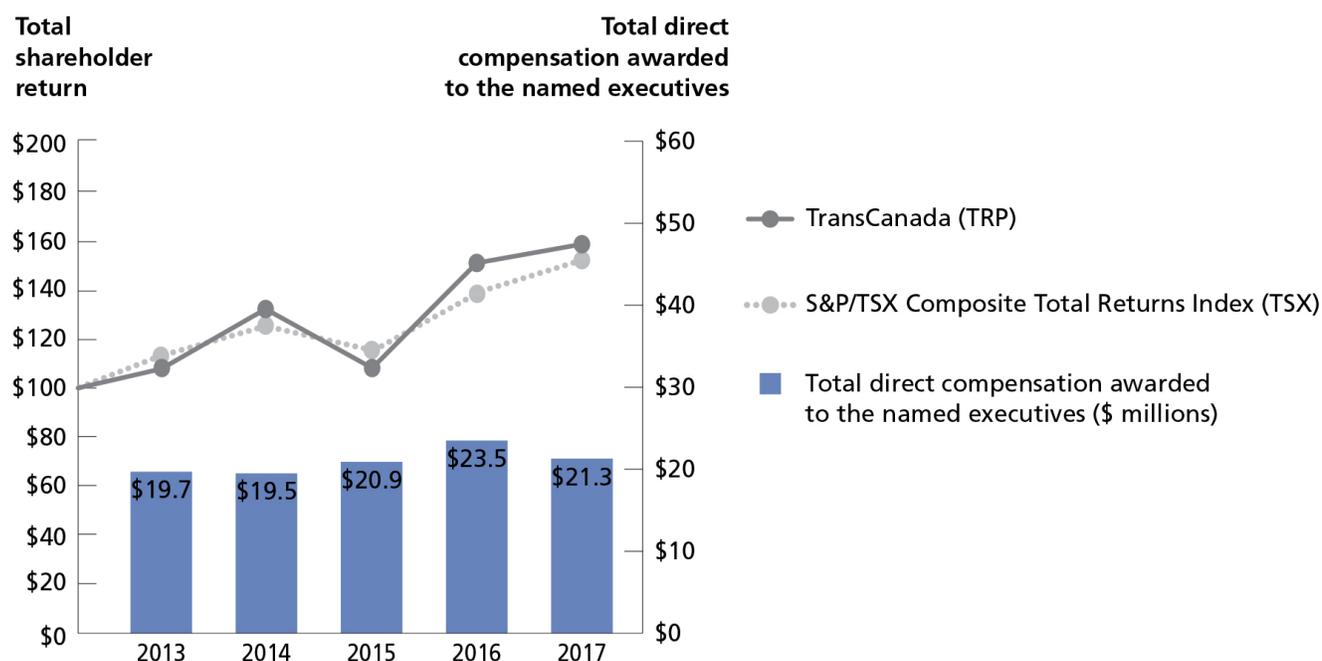
- The increase in **Total direct compensation** awarded to the named executives from 2015 to 2016 is due primarily to higher short-term incentive awards due to strong corporate performance.
- **Comparable funds generated from operations**, **Comparable earnings per share**, and **Comparable earnings** are non-GAAP measures and do not have any standardized meanings prescribed by U.S. GAAP (see **Schedule C** on page 118 for more information).

## Compensation vs. total shareholder return

Our TSR, the change in value of TransCanada shares plus reinvestment of dividends, has tracked favorably against the S&P/TSX Composite Total Returns Index over the last five years, delivering an annual compound return of 9.5 per cent compared to 8.6 per cent for the Index.

The chart below illustrates TSR, assuming an initial investment of \$100 in TransCanada shares as of year end 2012, and compares it to the return of the S&P/TSX Composite Total Returns Index and the trend in total direct compensation awarded to our named executives over the same period.

TSR is only one of the performance measures the Board considers when assessing performance and determining compensation for our named executives. Consequently, we do not necessarily expect there to be a direct correlation between TSR and total direct compensation awarded in any given period. However, the realized value of long-term compensation awarded in any given year is not guaranteed, it is equity-based, and its value is directly affected by changes in our share price.



At year end	2012	2013	2014	2015	2016	2017	Compound annual return
TRP	\$100.00	\$107.22	\$130.78	\$107.68	\$150.14	\$157.75	9.5%
TSX	\$100.00	\$112.99	\$124.92	\$114.53	\$138.67	\$151.28	8.6%

Note

- The increase in **Total direct compensation** awarded to the named executives from 2015 to 2016 is due primarily to higher short-term incentive awards due to strong corporate performance.

## APPROACH

TransCanada’s executive compensation program is designed to meet four key objectives:

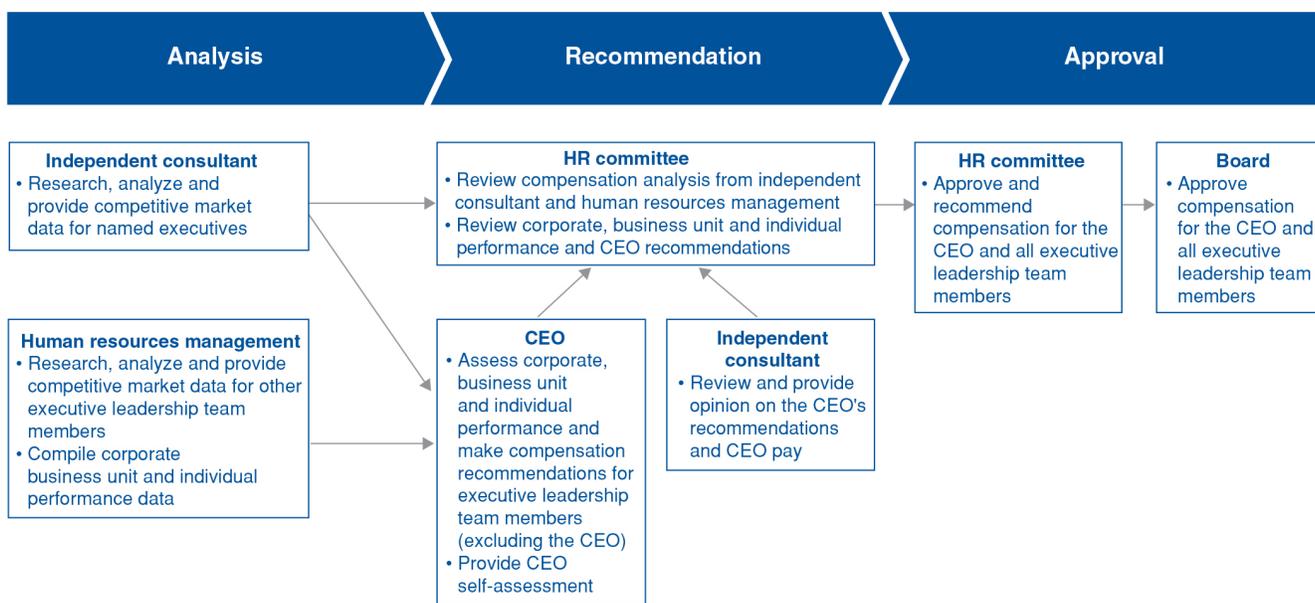
- provide a compensation package that 'pays for performance' by rewarding executives for delivering on our corporate objectives and achieving our overall strategy
- offer levels and types of compensation that are competitive with the market
- align executives’ interests with those of our various stakeholders
- attract, engage and retain our executives.

Compensation is also aligned with our risk management processes to ensure there is an appropriate balance between risk and reward. See pages 56 and 57 for more information.

## Decision-making process

We follow a comprehensive decision-making process that involves management, the Human Resources committee and the Board, and takes into account market data, input from the CEO and advice from the committee’s independent consultant.

The Board makes all decisions affecting executive leadership team compensation based on the committee’s recommendations.



## **Compensation analysis**

### ***Assessing the market***

The independent consultant to the committee analyzes and provides relevant market data and other information to the committee and the Board. This process includes benchmarking executive compensation against a peer group of companies (see ***Benchmarking*** on pages 77 and 78).

The committee and Board also consider compensation relative to other executives, scope and criticality of the role and experience when determining compensation levels. The committee uses the benchmarks as a guideline, recognizing that there can be dispersion among individual companies' data and that the committee must also be mindful of the broader environment as it considers adjustments.

### ***Determining performance objectives***

The Board approves annual corporate objectives to support our core strategies for operating safely and efficiently, achieving growth and creating value for shareholders. Our corporate performance scorecard incorporates these objectives, including a combination of financial, operational, safety, and growth measures which are weighted and approved by the Board.

The Board establishes annual performance objectives and relative weightings for the CEO and the other named executives. The CEO's performance objectives are reflected in the corporate scorecard. Performance objectives for the other named executives include the corporate scorecard, business unit scorecards and individual objectives.

### **Recommendation**

The committee and the Board assess the performance of the company and of the CEO.

The CEO assesses the performance of his direct reports, including the other named executives, obtains input from the Board on executive performance, and makes compensation recommendations to the committee.

The committee recommends compensation awards for the CEO and other named executives to the Board. The committee seeks advice from its independent consultant, but is responsible for making its own decisions and recommendations to the Board.

The committee bases its recommendations on the relevant performance period. Although it reviews historical information on the value of previously awarded compensation, it does not make adjustments to any performance-related measures based on the number, term or current value of any outstanding compensation previously awarded or gains an executive may have realized in prior years. Similarly, the committee does not take into account the value of long-term incentive awards it grants in a given year to offset less-than-expected returns from awards granted in prior years. The committee believes that increasing, reducing or limiting grants or awards based on prior gains could detract from the integrity of the performance-based framework or undermine the incentives for executives to deliver strong performance.

### **Approval**

The Board reviews the recommendations by the committee and approves all executive leadership team compensation decisions.

## Benchmarking

We benchmark our executive compensation against a peer group of companies to assess the competitive market. Each year, the committee reviews the companies with its independent consultant, makes adjustments as it deems appropriate, and approves the peer group.

The peer group for the named executives reflects:

- the size of TransCanada relative to the peer companies
- a broad sample size which reduces potential volatility in the data
- the scope of TransCanada's North American business activities
- the broad market from which TransCanada competes for executive talent.

Our 2017 peer group for our named executives is listed below. The committee made minor adjustments to the peer group from 2016. Encana Corporation was removed because of its relative size against multiple criteria. Spectra Energy Corp. was removed because it merged with Enbridge Inc. The committee preserved the balance between Canadian and U.S. companies.

### Named executive peer group

American Electric Power Co. Inc.	Imperial Oil Ltd.
Canadian National Railway Company	Kinder Morgan Inc.
Canadian Natural Resources Ltd.	NextEra Energy Inc.
Cenovus Energy Inc.	Occidental Petroleum Corporation
Dominion Energy Inc.	PG&E Company
Enbridge Inc.	Southern Company
Exelon Corporation	Suncor Energy Inc.
Fortis Inc.	Teck Resources Ltd.
Husky Energy Inc.	Williams Companies Inc.

We benchmark each named executive position against similar positions in the peer group. The committee recognizes that even with a relatively large peer group, the results can be skewed by changes in the underlying market data. As a result, the committee exercises judgment in the interpretation of the data and is guided by the independent consultant in this regard. Competitive market data for the peer group provides an initial reference point for determining executive compensation.

Profiles At December 31, 2016	TransCanada	Named executive peer group	
		Median	75th percentile
Assets	\$88.1 billion	\$73.1 billion	\$93.9 billion
Revenue	\$12.5 billion	\$16.4 billion	\$23.4 billion
Market capitalization at December 31, 2017 (Monthly closing price of shares × shares outstanding for the most recent quarter)	\$53.9 billion	\$50.8 billion	\$71.9 billion
Employees	7,083	11,061	17,276

Notes

- **Named executive peer group** scope information reflects 2016 data, unless otherwise noted, as this was the most current information available at the time the analysis was performed. For comparability, the **TransCanada** scope information also reflects 2016 data.
- Values reflect a U.S./Canada foreign exchange rate of 1.3248 for 2016 and 1.2986 for 2017.

For 2018, the committee has made minor adjustments to the peer group. The committee included additional size-suitable U.S. energy companies in light of the acquisition of Columbia. Duke Energy Corporation and Sempra Energy were added as large U.S. energy/utility companies. BCE Inc. was also added as it is another large capitalization Canadian company with similar organizational complexity.

TransCanada is at the top end of the range of the 2018 peer group by asset size and market capitalization and at the median in terms of revenue.

Total direct compensation is generally set within a competitive range of the market median.



See **Components** on page 80 for more information about total direct compensation.

## Aligning the interests of executives and shareholders

We have share ownership requirements to align the interests of our executives and shareholders. The minimum requirements are significant and vary by executive level. The ownership requirements are:

Executive level	Required ownership (multiple of base salary)
Chief Executive Officer	5x
Executive Vice-Presidents	2x
Senior Vice-Presidents	1x

Executives have five years to meet the requirement. Executives, including the CEO, must buy and hold 50 per cent of all stock options they exercise until they meet their share ownership requirement.

The committee reviews share ownership levels for each executive every year. It may use its discretion when assessing compliance if ownership levels fall below the minimum because of fluctuations in share price.

All of the named executives met their share ownership requirements in 2017 except Mr. Chapman, who has until the end of 2022 to meet his holding requirements.

See the *Executive profiles* starting on page 93 for current share ownership levels.

## COMPONENTS

Total direct compensation includes fixed and variable pay. Base salary is the only form of fixed compensation. Variable compensation includes our short and long-term incentive plans.

Element	Form	Performance period	Objective
Base salary (fixed)	Cash	<ul style="list-style-type: none"> <li>One year</li> </ul>	<ul style="list-style-type: none"> <li>Provide base compensation commensurate with the role</li> <li>Attract and retain executives</li> </ul>
Short-term incentive (variable)	Cash	<ul style="list-style-type: none"> <li>One year</li> </ul>	<ul style="list-style-type: none"> <li>Motivate executives to achieve key annual business objectives</li> <li>Reward executives for relative contribution to TransCanada</li> <li>Align interests of executives and shareholders</li> <li>Attract and retain executives</li> </ul>
Long-term incentive (variable)	ESUs	<ul style="list-style-type: none"> <li>Three-year term</li> <li>Vesting at the end of the term</li> <li>Awards subject to a performance multiplier based on pre-established targets</li> </ul>	<ul style="list-style-type: none"> <li>Motivate executives to achieve medium-term business objectives</li> <li>Align interests of executives and shareholders</li> <li>Attract and retain executives</li> </ul>
	Stock options	<ul style="list-style-type: none"> <li>Seven-year term</li> <li>One third vest each year beginning on the first anniversary of the grant date</li> </ul>	<ul style="list-style-type: none"> <li>Motivate executives to achieve long-term sustainable business objectives</li> <li>Align interests of executives and shareholders</li> <li>Attract and retain executives</li> </ul>

We also offer indirect compensation which includes retirement benefits, other benefits and perquisites. See pages 87 through 89 for more information.

## Fixed compensation

### Base salary

Base salaries for executive positions are generally aligned within a competitive range of median base salary levels in our peer group. The independent consultant to the committee analyzes and provides relevant market data to the committee and the Board. It should be noted that TransCanada is now one of Canada's largest corporations by asset size. Thus in assessing current competitive compensation, the committee takes into account the broader scope of some roles at TransCanada.

Awarded increases in base salary for the named executives are based on their performance, competitive market data, experience in and scope of the role and compensation relative to other executives at TransCanada. Base salary adjustments are typically effective March 1.

### Variable or at-risk compensation

Variable compensation accounts for a significant portion of executive pay, and increases in proportion by executive level.

### Short-term incentive

The short-term incentive plan is designed to attract and retain executives, and motivate them to achieve key annual business objectives. It rewards executives for their contributions to TransCanada and aligns interests of executives with shareholders.

Market data is used to establish short-term incentive target levels for each executive role. Target awards are expressed as a percentage of base salary and are determined with reference to median market levels in our peer group. While targets are reviewed annually against the competitive market data, they are not expected to change every year unless the role changes or is reassessed relative to market conditions. As with base pay, median targets are a reference but may not reflect the appropriate competitive level given TransCanada's size compared to other peers.

Annual cash awards are made to the named executives based on a formula that takes into account:

- base salary and the short-term incentive target, expressed as a percentage of base salary, for each role
- performance against business unit and individual objectives, expressed as an individual performance factor determined for each named executive
- performance against corporate performance objectives, expressed as the Corporate factor.

The CEO's performance objectives are reflected 100 per cent in the corporate scorecard and his short-term incentive award is based 100 per cent on corporate performance.

$$\text{Base salary} \times \text{Short-term incentive target} \times \left[ \left( \text{Business unit/individual performance factor} \times \text{Business unit/individual weighting} \right) + \left( \text{Corporate performance factor} \times \text{Corporate weighting} \right) \right] = \text{Short-term incentive award (\$)}$$

Awards can range from 0 to 200 per cent of the short-term incentive target based on the level of corporate, business unit and individual performance. Awards will generally be 50 per cent of the target if performance meets threshold standards, 100 per cent for target performance, and 200 per cent of the target for exceptional performance relative to pre-determined standards. There is no payout if overall performance is below the threshold. Although the CEO's short-term incentive is based 100 per cent on corporate performance, the committee retains discretion to adjust his short-term incentive award based on its assessment of the performance of the CEO and the business and the risks taken to achieve corporate results.

The corporate, business unit and individual factors are weighted for each executive and then added together to determine the overall award. The Board can adjust the calculated short-term incentive awards up or down at its discretion to take into account other factors when it believes it is appropriate to do so. Short-term incentive awards are paid as a lump sum cash payment in March following the performance year.

Awards for 2017 were based on the following target levels and performance measure relative weightings.

	Short-term incentive target (% of base salary)	2017 Performance measure relative weighting		
		Corporate	Business unit	Individual
President & CEO (Russell K. Girling)	120%	100%	—	—
Executive Vice-President & CFO (Donald R. Marchand)	65%	80%	—	20%
Executive Vice-President & President, Canada & Mexico Natural Gas Pipelines & Energy (Karl Johannson)	65%	60%	40%	—
Executive Vice-President and President, U.S. Natural Gas Pipelines (Stanley Chapman III)	65%	60%	40%	—
Executive Vice-President & President, Liquids Pipelines (Paul E. Miller)	65%	60%	40%	—

Effective January 1, 2018, the target annual incentive for Mr. Girling was increased from 120 per cent to 125 per cent. For Messrs. Marchand, Johannson, Chapman and Miller, the target annual incentive was also increased from 65 per cent to 75 per cent.

### Long-term incentive

Each year, the committee and the Board grant long-term incentive awards to the named executives based on median market levels, and potential to contribute to TransCanada's future success.

The allocation of long-term incentive awards for our executive leadership team is 50 per cent each to ESUs and stock options.

### Executive share units

These are notional share units granted under the ESU plan. ESUs accrue dividend equivalents and vest on December 31 at the end of the three-year performance period. The payout depends on how well we perform against targets established at the beginning of the period.

ESU awards are paid out in a lump sum cash payment in the first quarter following the end of the performance period.

Number of ESUs vesting	x	Valuation price on the vesting date	x	Performance multiplier	=	ESU payout (\$)
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#### Notes

- **Number of ESUs vesting** is the number of ESUs originally granted plus ESUs earned as dividend equivalents during the three-year performance period. Dividends and ESUs vest at the same time and only to the same extent that the underlying ESUs vest.
- **Valuation price on the vesting date** is the volume-weighted average closing price of TransCanada shares for the 20 trading days immediately prior to and including the vesting date (December 31).

"Off-cycle" grants may be made to newly hired executives and to executives promoted part way through the year. These grants will vest on the same schedule as the standard grants that year and will be subject to the same valuation and performance multiplier; however, depending when the off-cycle grant was made it will accrue fewer dividends than the standard grant.

### 2018 Executive share unit grant

The committee and the Board approved a 2018 ESU grant as follows:

Performance measure	Weighting	Measurement period
Relative TSR against the S&P/TSX 60 Index	25%	January 1, 2018 to December 31, 2020
Relative TSR against the ESU peer group	25%	
Comparable earnings per share	50%	

The cumulative *Comparable earnings per share* multiplier will be a maximum of 1.0 if the ratio of cumulative dividends per share to cumulative comparable funds generated from operations per share for the three-year period is greater than 50 per cent.

We have two peer groups for assessing relative TSR. The first group is the S&P/TSX 60 Index, a group of publicly-traded peer companies that represents competitors for shareholder investment. The second group is the ESU peer group, consisting of specific business competitors as shown below.

2018 ESU grant peer group for relative TSR		
AltaGas Ltd.	Enbridge Inc.	ONEOK, Inc.
Canadian Utilities Ltd.	Enterprise Products Partners L.P.	Pembina Pipeline Corp.
CenterPoint Energy Inc.	Fortis Inc.	Sempra Energy
Dominion Energy Inc.	Inter Pipeline Ltd.	Williams Companies Inc.
Emera Inc.	Kinder Morgan Inc.	

### 2015 Executive share unit award

For the 2015 ESU grant, the performance multiplier was determined based on the guidelines in the table below.

If TransCanada's performance is	Then the performance multiplier is	
At threshold	0.50	We calculate the performance multiplier using a straight-line interpolation if performance is: <ul style="list-style-type: none"> <li>between threshold and target, or</li> <li>between target and maximum</li> </ul>
At target	1.00	
At or above maximum	2.00	

For more details on the ESU payout, see *Payout of 2015 executive share unit award* on page 91 and 92.

### ***Stock options***

Shareholders first approved our stock option plan in 1995, and the most recent version of the plan was last approved by shareholders in 2016. The plan is administered by the Human Resources committee, which is composed entirely of independent directors. The total number of shares that can be reserved for issuance to insiders, or issued to insiders at any time and within any one-year period, under any of our security based compensation arrangements (as defined in the TSX Company Manual), is limited to 10 per cent or less of our issued and outstanding shares. Non-executive directors are not eligible to participate in the plan.

### ***Vesting***

Stock options vest one third each year, beginning on the first anniversary of the grant date and have a seven-year term.

Executives are limited to trading TransCanada shares in four windows (known as *open trading windows*), which are designated quarterly. The open trading windows relate to the completion and disclosure of quarterly and annual financial reports.

Executives are not permitted to trade when they are in possession of material, non-public information. If the expiry date of a stock option does not fall during an open trading window, or falls within the first five days of an open trading window, the expiry date is extended to 10 business days after the next window opens. Similar extensions apply when there is a special trading blackout imposed during one of the four open trading windows and stock options expire during the trading blackout.

### ***Exercise price***

The exercise price of an option is the closing market price of TransCanada shares on the TSX on the last trading day immediately preceding the grant date. Option holders only benefit if the market value of our shares exceeds the exercise price at the time they exercise the options. We do not provide financial assistance to plan participants in connection with the exercise of options.

### ***Adjustments***

The number of shares subject to an option will be adjusted under the terms of the plan when exercised if, before the exercise of any option:

- the shares are consolidated, subdivided, converted, exchanged, reclassified or in any way substituted, or
- a stock dividend that is not in place of an ordinary course cash dividend is paid on the shares.

### **2017 Changes**

In 2017, a minor administrative change was made to the plan to allow for payments related to the exercise of options to be made by certified cheque, banks draft, wire transfer or any other form of payment deemed acceptable by the administrator of the plan. Previously, payments from participants were only accepted by certified cheque or bank draft. This change is of an administrative nature and did not require shareholder approval under the terms of the plan.

### **More about the stock option plan**

Options cannot be transferred or assigned to another person. A personal representative can exercise options on behalf of the holder if he or she dies or is incapacitated.

The committee has the authority to suspend or discontinue the plan at any time without shareholder approval. Management does not have this right, and cannot make changes to the plan. The committee can recommend to the Board for approval certain amendments to the plan, or any stock option grant without shareholder approval, provided they are to:

- clarify an item
- correct an error or omission
- change the vesting date of an existing grant, or
- change the expiry date of an outstanding option to an earlier date.

The committee cannot make any amendments to the plan that adversely affect the holders' rights relating to any previously granted options without their consent.

The plan requires certain amendments to be approved by shareholders, including:

- increasing the number of shares available for issue under the plan
- lowering the exercise price of a previously granted option
- canceling and reissuing an option
- permitting options to be transferable or assignable other than for normal estate settlement purposes
- changing the categories of individuals eligible to participate in the plan
- providing financial assistance to a participant in connection with the exercise of options
- extending the expiry date of an option
- changing the types of amendments that require shareholder approval.

For more details on stock options, see **Equity compensation plan information** on page 104.

See the **Compensation on termination** table on page 108 and 109 for the effect of certain employment events on participants' entitlements under the plan.

## Retirement benefits

### Defined benefit plan

Our Canadian defined benefit (DB) plan includes a registered pension plan and a supplemental pension plan for eligible employees.

Participation in the DB plan is mandatory once a Canadian employee has 10 years of continuous service. All of the named executives, except Mr. Chapman who, as a U.S. employee participates in the 401(k) Plan, participate in the DB plan.

Normal retirement for participants is when they turn 60, or between 55 and 60 if their age and years of continuous service add up to 85 points. The retirement benefit at normal retirement age is calculated as follows:

$$\left( \begin{array}{l} 1.25\% \text{ of employee's highest} \\ \text{average earnings (up to the final} \\ \text{average YMPE)} \end{array} + \begin{array}{l} 1.75\% \text{ of employee's highest} \\ \text{average earnings (above the final} \\ \text{average YMPE)} \end{array} \right) \times \begin{array}{l} \text{Credited} \\ \text{service} \end{array} = \begin{array}{l} \text{Annual retirement} \\ \text{benefit (\$)} \end{array}$$

#### Notes

- **Highest average earnings** is the average of an employee's best 36 consecutive months of pensionable earnings in their last 15 years of employment. **Pensionable earnings** means an employee's base salary plus the annual short-term incentive award up to a pre-established maximum, expressed as a percentage of base salary. For 2017, this is 100 per cent for the CEO, and 60 per cent for the other named executives. Pensionable earnings do not include any other forms of compensation.
- **YMPE** is the Year's Maximum Pensionable Earnings under the Canada/Québec Pension Plan.
- **Final average YMPE** is the average of the YMPE in effect for the latest calendar year from which earnings are included in **Employees' highest average earnings** calculation plus the two previous years.
- **Credited service** is the employee's years of credited pensionable service in the plan. Registered DB plans are subject to a maximum annual benefit accrual under the **Income Tax Act** (Canada). As this is currently \$2,914 for each year of credited service, participants cannot earn benefits in the registered plan on any compensation that is higher than approximately \$182,000 per year.

Participants can retire between 55 and 60, but the benefit is reduced by 4.8 per cent per year for each year until they reach age 60 or 85 points, whichever is earlier. They can retire 10 years prior to normal retirement age, however the benefit is reduced by an actuarial equivalence from age 55.

Although our DB plan is non-contributory, participants can decide to make pension contributions to an enhancement account for buying ancillary or "add on" benefits within the registered pension plan. The DB plan is integrated with the Canada/Québec Pension Plan benefits.

### **Supplemental pension plan**

The DB pension plan uses a hold harmless approach, where the maximum amount allowed under the *Income Tax Act* (Canada) is paid from the registered pension plan and the remainder is paid from the supplemental pension plan. The supplemental pension plan is funded through a retirement compensation arrangement under the *Income Tax Act* (Canada). Currently there are approximately 840 participants in the supplemental pension plan (with pensionable earnings exceeding approximately \$182,000 per year) including the Canadian named executives. All DB pension plan participants with pensionable earnings exceeding approximately \$182,000 per year are eligible to participate in the supplemental pension plan.

Contributions to the fund are subject to Board approval, and are based on an actuarial valuation of the supplemental pension plan obligations each year.

Effective 2012, solely at the discretion of the Board, our funding practice for the supplemental pension plan was revised to align it generally with the registered pension plan wherein annual funding approximates current year service cost accruals and the five-year amortization of deficits.

The DB plan does not generally recognize past service, but the committee has used its discretion in the past to grant additional years of credited service to senior executives under the supplemental pension plan. See the *Defined benefit pension plan* table and footnotes on page 105 for details.

All DB pension plan participants, including our named executives with the exception of Mr. Chapman, receive the normal form of pension when they retire:

- monthly pension for life, and 60 per cent is paid to the spouse after the employee dies, or
- if the employee is not married, the monthly pension is paid to the employee's beneficiary or estate for the balance of the 10 years, if the employee dies within 10 years of retirement.

Participants can choose a different form of payment, but must complete waivers, as required by law. Options include:

- increasing the percentage of the pension value that continues after they die
- adding a guarantee period to the pension, or
- transferring the lump sum commuted value of the registered pension plan to a locked-in retirement account up to certain tax limits and the excess is paid in cash. Subject to company discretion, the supplemental pension plan commuted value may also be transferred and paid in cash.

### **TransCanada 401(k) and Savings Plan**

The TransCanada 401(k) and Savings Plan (401(k) Plan) provides a company contribution in addition to a voluntary employee contribution with a company match.

Participation in the 401(k) Plan is mandatory for U.S. new hires. Mr. Chapman participates in the 401(k) Plan.

The company contributes seven per cent of each participants' base salary (up to IRS contribution limits) to a 401k account at Fidelity. Participants can also make voluntary contributions to their 401(k) Plan and receive a company match equal to 100 per cent of their contribution up to the first five per cent of eligible earnings. All company contributions vest immediately. For 2018, the IRS annual compensation limit is \$275,000 while the annual employee 401(k) contributions limit is \$18,500 with an additional \$6,000 of contribution room for employees age 50 and older.

The 401(k) Plan offers a number of investment options to help participants meet their saving goals.

TransCanada's Investment committee monitors and measures the performance of the investment funds offered in the 401(k) Plan in relation to established performance guidelines and occasionally makes changes to the choice of investment funds where necessary.

### **Other benefits**

All employees, including the named executives, receive other benefits such as traditional health and welfare programs that are based on competitive market practices in the country in which they work. These benefits help to attract and retain talent.

### **Perquisites**

Named executives receive a limited number of perquisites, including:

- a flexible perquisite allowance to use at their discretion
- club memberships
- a reserved parking space
- an annual car allowance.

## CORPORATE PERFORMANCE

The following summarizes our 2017 corporate performance against annual objectives.

You can find definitions of these terms and more information about our financial and business performance in our 2017 Management's discussion and analysis (MD&A) on our website ([www.transcanada.com](http://www.transcanada.com)) and on SEDAR ([www.sedar.com](http://www.sedar.com)).

The Board approved a Corporate factor of 1.2, which is above target level performance. The Corporate factor was used in determining the 2017 annual incentive awards for all non-union employees.

	2017 target	2017 result	Rating (0-2.0)	Weighting	Factor
<b>1. Financial</b>					
Comparable earnings per share	\$2.85	\$3.09			
Comparable funds generated from operations (millions)	\$5,292	\$5,641	2.0	20%	0.4
<b>2. Safety and asset integrity</b>	Various targets	Not met	0	10%	0
<b>3. Maximizing value of existing asset base</b>	\$100 million of incremental annual long-term value	Exceeded	1.6	25%	0.4
<b>4. Project execution</b>	Various targets	Partially met	0.5	25%	0.1
<b>5. Grow asset base</b>	\$3 billion	Exceeded	1.6	20%	0.3
<b>Overall Corporate factor</b>				<b>100%</b>	<b>1.2</b>

### Notes

- The committee evaluated all non-comparable adjustments to 2017 EPS and funds generated from operations, including the positive adjustment related to U.S. Tax Reform, and concluded that they are non-recurring items or unrealized gains/losses and it is therefore appropriate to exclude them in evaluating performance against scorecard targets. The one-time charge related to the cancellation of Energy East was considered in the assessment of project execution.
- Comparable earnings per share** as reported by the company was \$3.09, calculated as follows:

Net (loss)/income per common share	\$3.44
U.S. Tax Reform adjustment	(0.92)
Net (gain)/loss on sales of U.S. Northeast power assets	(0.34)
Gain on sale of Ontario solar assets	(0.16)
Energy East impairment charge	1.09
Integration and acquisition related costs - Columbia	0.08
Keystone XL asset costs	0.03
Keystone XL income tax recoveries	(0.01)
Risk management activities	(0.12)
Comparable earnings per share	\$3.09

- We calculate both **Net income per common share** and **Comparable earnings per share** based on the weighted average number of our shares outstanding (872 million in 2017).
- Comparable earnings per share** and **Comparable funds generated from operations** are non-GAAP measures and do not have any standardized meaning as prescribed by U.S. GAAP (see **Schedule C** for more information).

See **Performance results** on page 71 and 72 for more information about 2017 corporate performance.

## PAYOUT OF 2015 EXECUTIVE SHARE UNIT AWARD

### Performance multiplier

The ESU award granted in 2015 vested on December 31, 2017, and will be paid in March 2018. This award provided for a performance multiplier from 0 to 2.0 based on the Board's assessment of how the company performed in terms of relative total shareholder return and comparable EPS targets over the course of the three-year period. ESU payouts were calculated using a performance multiplier of 1.43, based on the following result:

Measure	Period	Performance level targets for 2015 ESU award			Actual performance	Multiplier	Weighting	Weighted multiplier
		Threshold	Target	Maximum				
Relative TSR against the S&P/TSX 60 Index		at least the 25th percentile	at least the 50th percentile	at least the 75th percentile	P42	0.84	25%	0.21
Relative TSR against the ESU peer group (see below)	January 2015 to December 2017	at least the 25th percentile	at least the 50th percentile	at least the 75th percentile	P69	1.76	25%	0.44
Cumulative Comparable earnings per share		\$7.63	\$8.07	\$8.57	\$8.35	1.56	50%	0.78
<b>Performance multiplier</b>								<b>1.43</b>

Note

- **Relative TSR** is calculated using \$61.95, the twenty-day volume weighted average closing price of TransCanada shares on the TSX at December 31, 2017. Our absolute TSR performance was 27.7 per cent.

Our peer group for relative TSR for the 2015 ESU award consisted of a group of publicly-traded peer companies that represented investment opportunities for equity investors seeking exposure to the North American pipeline, power and utility sector.

#### 2015 ESU grant peer group for relative TSR

AltaGas Ltd.	Enbridge Inc.	Pembina Pipeline Corp.
Canadian Utilities Ltd.	Enterprise Products Partners L.P.	Sempra Energy
CenterPoint Energy Inc.	Fortis Inc.	Williams Companies Inc.
Dominion Energy Inc.	Inter Pipeline Ltd.	
Emera Inc.	Kinder Morgan Inc.	

## Awards to named executives

The table below is a summary of the details of the original 2015 ESU award and the amount paid to each named executive when the award vested at the end of 2017.

	2015 ESU award		2015 ESU payout			
	Number of ESUs granted	Value of ESU award (\$)	Number of ESUs vesting (includes dividend equivalents to December 31, 2017)	Performance multiplier	Value of ESU payout (\$)	% of original award
Russell Girling	51,244.510	2,800,000	57,919.516		5,131,003	
Donald Marchand	17,100.567	934,375	19,328.051		1,712,243	
Karl Johannson	15,785.139	862,500	17,841.277	1.43	1,580,532	183%
Stanley Chapman III	—	—	—		—	
Paul Miller	11,301.245	617,500	12,773.317		1,131,569	

### Notes

- **Number of ESUs granted** is the value of the ESU award divided by the valuation price of \$54.64 (the volume-weighted average closing price of TransCanada shares on the TSX for the twenty trading days immediately prior to and including the grant date (January 1, 2015)).
- **Number of ESUs vesting** includes an equivalent number of units for the final dividend that is declared as of December 31, 2017 but which has not been paid at the vesting date. The final dividend value is awarded in cash and has been converted to units and is reflected under **Number of ESUs vesting**.
- **Value of ESU payout** is calculated using the valuation price of \$61.95 (the volume-weighted average closing price of TransCanada shares on the TSX for the twenty trading days immediately prior to and including the vesting date (December 31, 2017)).
- Mr. Chapman joined TransCanada in 2016 and did not receive a 2015 ESU award. His first ESU award in 2016 will vest, in the normal course, on December 31, 2018.

## EXECUTIVE PROFILES

This next section profiles each of the named executives, including their key results in 2017, details of their compensation for 2017 and the two previous fiscal years, and their share ownership as at December 31, 2017.



## Russell Girling

### PRESIDENT AND CHIEF EXECUTIVE OFFICER

Mr. Girling is responsible for our overall leadership and vision in developing with our Board our strategic direction, values and business plans. This includes overall responsibility for operating and growing our business while managing risk to create long-term sustainable value for our shareholders.

#### 2017 Key results

- Record comparable earnings per share and comparable funds generated from operations
- Increased portfolio of near-term infrastructure growth projects to \$23 billion
- Advanced the Keystone XL project and secured shipping commitments
- Delivered financial plan that supports 8-10% dividend growth through 2021
- Advanced succession planning and high performance culture

- Mr. Girling's short-term incentive award was based 100 per cent on corporate performance.
- The short-term incentive award for 2017 performance was based on Mr. Girling's target of 120 per cent of base salary.
- Mr. Girling's 2017 short-term and long-term incentive awards as a percentage of 2017 base salary were 144 per cent and 485 per cent, respectively.

Compensation (as at December 31)	2017	2016	2015
<b>Fixed</b>			
Base salary	\$1,300,008	\$1,300,008	\$1,300,008
<b>Variable</b>			
Short-term incentive	1,872,012	2,210,014	1,560,000
Long-term incentive			
ESUs	3,150,000	3,000,000	2,800,000
Stock options	3,150,000	3,000,000	2,800,000
<b>Total direct compensation</b>	<b>\$9,472,020</b>	<b>\$9,510,022</b>	<b>\$8,460,008</b>
<b>Change from last year</b>	<b>-0.4%</b>	<b>12%</b>	<b>—</b>



*Short-term incentive* is attributed to the noted financial year, and is paid by March 15 of the following year.

*Share ownership* is based on the 20-day volume-weighted average closing price on the TSX of \$61.95 for TransCanada shares as at December 31, 2017.

#### Share ownership

Minimum level of ownership	Minimum value	Ownership under the guidelines	
		TransCanada shares	Total ownership as a multiple of base salary
5x	\$6,500,040	\$15,367,007	11.8x



## Donald Marchand

### EXECUTIVE VICE-PRESIDENT AND CHIEF FINANCIAL OFFICER

Mr. Marchand is responsible for all corporate financial affairs of the company including financial reporting, taxation, finance, treasury, risk management and investor relations.

#### 2017 Key results

- 2017 growth program funded on compelling terms; Columbia acquisition bridge facilities fully retired
- 'A' grade credit ratings maintained
- Columbia integrated and on-track to realize US\$250 million of targeted annual synergies
- Supported significant asset disposition activity as well as Columbia Pipeline Partners acquisition consistent with commitment to simplified structure
- Adept monitoring and management of consolidated market and counterparty exposures
- High level of engagement with investment community including increased focus on environmental, social and governance matters

- Mr. Marchand's short-term incentive award was based on a combination of corporate performance (80 per cent) and individual performance (20 per cent).
- The short-term incentive award for 2017 performance was based on Mr. Marchand's target of 65 per cent of base salary.
- Mr. Marchand's 2017 short-term and long-term incentive awards as a percentage of 2017 base salary were 79 per cent and 365 per cent, respectively.

Compensation (as at December 31)	2017	2016	2015
<b>Fixed</b>			
Base salary	\$625,008	\$575,004	\$575,004
<b>Variable</b>			
Short-term incentive	495,631	650,330	448,550
Long-term incentive			
ESUs	1,140,625	1,006,250	934,375
Stock options	1,140,625	1,006,250	934,375
<b>Total direct compensation</b>	<b>\$3,401,889</b>	<b>\$3,237,834</b>	<b>\$2,892,304</b>
<b>Change from last year</b>	<b>5%</b>	<b>12%</b>	<b>—</b>



*Short-term incentive* is attributed to the noted financial year, and is paid by March 15 of the following year.

*Share ownership* is based on the 20-day volume-weighted average closing price on the TSX of \$61.95 for TransCanada shares as at December 31, 2017.

#### Share ownership

Minimum level of ownership	Ownership under the guidelines		
	Minimum value	TransCanada shares	Total ownership as a multiple of base salary
2x	\$1,250,016	\$1,405,336	2.2x



## Karl Johannson

### EXECUTIVE VICE-PRESIDENT AND PRESIDENT, CANADA AND MEXICO NATURAL GAS PIPELINES AND ENERGY

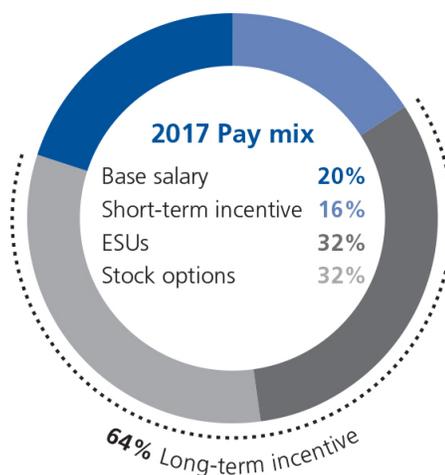
Mr. Johannson is responsible for our natural gas pipelines and regulated natural gas storage business in Canada and Mexico. He is also responsible for profitability and growth of the energy business.

#### 2017 Key results

- Placed approximately \$1.7 billion of NGTL facilities in service
- Secured an additional \$2.0 billion of NGTL expansion projects
- Dawn LTFP service resulting in security of volumes through the Canadian Mainline for a ten-year term
- Advanced construction of the US\$2.8 billion program in Mexico
- Closed sale of U.S. Northeast power assets for US\$3.1 billion

- Mr. Johannson's short-term incentive award was based on a combination of corporate performance (60 per cent) and business unit performance (40 per cent).
- The short-term incentive award for 2017 performance was based on Mr. Johannson's target of 65 per cent of base salary.
- Mr. Johannson's 2017 short-term and long-term incentive awards as a percentage of 2017 base salary were 81 per cent and 330 per cent, respectively.

Compensation (as at December 31)	2017	2016	2015
<b>Fixed</b>			
Base salary	\$620,004	\$575,004	\$575,004
<b>Variable</b>			
Short-term incentive	499,723	635,380	485,900
Long-term incentive			
ESUs	1,023,000	900,000	862,500
Stock options	1,023,000	900,000	862,500
<b>Total direct compensation</b>	<b>\$3,165,727</b>	<b>\$3,010,384</b>	<b>\$2,785,904</b>
<b>Change from last year</b>	<b>5%</b>	<b>8%</b>	<b>—</b>



*Short-term incentive* is attributed to the noted financial year, and is paid by March 15 of the following year.

*Share ownership* is based on the 20-day volume-weighted average closing price on the TSX of \$61.95 for TransCanada shares as at December 31, 2017.

#### Share ownership

Minimum level of ownership	Ownership under the guidelines		
	Minimum value	TransCanada shares	Total ownership as a multiple of base salary
2x	\$1,240,008	\$1,935,256	3.1x



## Stanley Chapman III

### EXECUTIVE VICE-PRESIDENT AND PRESIDENT, U.S. NATURAL GAS PIPELINES

Mr. Chapman is responsible for all pipeline operations and commercial activities across our FERC-regulated transmission and storage assets as well as the unregulated midstream business.

#### 2017 Key results

- Columbia integration fully complete and delivering results as expected
- Improved market access for new supply by placing US\$1.1 billion of new project, modernization, and maintenance upgrades into service
- Increased portfolio of commercially secured near-term growth projects to US\$7.5 billion
- Reached favorable settlements on two major rate cases, providing long-term rate stability
- Strong financial results

- Mr. Chapman's short-term incentive award was based on a combination of corporate performance (60 per cent) and business unit performance (40 per cent).
- The short-term incentive award for 2017 performance was based on Mr. Chapman's target of 65 per cent of base salary.
- Mr. Chapman's 2017 short-term and long-term incentive awards as a percentage of 2017 base salary were 78 per cent and 290 per cent, respectively.

Compensation (as at December 31)	2017	2016	2015
<b>Fixed</b>			
Base salary	\$616,845	\$563,040	—
<b>Variable</b>			
Short-term incentive	481,139	484,976	—
Long-term incentive			
ESUs	551,910	1,126,080	—
Stock options	1,236,919	—	—
<b>Total direct compensation</b>	<b>\$2,886,813</b>	<b>\$2,174,096</b>	—
<b>Change from last year</b>	<b>33%</b>	—	—

The 2016 amount shown in *Short-term incentive* includes compensation earned for the period July 1 to December 31 in his new position and a pre-closing award earned for the period January 1 to June 30.



*Short-term incentive* is attributed to the noted financial year, and is paid by March 15 of the following year.

*Share ownership* is based on the 20-day volume-weighted average closing price on the TSX of \$61.95 for TransCanada shares as at December 31, 2017 multiplied by the average closing exchange rate of the same 20-day period.

#### Share ownership

Minimum level of ownership	Minimum value	Ownership under the guidelines	
		TransCanada shares	Total ownership as a multiple of base salary
2x	\$1,233,690	\$278,764	0.5x

Mr. Chapman has until the end of 2022 to meet his holding requirements.

Values reflect a U.S./Canada foreign exchange rate of 1.3248 for 2016 and 1.2986 for 2017.



## Paul Miller

### EXECUTIVE VICE-PRESIDENT AND PRESIDENT, LIQUIDS PIPELINES

Mr. Miller is responsible for the profitability and growth of our liquids transportation business.

#### 2017 Key results

- Strong financial results
- Grand Rapids and Northern Courier pipelines placed in service
- Additional contracts secured on Keystone pipeline
- Advanced the Keystone XL project by securing commercial support and primary regulatory approvals

- Mr. Miller's short-term incentive award was based on a combination of corporate performance (60 per cent) and business unit performance (40 per cent).
- The short-term incentive award for 2017 performance was based on Mr. Miller's target of 65 per cent of base salary.
- Mr. Miller's 2017 short-term and long-term incentive awards as a percentage of 2017 base salary were 78 per cent and 300 per cent, respectively.

Compensation (as at December 31)	2017	2016	2015
<b>Fixed</b>			
Base salary	\$500,004	\$475,008	\$475,008
<b>Variable</b>			
Short-term incentive	390,003	426,083	370,550
Long-term incentive			
ESUs	750,000	675,000	617,500
Stock options	750,000	675,000	617,500
<b>Total direct compensation</b>	<b>\$2,390,007</b>	<b>\$2,251,091</b>	<b>\$2,080,558</b>
<b>Change from last year</b>	<b>6%</b>	<b>8%</b>	<b>—</b>



*Short-term incentive* is attributed to the noted financial year, and is paid by March 15 of the following year.

*Share ownership* is based on the 20-day volume-weighted average closing price on the TSX of \$61.95 for TransCanada shares as at December 31, 2017.

#### Share ownership

Minimum level of ownership	Ownership under the guidelines		
	Minimum value	TransCanada shares	Total ownership as a multiple of base salary
2x	\$1,000,008	\$1,718,493	3.4x

## Executive compensation – 2017 details

All amounts are in Canadian dollars, unless otherwise indicated.

### SUMMARY COMPENSATION TABLE

The table below is a summary of the compensation awarded to our named executives for the last three fiscal years ended December 31, 2017, 2016 and 2015.

Name and principal position	Year	Salary (\$)	Share-based awards (\$)	Option-based awards (\$)	Non-equity incentive plan compensation			All other compensation (\$)	Total compensation (\$)
					Annual incentive plans (\$)	Long-term incentive plans	Pension value (\$)		
Russell Girling President & CEO	2017	1,300,008	3,150,000	3,150,000	1,872,012	—	556,000	13,000	10,041,020
	2016	1,300,008	3,000,000	3,000,000	2,210,014	—	615,000	13,000	10,138,022
	2015	1,300,008	2,800,000	2,800,000	1,560,000	—	326,000	13,000	8,799,008
Donald Marchand Executive Vice-President & CFO	2017	616,674	1,140,625	1,140,625	495,631	—	617,000	34,918	4,045,473
	2016	575,004	1,006,250	1,006,250	650,330	—	209,000	19,020	3,465,854
	2015	567,504	934,375	934,375	448,550	—	454,000	13,829	3,352,633
Karl Johansson Executive Vice-President & President, Canada & Mexico Natural Gas Pipelines & Energy	2017	612,504	1,023,000	1,023,000	499,723	—	556,000	26,972	3,741,199
	2016	575,004	900,000	900,000	635,380	—	226,000	23,443	3,259,827
	2015	570,838	862,500	862,500	485,900	—	301,000	12,055	3,094,793
Stanley Chapman III Executive Vice-President & President, U.S. Natural Gas Pipelines	2017	595,350	551,910	1,236,919	481,139	—	27,169	174,039	3,066,526
	2016	281,520	1,126,080	—	484,976	—	7,590	132,480	2,032,646
	2015	—	—	—	—	—	—	—	—
Paul Miller Executive Vice-President & President, Liquids Pipelines	2017	495,838	750,000	750,000	390,003	—	392,000	6,785	2,784,626
	2016	475,008	675,000	675,000	426,083	—	178,000	4,750	2,433,841
	2015	462,508	617,500	617,500	370,550	—	771,000	7,702	2,846,760

#### Notes

- **Salary** is the actual base salary earned during each of the three years. For Mr. Chapman, the 2016 amount shown in **Salary** includes compensation earned for the period July 1 to December 31, as prior to such date he was employed by Columbia.
- **Share-based awards** is the long-term incentive compensation that was awarded as ESUs. The number of ESUs granted is the value of the ESU award divided by the volume-weighted average closing price of TransCanada shares for the twenty trading days immediately prior to and including the grant date: \$60.48 in 2017, \$44.90 in 2016, and \$54.64 in 2015.
- **Option-based awards** is the long-term incentive compensation that was awarded as stock options. The exercise price is the closing market price of TransCanada shares on the TSX on the trading day immediately prior to the grant date: \$62.14 in 2017, \$48.44 in 2016, and \$56.58 in 2015. See **Stock option valuation** below for more information.
- **Annual incentive plans** is the short-term incentive award, paid as an annual cash bonus and attributable to the noted financial year. Payments are made in the first quarter of the following year.
- There are no long-term non-equity incentive plans.
- **Pension value** for all of the named executives, except Mr. Chapman, includes the annual compensatory value from the DB pension plan. The annual compensatory value is the compensatory change in the accrued obligation and includes the service cost to TransCanada in 2017, plus compensation changes that were higher or lower than the base salary assumptions, and plan changes. **Pension value** for Mr. Chapman is the value of the annual employer contribution to the 401(k) Plan. See **Retirement benefits** below for more information.
- Values provided to Mr. Chapman reflect a U.S./Canada foreign exchange rate of 1.3248 for 2016, and 1.2986 for 2017.
- Mr. Marchand was appointed Executive Vice-President and Chief Financial Officer on February 1, 2017. Mr. Marchand was appointed Executive Vice-President, Corporate Development and Chief Financial Officer on October 1, 2015. Amounts shown for 2015 include compensation earned for three months in his new position and nine months in his previous position as Executive Vice-President and Chief Financial Officer.
- Mr. Johansson was appointed Executive Vice-President and President, Canada and Mexico Natural Gas Pipelines and Energy on April 28, 2017. Amounts shown in 2017 include compensation earned for the period April 28 to December 31 in his new position and for the period January 1 to April 27 in his previous position as Executive Vice-President and President, Natural Gas Pipelines.

- Mr. Chapman joined TransCanada and was appointed Senior Vice-President and General Manager, U.S. Natural Gas Pipelines on July 1, 2016. The amount shown in 2016 under **Annual incentive plans** includes compensation earned for the period July 1 to December 31 in his new position and a pre-closing award earned for the period January 1 to June 30.
- To recognize Mr. Chapman's appointment to Senior Vice-President and General Manager, U.S. Natural Gas Pipelines, the Board awarded him a special ESU award on July 1, 2016, valued at \$1,126,080.
- Mr. Chapman was appointed Executive Vice-President and President, U.S. Natural Gas Pipelines on April 28, 2017. Amounts shown in 2017 include compensation earned for the period April 28 to December 31 in his new position and for the period January 1 to April 27 in his previous position as Senior Vice-President and General Manager, U.S. Natural Gas Pipelines.
- To recognize Mr. Chapman's appointment to Executive Vice-President and President, U.S. Natural Gas Pipelines, the Board awarded him a special grant of 100,000 stock options on May 10, 2017, valued at \$960,964 with an exercise price of \$63.83. This special grant is in addition to the long-term incentive grant Mr. Chapman received in normal course.
- **All other compensation** includes other compensation not reported in any other column for each named executive and includes:
  - payments to the named executives by any of our subsidiaries and affiliates (including directors' fees paid by affiliates and amounts paid for serving on management committees of entities that we hold an interest in):

	2017	2016	2015
Mr. Johansson	\$12,000	\$ —	\$ —

- matching contributions we made on behalf of the named executives under the Canadian employee stock savings plan:

	2017	2016	2015
Mr. Girling	\$13,000	\$13,000	\$13,000
Mr. Marchand	6,167	5,750	5,675
Mr. Johansson	6,125	5,750	5,708
Mr. Miller	4,958	4,750	4,625

- cash payments if the named executive elected to receive payment in lieu of vacation entitlement from the previous year:

	2017	2016	2015
Mr. Marchand	\$28,751	\$13,270	\$8,154
Mr. Johansson	8,846	17,693	6,346
Mr. Chapman	44,179	—	—
Mr. Miller	1,827	—	3,077

- retention award payments made to a named executive in relation to the acquisition of Columbia:

	2017	2016	2015
Mr. Chapman	\$129,860	\$132,480	\$ —

- Perquisites in 2017, 2016 and 2015 are not included because they are less than \$50,000 and 10 per cent of each named executive's total base salary.

## Additional notes to the summary compensation table

### Stock option valuation

The amount under *Option-based awards* is calculated using the grant date fair value of the stock option award, as determined by the committee.

The committee and Board have approved the Binomial valuation model as the methodology to determine stock option awards. The Binomial valuation model is a generally accepted valuation method for stock options. The Binomial valuation model is used to calculate TransCanada's accounting value, which has been used for both compensation and financial reporting purposes. Each year, the committee and Board review the valuation as prepared by management's independent consultant. The value takes into account the historic and implied volatility of the underlying shares, dividend yield, risk-free interest rate, option term, vesting period, and expected life based on historical stock option exercise activity for TransCanada plan participants.

The table below is a summary of the final compensation value using the Binomial valuation model for the stock option awards granted in 2017, 2016 and 2015:

Grant date	Exercise price (\$)	Compensation value of each stock option (\$)
May 10, 2017	63.83	7.40
February 22, 2017	62.14	7.21
March 22, 2016	48.44	5.67
February 19, 2015	56.58	6.45

### Total stock option exercises in 2017 (supplemental table)

The table below shows for each named executive:

- the number of stock options exercised in 2017
- the total value they realized when the options were exercised.

Name	Total stock options exercised (#)	Total value realized (\$)
Russell Girling	233,080	6,088,589
Donald Marchand	47,500	1,353,275
Karl Johannson	18,348	449,489
Stanley Chapman III	—	—
Paul Miller	—	—

Note

- Mr. Chapman joined TransCanada in 2016 and was not granted any stock options prior to 2017 in normal course. He did not have any vested options for exercise in 2017.

For stock options granted in 2018, inputs to the Binomial valuation model used for compensation purposes were adjusted as follows:

	Previous methodology	2018 Methodology
Volatility	historic and implied	historic
Expected life	historical stock option exercise activity	stock option term

These changes were implemented to better reflect the view of the Board as to the appropriate compensation value of TransCanada's stock options.

## INCENTIVE PLAN AWARDS

### Outstanding option-based and share-based awards

The table below shows all outstanding option-based and share-based awards previously granted to the named executives that were still outstanding at the end of 2017. Year-end values are based on \$61.18, the closing price of TransCanada shares on the TSX at December 31, 2017.

Name	Option-based awards				Share-based awards		
	Number of securities underlying unexercised options (#)	Option exercise price (\$)	Option expiration date	Value of unexercised in-the-money options (\$)	Number of shares or units of shares that have not vested (#)	Market or payout value of share-based awards that have not vested (\$)	Market or payout value of vested share-based awards not paid out or distributed (\$)
Russell Girling	158,172	37.93	18-Feb-2018	3,677,499	126,722	3,876,426	—
	385,475	41.95	17-Feb-2019	7,412,684			
	383,275	47.09	15-Feb-2020	5,400,345			
	439,982	49.03	25-Feb-2021	5,345,781			
	434,109	56.58	19-Feb-2022	1,996,901			
	529,101	48.44	22-Mar-2023	6,740,747			
	436,893	62.14	22-Feb-2024	—			
Donald Marchand	30,756	37.93	18-Feb-2018	715,077	43,954	1,344,553	—
	96,369	41.95	17-Feb-2019	1,853,176			
	123,368	47.09	15-Feb-2020	1,738,255			
	155,460	49.03	25-Feb-2021	1,888,839			
	144,864	56.58	19-Feb-2022	666,374			
	177,469	48.44	22-Mar-2023	2,260,955			
	158,200	62.14	22-Feb-2024	—			
Karl Johannson	32,899	41.95	17-Feb-2019	632,648	39,361	1,204,053	—
	48,450	45.29	02-Nov-2019	769,871			
	97,236	47.09	15-Feb-2020	1,370,055			
	136,507	49.03	25-Feb-2021	1,658,560			
	133,721	56.58	19-Feb-2022	615,117			
	158,730	48.44	22-Mar-2023	2,022,220			
	141,886	62.14	22-Feb-2024	—			
Stanley Chapman III	29,473	62.14	22-Feb-2024	—	27,423	1,089,356	—
	100,000	63.83	10-May-2024	—			
Paul Miller	13,181	37.93	18-Feb-2018	306,458	29,223	893,932	—
	24,829	41.95	17-Feb-2019	477,462			
	24,100	47.09	15-Feb-2020	339,569			
	72,202	49.03	25-Feb-2021	877,254			
	95,736	56.58	19-Feb-2022	440,386			
	119,048	48.44	22-Mar-2023	1,516,672			
	104,022	62.14	22-Feb-2024	—			

#### Notes

- **Value of unexercised in-the-money options** is based on outstanding vested and unvested stock options and the difference between the option exercise price and year-end closing price of our shares.
- **Number of shares or units of shares that have not vested** includes the amount of the grant, plus reinvested units earned as dividend equivalents of all outstanding ESUs as at December 31, 2017.
- **Market or payout value of share-based awards that have not vested** is the minimum payout value of all outstanding ESUs as at December 31, 2017. The value is calculated by multiplying 50 per cent of the number of units that have not vested by the year-end closing price of our shares. The value for Mr. Chapman reflects a U.S./Canada foreign exchange rate of 1.2986 for 2017.
- No value is shown for **Market or payout value of vested share-based awards not paid out or distributed**. The ESU award granted in 2015 vested on December 31, 2017, and will be paid in March 2018. These awards are shown in the next table.

## Incentive plan awards – value vested during the year

The table below shows the total value of all option-based and share-based awards previously granted to the named executives that vested in 2017. It also shows the total amount they earned from non-equity incentive plan awards in 2017.

Name	Option-based awards – value vested during the year (\$)	Share-based awards – value vested during the year (\$)	Non-equity incentive plan compensation – value earned during the year (\$)
Russell Girling	4,790,104	5,131,003	1,872,012
Donald Marchand	1,635,433	1,712,243	495,631
Karl Johannson	1,460,739	1,580,532	499,723
Stanley Chapman III	—	—	481,139
Paul Miller	971,739	1,131,569	390,003

### Notes

- **Option-based awards** is the total value the named executives would have realized if they had exercised the stock options on the vesting date.
- **Share-based awards** is the payout value of the 2015 ESU awards for the named executives. See the **Payout of 2015 executive share unit award** section for more information.
- **Non-equity incentive plan compensation** is the short-term incentive award for 2017. This amount is shown under **Annual incentive plans** in the **Summary compensation table** on page 98.

### Value of outstanding options at vesting (supplemental table)

The next table shows the details by grant for calculating the total value of the option-based awards in the table above. Stock options vest one third each year, beginning on the first anniversary of the grant date. The *share price on vesting date* is the closing price for TransCanada shares on the TSX on the vesting date or the first trading day following that date.

Name	Grant date	Total number of securities under options granted (#)	Option exercise price (\$)	Number of options that vested during the year (#)	Share price on vesting date (\$)	Value at vesting (\$)
Russell Girling	22-Mar-2016	529,101	48.44	176,367	61.50	2,303,353
	19-Feb-2015	434,109	56.58	144,703	62.14	804,549
	25-Feb-2014	439,982	49.03	146,661	60.50	1,682,202
Donald Marchand	22-Mar-2016	177,469	48.44	59,156	61.50	772,577
	19-Feb-2015	144,864	56.58	48,288	62.14	268,481
	25-Feb-2014	155,460	49.03	51,820	60.50	594,375
Karl Johannson	22-Mar-2016	158,730	48.44	52,910	61.50	691,005
	19-Feb-2015	133,721	56.58	44,573	62.14	247,826
	25-Feb-2014	136,507	49.03	45,502	60.50	521,908
Paul Miller	22-Mar-2016	119,048	48.44	39,683	61.50	518,260
	19-Feb-2015	95,736	56.58	31,912	62.14	177,431
	25-Feb-2014	72,202	49.03	24,067	60.50	276,048

Note

- Mr. Chapman joined TransCanada in 2016 and was not granted any stock options before 2017.

## EQUITY COMPENSATION PLAN INFORMATION

### Securities authorized for issue under equity compensation plans

The table below shows the:

- number of shares to be issued under the stock option plan when outstanding options are exercised
- weighted average exercise price of the outstanding options
- number of shares available for future issue under the option plan.

	Number of securities to be issued upon exercise of outstanding options (#)	Weighted-average exercise price of outstanding options (\$)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in the first column) (#)
Equity compensation plans approved by security holders	11,026,004	51.38	11,902,759
Equity compensation plans not approved by security holders	N/A	N/A	N/A
<b>Total</b>	11,026,004	51.38	11,902,759

### Stock option grants as a percentage of outstanding shares

Effective date	Total number of shares outstanding (A)	Total number of options outstanding (B)	Total reserve (C)	Total options granted during year (D)	Dilution	Overhang	Burn rate
					Options outstanding as a % of shares outstanding (B / A)	% of stock options outstanding plus total reserve divided by total shares outstanding ((B + C) / A)	Grant as a % of shares outstanding (D / A)
Dec 31, 2015	702,614,096	9,833,700	6,109,768	2,214,028	1.40	2.27	0.32
Dec 31, 2016	863,759,075	10,629,958	13,630,114	2,479,654	1.23	2.81	0.29
Dec 31, 2017	881,375,600	11,026,004	11,902,759	2,065,653	1.25	2.60	0.23

## RETIREMENT BENEFITS

All of the named executives, except Mr. Chapman, participate in our DB plan. Mr. Chapman participates in the 401(k) Plan. The tables below shows their benefits under the respective plans.

### Defined benefit pension plan

at December 31, 2017		Annual benefits		Opening present value of defined benefit obligation (\$)	Compensatory change (\$)	Non-compensatory change (\$)	Closing present value of defined benefit obligation (\$)
Name	Number of years of credited service	At year end (\$)	At age 65 (\$)				
Russell Girling	22.00	986,000	1,416,000	16,329,000	556,000	1,805,000	18,690,000
Donald Marchand	23.92	380,000	530,000	6,430,000	617,000	753,000	7,800,000
Karl Johannson	22.00	342,000	472,000	6,017,000	556,000	834,000	7,407,000
Paul Miller	27.33	350,000	423,000	6,119,000	392,000	815,000	7,326,000

#### Notes

- In 2004, the committee approved arrangements for Mr. Girling and Mr. Johannson to receive additional credited service to recognize their high potential and to retain them as employees. The credited service was received for years when they were not formally enrolled in the pension plan, but were employees of TransCanada. Messrs. Girling and Johannson each received an additional three years of credited service on September 8, 2007 after maintaining continuous employment with us of the same duration. The additional credited service is recognized only in the supplemental pension plan for earnings exceeding the maximum set under the *Income Tax Act* (Canada).
- **Annual benefits at year end** is the annual lifetime benefit payable at age 60, based on the years of credited service and the actual pensionable earnings history, as of December 31, 2017.
- **Annual benefits at age 65** is the annual lifetime benefit payable at age 65, based on the years of credited service at age 65 and the actual pensionable earnings history, as of December 31, 2017.
- **Opening and closing present value of defined benefit obligation** is at December 31, 2016 and December 31, 2017, respectively. It represents actuarial assumptions and methods that are consistent with those used for calculating the pension obligations disclosed in our 2016 and 2017 consolidated financial statements. These assumptions reflect our best estimate of future events, and the values in the above table may not be directly comparable to similar estimates of pension obligations that may be disclosed by other corporations.
- **Compensatory change** in the present value of the obligation includes the service cost to TransCanada in 2017, plus compensation changes that were higher or lower than the base salary assumption, and plan changes.
- **Non-compensatory change** in the present value of the obligation includes the interest on the accrued obligation at the start of the year and changes in assumptions in the year.

#### Accrued pension obligations

Our accrued obligation for the supplemental pension plan was approximately \$412 million at December 31, 2017. The current service costs were approximately \$8 million and the interest costs were approximately \$14 million for a total of \$22 million.

The accrued pension obligation is calculated using the method prescribed by U.S. GAAP and is based on management's best estimate of future events that affect the cost of pensions, including assumptions about future base salary adjustments and short-term incentive awards.

You can find more information about the accrued obligations and assumptions in Note 22 *Employee post-retirement benefits* to our 2017 audited consolidated financial statements, which are available on our website ([www.transcanada.com](http://www.transcanada.com)) and on SEDAR ([www.sedar.com](http://www.sedar.com)).

## 401(k) Plan

at December 31, 2017

<b>Name</b>	<b>Accumulated value at start of year (\$)</b>	<b>Compensatory (\$)</b>	<b>Accumulated value at year end (\$)</b>
Stanley Chapman III	195,150	27,169	259,898

### Notes

- **Accumulated value at start of year** is the beginning of year value of the 401(k) account funded by employer contributions.
- **Compensatory** value is the annual employer contribution to the 401(k) Plan.
- **Accumulated value at year end** is the end of year value of the 401(k) account funded by employer contributions and includes investment earnings.
- Values reflect a U.S./Canada foreign exchange rate of 1.2986 for 2017.

## TERMINATION AND CHANGE OF CONTROL

### Termination

We have an employment agreement with each named executive that outlines the terms and conditions that apply if the executive leaves TransCanada. The table on the following page is a summary of the material terms and provisions if the executive resigns, is terminated, retires or dies. These do not apply when there is a change of control.

The general terms and provisions of ESUs are discussed under each event, however, the committee can use its discretion to decide how to treat unvested ESUs upon termination for executives who have an employment agreement. Each employment agreement includes a non-competition provision that applies for 12 months following the executive's separation date.

Like all other Canadian employees, all of the named executives, except Mr. Chapman, are eligible for retiree benefits if they are 55 or older with 10 or more years of continuous service on the separation date. Retiree benefits include:

- a health spending account that can be used to pay for eligible health and dental expenses and/or to purchase private health insurance
- a security plan that provides a safety net if there are significant medical expenses
- life insurance that provides a death benefit of \$10,000 to a designated beneficiary.

The Canadian employee stock savings plan, 401(k) Plan, spousal and dependent life insurance, accident insurance and disability insurance end at the separation date.

## Compensation on termination

The table below shows how each named executive's compensation is treated if he leaves TransCanada.

Base salary	Resignation	Payments end.
	Termination without cause	Severance allowance includes a lump-sum payment of the base salary equal to 2x their annual compensation as of the separation date.
	Termination with cause	Payments end.
	Retirement	
	Death	
Short-term incentive	Resignation	Not paid.
	Termination without cause	Year of separation: Equals the <b>average bonus</b> pro-rated by the number of months in the current year prior to the separation date. Years after separation: Equals the <b>average bonus</b> multiplied by the notice period.
	Termination with cause	Not paid.
	Retirement	Year of separation: Equals the <b>average bonus</b> pro-rated by the number of months in the current year prior to the separation date.
	Death	
ESUs	Resignation	Vested units are paid out; unvested units are forfeited.
	Termination without cause	Vested units are paid out. Unvested units are forfeited, however the original grant value is generally paid out on a pro rata basis.
	Termination with cause	Vested units are paid out, unvested units are forfeited.
	Retirement	Vested units are paid out. Unvested units continue to vest and the value is assessed at the end of the term. The award is pro-rated for the period of employment up to the retirement date.
	Death	Vested units are paid out. Unvested units are forfeited, however, the original grant value is generally paid out on a pro rata basis.
Stock options	Resignation	Vested stock options must be exercised by their expiry date or six months from the separation date (whichever is earlier). No stock options vest after the last day of employment.
	Termination without cause	Vested stock options must be exercised by the earlier of i) their expiry date or ii) the later of a) the end of the notice period, and b) six months following the separation date. No stock options vest after the separation date.
	Termination with cause	Vested stock options must be exercised by their expiry date or six months from the separation date (whichever is earlier). No stock options vest after the last day of employment.
	Retirement	<b>Grants after January 1, 2012</b> Outstanding stock options continue to vest and must be exercised by their expiry date or three years from the separation date (whichever is earlier). If there is less than six months between the vesting date and the expiry date, the expiry date is extended for six months from the final vesting date of the options.
		<b>Grants before 2012</b> Outstanding stock options vest immediately and must be exercised by their expiry date or three years from the separation date (whichever is earlier).
Death	Outstanding stock options vest immediately and must be exercised by their expiry date or the first anniversary of death (whichever is earlier).	

Canadian pension	Resignation	Paid as a commuted value or monthly benefit according to the applicable DB plan provisions.  For <b>termination without cause</b> , credited service is provided for the applicable notice period.
	Termination without cause	
	Termination with cause	
	Retirement	
	Death	
401(k) Plan	Resignation	Account balance is available to take as a lump sum, partial, or periodic distribution.  Account balance is transferred to an account in the name of the participant's beneficiary.
	Termination without cause	
	Termination with cause	
	Retirement	
	Death	
Benefits	Resignation	Coverage ends, or retiree benefits begin if eligible.
	Termination without cause	Coverage continues during the notice period (or an equivalent lump-sum payout is made). Retiree benefits eligibility is determined at the end of the notice period.
	Termination with cause	Coverage ends, or retiree benefits begin if eligible.
	Retirement	Coverage ends, or retiree benefits begin if eligible.
	Death	Coverage continues to eligible dependents for a specified period of time after death.
Perquisites	Resignation	Payments end.
	Termination without cause	A lump-sum cash payment equal to the corporate cost of the perquisite package in the one-year period preceding the separation date multiplied by the notice period.
	Termination with cause	Payments end.
	Retirement	
	Death	
Other	Resignation	—
	Termination without cause	Outplacement services.
	Termination with cause	—
	Retirement	—
	Death	—

#### Notes

- **Resignation** includes voluntary resignation but not resignation as a result of constructive dismissal. If a named executive resigns because of constructive dismissal, it is treated as **termination without cause**.
- The **short-term incentive** award is not paid on resignation unless the Board uses its discretion.
- **Average bonus** equals the average short-term incentive award paid to the named executive for the three years preceding the separation date.
- The **notice period** is currently two years for each named executive.
- **Benefits on termination without cause** is paid as an equivalent lump-sum for Mr. Chapman.
- For Mr. Chapman, there are certain differences due to U.S. tax law. These differences are:
  - to the extent any of Mr. Chapman's payments are subject to section 409A of the U.S. Internal Revenue Code of 1986, they may be deferred for a period of six months following the date of termination
  - certain payments will be reduced in a specific order to the extent excise tax applies
  - Mr. Chapman will receive two times seven per cent of his annual salary in lieu of 401(k) participation.

## Change of control

Under the terms of the employment agreements, the stock option plan and ESU plan, a *change of control* includes an event where another entity becomes the beneficial owner of:

- more than 50 per cent of the voting shares of TransCanada, or
- more than 50 per cent of the voting shares of TCPL (not including the voting shares held by TransCanada).

Other events can also constitute a change of control including a merger where TransCanada is not the surviving entity, a sale of all or substantially all of TCPL's assets or if the incumbent board ceases to be a majority of the Board.

The following is a summary of the terms and provisions that apply to the compensation of all of the named executives, except Mr. Chapman, if there is a change of control and there has been a termination without cause or a constructive dismissal within two years of the change of control ("double trigger"). Upon a double trigger for the named executives, a two-year notice period applies which provides for:

- payment of a severance allowance equal to the annual compensation during the notice period where annual compensation is composed of base salary and the three-year average of annual incentive compensation
- a pensionable service credit of two years under the supplemental pension plans
- continuation of health, dental, life and accident insurance benefits during the notice period or cash payment in lieu of such benefits
- a cash payment in lieu of perquisites during the notice period
- professional outplacement services to a maximum of \$25,000
- accelerated vesting and payment of ESUs
- accelerated vesting of stock options.

If, for any reason, we are unable to implement accelerated vesting (for example, our shares stop trading), we will pay the named executive a cash amount. This would be equal to the net amount of the compensation the named executive would have received if, on the date of a change of control, he had exercised all vested options and unvested options that would have had accelerated vesting.

For Mr. Chapman the same terms and provisions apply, with the following differences:

- to the extent any of Mr. Chapman's payments are subject to section 409A of the U.S. Internal Revenue Code of 1986, they may be deferred for a period of six months following the date of termination
- certain payments will be reduced in a specific order to the extent excise tax applies
- Mr. Chapman will receive a lump sum cash payment with respect to benefits, he does not have the option to continue benefits during the notice period
- Mr. Chapman will receive lump sum cash payment equal to two times seven per cent of his annual salary in lieu of 401(k) participation.

## Separation and other payments

The table below is a summary of the incremental payments that would be made to each named executive under the different separation events, with and without a deemed change of control. All payments have been calculated using December 31, 2017 as the separation date and the date of a change of control as if it applies. These amounts would be paid under the terms of the employment agreements.

They do not include certain amounts that would be provided under normal course, such as the value of:

- any stock options or ESUs vesting as part of normal employment
- pension benefits that would normally be provided following resignation, or
- retiree benefits.

Name			Without a change of control		With a change of control
	Termination with cause (\$)	Termination without cause (\$)	Retirement (\$)	Death (\$)	Termination without cause (\$)
Russell Girling	—	15,481,893	6,951,007	15,160,472	28,123,018
Donald Marchand	—	5,722,490	2,233,570	5,014,043	9,727,319
Karl Johannson	—	4,727,275	2,127,092	4,621,279	9,322,478
Stanley Chapman III	—	3,724,356	448,536	1,368,380	5,027,785
Paul Miller	—	3,444,813	1,522,797	3,380,702	6,974,377

### Notes

- **Termination without cause following a change of control** also applies if the named executive resigns because of constructive dismissal and the separation date is within two years of the date of a change of control.
- There are no incremental payments that would be made to each named executive in the event of a change of control without termination.
- The amounts from share-based compensation include the payouts of outstanding 2015 ESU awards for some separation events:
  - include additional units from reinvested dividends up to and including an equivalent number of units for the final dividend that is declared as of December 31, 2017, based on \$61.95, the twenty-day volume-weighted average closing price of TransCanada shares on the TSX at December 31, 2017
  - include the performance multiplier of 1.43 as determined by the committee and the Board.
- ESUs and stock options continue to vest under the **Retirement** scenario provided the named executive is age 55 or over.
- Values provided to Mr. Chapman reflect a U.S./Canada foreign exchange rate of 1.3248 for 2016 and 1.2986 for 2017.

Every year the committee reviews the severance amounts calculated for each named executive under his employment agreement. The data represents the total value to be paid to the executive if he is terminated without cause and with and without a deemed change of control.

# Appendices

## Appendix A: Charter of the Board of Directors

### I. INTRODUCTION

- A. The Board's primary responsibility is to foster the long-term success of the Company consistent with the Board's responsibility to act honestly and in good faith with a view to the best interests of the Company.
- B. The Board of Directors has plenary power. Any responsibility not delegated to management or a committee of the Board remains with the Board. This Charter is prepared to assist the Board and management in clarifying responsibilities and ensuring effective communication between the Board and management.

### II. COMPOSITION AND BOARD ORGANIZATION

- A. Nominees for directors are initially considered and recommended by the Governance committee of the Board, approved by the entire Board and elected annually by the shareholders of the Company.
- B. The Board must be comprised of a majority of members who have been determined by the Board to be independent. A member is independent if the member has no direct or indirect relationship which could, in the view of the Board, be reasonably expected to interfere with the exercise of a member's independent judgment.
- C. Directors who are not members of management will meet on a regular basis to discuss matters of interest independent of any influence from management.
- D. Certain of the responsibilities of the Board referred to herein may be delegated to committees of the Board. The responsibilities of those committees will be as set forth in their Charter, as amended from time to time.

### III. DUTIES AND RESPONSIBILITIES

#### A. Managing the Affairs of the Board

The Board operates by delegating certain of its authorities, including spending authorizations, to management and by reserving certain powers to itself. Certain of the legal obligations of the Board are described in detail in Section IV. Subject to these legal obligations and to the Articles and By-laws of the Company, the Board retains the responsibility for managing its own affairs, including:

- i) planning its composition and size;
- ii) selecting its Chair;
- iii) nominating candidates for election to the Board;
- iv) determining independence of Board members;
- v) approving committees of the Board and membership of directors thereon;
- vi) determining director compensation; and
- vii) assessing the effectiveness of the Board, committees and directors in fulfilling their responsibilities.

#### B. Management and Human Resources

The Board has the responsibility for:

- i) the appointment and succession of the Chief Executive Officer (CEO) and monitoring CEO performance, approving CEO compensation and providing advice and counsel to the CEO in the execution of the CEO's duties;
- ii) approving a position description for the CEO;
- iii) reviewing CEO performance at least annually, against agreed-upon written objectives;
- iv) approving decisions relating to senior management, including the:
  - a) appointment and discharge of officers of the Company and members of the senior executive leadership team;
  - b) compensation and benefits for members of the senior executive leadership team;
  - c) annual corporate and business unit performance objectives utilized in determining incentive compensation or other awards to officers; and
  - d) employment contracts, termination and other special arrangements with senior executive officers, or other employee groups if such action is likely to have a subsequent material<sup>(1)</sup> impact on the Company or its basic human resource and compensation policies.
- v) taking all reasonable steps to ensure succession planning programs are in place, including programs to train and develop management;
- vi) the overall oversight of the Company sponsored Canadian pension plans and ensuring that processes are in place to properly oversee the administration and management of such pension plans either directly or through delegation of the duties and responsibilities to one or more Board Committees;
- vii) approving certain matters relating to all employees, including:
  - a) the annual salary policy/program for employees;
  - b) new benefit programs or changes to existing programs that would create a change in cost to the Company in excess of \$10,000,000 annually; and
  - c) material benefits granted to retiring employees outside of benefits received under approved pension and other benefit programs.

(1) For purposes of this Charter, the term "material" includes a transaction or a series of related transactions that would, using reasonable business judgment and assumptions, have a meaningful impact on the Corporation. The impact could be relative to the Corporation's financial performance and liabilities as well as its reputation.

## C. Strategy and Plans

The Board has the responsibility to:

- i) participate in strategic planning sessions to ensure that management develops, and ultimately approve, major corporate strategies and objectives;
- ii) approve capital commitment and expenditure budgets and related operating plans;
- iii) approve financial and operating objectives used in determining compensation;
- iv) approve the entering into, or withdrawing from, lines of business that are, or are likely to be, material to the Company;
- v) approve material divestitures and acquisitions; and
- vi) monitor management's achievements in implementing major corporate strategies and objectives, in light of changing circumstances.

## D. Financial and Corporate Issues

The Board has the responsibility to:

- i) take reasonable steps to ensure the implementation and integrity of the Company's internal control and management information systems;
- ii) monitor operational and financial results;
- iii) approve annual financial statements and related Management's Discussion and Analysis, review quarterly financial results and approve the release thereof by management;
- iv) approve the Management Information Circular, Annual Information Form and documents incorporated by reference therein;
- v) declare dividends;
- vi) approve financings, changes in authorized capital, issue and repurchase of shares, issue and redemption of debt securities, listing of shares and other securities, issue of commercial paper, and related prospectuses and trust indentures;
- vii) recommend appointment of external auditors and approve auditors' fees;
- viii) approve banking resolutions and significant changes in banking relationships;
- ix) approve appointments, or material changes in relationships with corporate trustees;
- x) approve contracts, leases and other arrangements or commitments that may have a material impact on the Company;
- xi) approve spending authority guidelines; and
- xii) approve the commencement or settlement of litigation that may have a material impact on the Company.

## E. Business and Risk Management

The Board has the responsibility to:

- i) take reasonable steps to ensure that management has identified the principal risks of the Company's businesses and implemented appropriate strategies to manage these risks, understands the principal risks and achieves a proper balance between risks and benefits;
- ii) review reports on capital commitments and expenditures relative to approved budgets;
- iii) review operating and financial performance relative to budgets or objectives;
- iv) receive, on a regular basis, reports from management on matters relating to, among others, ethical conduct, environmental management, employee health and safety, human rights, and related party transactions; and
- v) assess and monitor management control systems by evaluating and assessing information provided by management and others (e.g. internal and external auditors) about the effectiveness of management control systems.

## F. Policies and Procedures

The Board has responsibility to:

- i) monitor compliance with all significant policies and procedures by which the Company is operated;
- ii) direct management to ensure the Company operates at all times within applicable laws and regulations and to the highest ethical and moral standards;
- iii) provide policy direction to management while respecting its responsibility for day-to-day management of the Company's businesses; and
- iv) review significant new corporate policies or material amendments to existing policies (including, for example, policies regarding business conduct, conflict of interest and the environment).

## G. Compliance Reporting and Corporate Communications

The Board has the responsibility to:

- i) take all reasonable steps to ensure the Company has in place effective disclosure and communication processes with shareholders and other stakeholders and financial, regulatory and other recipients;
- ii) approve interaction with shareholders on all items requiring shareholder response or approval;
- iii) take all reasonable steps to ensure that the financial performance of the Company is adequately reported to shareholders, other security holders and regulators on a timely and regular basis;

- iv) take all reasonable steps to ensure that financial results are reported fairly and in accordance with generally accepted accounting principles;
- v) take all reasonable steps to ensure the timely reporting of any other developments that have significant and material impact on the Company; and
- vi) report annually to shareholders on the Board's stewardship for the preceding year (the Annual Report).

#### **IV. GENERAL LEGAL OBLIGATIONS OF THE BOARD OF DIRECTORS**

##### **A. The Board is responsible for:**

- i) directing management to ensure legal requirements have been met and documents and records have been properly prepared, approved and maintained;
- ii) approving changes in the By-laws and Articles of Incorporation, matters requiring shareholder approval, and agendas for shareholder meetings;
- iii) approving the Company's legal structure, name, logo, mission statement and vision statement; and
- iv) performing such functions as it reserves to itself or which cannot, by law, be delegated to Committees of the Board or to management.

## Appendix B: Non-GAAP measures

In our disclosure, we use the following non-GAAP measures:

- comparable earnings
- comparable earnings per common share
- comparable EBITDA
- comparable EBIT
- funds generated from operations
- comparable funds generated from operations
- comparable distributable cash flow
- comparable distributable cash flow per common share.

These measures do not have any standardized meaning as prescribed by GAAP and therefore may not be similar to measures presented by other entities.

### Comparable measures

We calculate comparable measures by adjusting certain GAAP and non-GAAP measures for specific items we believe are significant but not reflective of our underlying operations in the period. Except as otherwise described herein, these comparable measures are calculated on a consistent basis from period to period and are adjusted for specific items in each period, as applicable.

Our decision not to adjust for a specific item is subjective and made after careful consideration. Specific items may include:

- certain fair value adjustments relating to risk management activities
- income tax refunds and adjustments and changes to enacted tax rates
- gains or losses on sales of assets or assets held for sale
- legal, contractual and bankruptcy settlements
- impact of regulatory or arbitration decisions relating to prior year earnings
- restructuring costs
- impairment of goodwill, investments and other assets including certain ongoing maintenance and liquidation costs
- acquisition and integration costs.

We exclude the unrealized gains and losses from changes in the fair value of derivatives used to reduce our exposure to certain financial and commodity price risks. These derivatives generally provide effective economic hedges, but do not meet the criteria for hedge accounting. As a result, the changes in fair value are recorded in net income. As these amounts do not accurately reflect the gains and losses that will be realized at settlement, we do not consider them reflective of our underlying operations.

The following table identifies our non-GAAP comparable measures and their equivalent GAAP measures.

Comparable measure	Original measure
comparable earnings	net income/(loss) attributable to common shares
comparable earnings per common share	net income/(loss) per common share
comparable EBITDA	segmented earnings
comparable EBIT	segmented earnings
comparable funds generated from operations	net cash provided by operations
comparable distributable cash flow	net cash provided by operations flow

### Comparable earnings and comparable earnings per share

Comparable earnings represents earnings or loss attributable to common shareholders on a consolidated basis adjusted for specific items. Comparable earnings is comprised of segmented earnings, interest expense, AFUDC, interest income and other, income taxes and non-controlling interests adjusted for the specific items. See the 2017 Annual Report for a reconciliation of net income/(loss) attributable to common shares and net income/(loss) per common share.

### Comparable EBIT and comparable EBITDA

Comparable EBIT represents segmented earnings adjusted for the specific items described above. We use comparable EBIT as a measure of our earnings from ongoing operations as it is a useful measure of our performance and an effective tool for evaluating trends in each segment. Comparable EBITDA is calculated the same way as comparable EBIT but excludes the non-cash charges for depreciation and amortization. See the 2017 Annual Report for a reconciliation to segmented earnings.

### Funds generated from operations and comparable funds generated from operations

Funds generated from operations reflects net cash provided by operations before changes in operating working capital. We believe it is a useful measure of our consolidated operating cash flow because it does not include fluctuations from working capital balances, which do not necessarily reflect underlying operations in the same period, and is used to provide a consistent measure of the cash generating performance of our assets. Comparable funds generated from operations is adjusted for the cash impact of specific items noted above. See the 2017 Annual Report for a reconciliation to net cash provided by operations.

## **Comparable distributable cash flow and comparable distributable cash flow per share**

We believe comparable distributable cash flow is a useful supplemental measure of performance that defines cash available to common shareholders before capital allocation. Comparable distributable cash flow is defined as comparable funds generated from operations less preferred share dividends, distributions to non-controlling interests and maintenance capital expenditures. Maintenance capital expenditures are expenditures incurred to maintain our operating capacity, asset integrity and reliability, and include amounts attributable to our proportionate share of maintenance capital expenditures on our equity investments. See the 2017 Annual Report for a reconciliation to net cash provided by operations.

Although we deduct maintenance capital expenditures in determining comparable distributable cash flow, we have the ability to recover the majority of these costs in Canadian Natural Gas Pipelines, U.S. Natural Gas Pipelines and Liquids Pipelines. Canadian natural gas pipelines maintenance capital expenditures are reflected in rate base, on which we earn a regulated return and subsequently recover in tolls. The majority of our U.S. natural gas pipelines can seek to recover maintenance capital expenditures through rates established in future rate cases or rate settlements. As such, these maintenance capital expenditures are effectively recovered in the same manner as expansion capital expenditures. Tolling arrangements in Liquids pipelines provide for recovery of maintenance capital.

Effective December 31, 2017, we amended our presentation of comparable distributable cash flow and comparable distributable cash flow per share to illustrate the impact of excluding recoverable maintenance capital expenditures from their respective calculations. We have restated comparable distributable cash flow and comparative distributable cash flow per share for 2016 and 2015 to reflect the amended presentation format which we believe provides better information for readers.