



**RESPONSIBLE  
STEWARDSHIP IN ACTION**

**Environmental Report**

March 2017

# Contents

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- FORWARD-LOOKING INFORMATION ..... 2
- CORPORATE ENVIRONMENTAL STATEMENT ..... 3
- MESSAGE FROM THE PRESIDENT AND CEO ..... 4
- SECTION 1: CORPORATE PROFILE ..... 5
  - Overview ..... 5
  - Objectives and Scope ..... 7
- SECTION 2: HIGHLIGHTS ..... 8
- SECTION 3: REDUCING OUR ENVIRONMENTAL FOOTPRINT ..... 11
  - Resource Mix ..... 11
  - System Advances ..... 15
  - Innovation and Initiatives ..... 16
- SECTION 4: PERFORMANCE INDICATOR RESULTS ..... 18
  - Summary Indicators ..... 18
  - Electricity Indicators ..... 19
  - Natural Gas Indicators ..... 21
  - Revenue and Full-Time Employee Indicators ..... 21
  - Energy Efficiency Indicators ..... 22
- SECTION 5: SUMMARY STATEMENT ..... 23

# FORWARD-LOOKING INFORMATION

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Fortis Inc. (“Fortis”, the “Corporation”, “our” or “we”) includes forward-looking information in this Environmental Report within the meaning of applicable securities laws including the Private Securities Litigation Reform Act of 1995. Forward-looking statements included in this Environmental Report reflect expectations of Fortis management regarding future growth, results of operations, performance, business prospects and opportunities. Wherever possible, words such as anticipates, believes, budgets, could, estimates, expects, forecasts, intends, may, might, plans, projects, schedule, should, target, will, would, the negative of these terms, and other similar terminology or expressions have been used to identify the forward-looking statements. Without limitation, these statements could include: continued improvement in intensity factor; the expected reduction in coal-based generation in Arizona; the nature, timing, expected costs and impacts of certain capital projects including, without limitation, community-scale solar projects and the Residential Solar Program in Arizona, utility-scale solar projects in the Turks and Caicos Islands, FortisBC’s Upper Bonnington and Corra Linn Dam projects, liquefied natural gas (LNG) fuelled marine vessel project, Tilbury LNG expansion project, and waste treatment facility interconnection; Central Hudson’s smart grid initiative, Tucson Electric Power’s (TEP) nickel-manganese-cobalt storage facility and lithium-titanate-oxide storage facility and associated solar array, the FortisAlberta streetlight conversion program; expected wind energy connections to ITC Holdings Corp.’s (ITC) transmission network; the expectation that TEP will add an additional 800 megawatts (MW) of renewable capacity by 2030; and the expected decommissioning of Unit 2 of the San Juan Generating Station.

Forward-looking statements involve significant risks, uncertainties and assumptions. Certain material factors or assumptions have been applied in drawing the conclusions contained in the forward-looking

statements, including, without limitation: the expectation of regulatory stability; no material capital project and financing cost overrun related to any of the Corporation’s capital projects; no significant operational disruptions or environmental liability due to a catastrophic event or environmental upset caused by severe weather, other acts of nature or other major events; no severe and prolonged downturn in economic conditions; no significant decline in capital spending; sufficient liquidity and capital resources; the continuation of regulator approved mechanisms to flow through the cost of natural gas and energy supply costs in customer rates; the continued availability of natural gas, fuel, coal and electricity supply; continuation and regulatory approval of power supply and capacity purchase contracts; no significant changes in government energy plans, environmental laws and regulations that may materially negatively affect the Corporation and its subsidiaries; the ability to obtain and maintain licences and permits; retention of existing service areas; and sufficient human resources to deliver service and execute the capital program. Fortis cautions readers that a number of factors could cause actual results, performance or achievements to differ materially from the results discussed or implied in the forward-looking statements. These factors should be considered carefully and undue reliance should not be placed on the forward-looking statements.

For additional information with respect to certain of these risks or factors, reference should be made to the continuous disclosure materials filed from time to time by Fortis with Canadian securities regulatory authorities and the U.S. Securities and Exchange Commission.

All forward-looking information in this Environmental Report is qualified in its entirety by the above cautionary statements and, except as required by law, the Corporation undertakes no obligation to revise or update any forward-looking information as a result of new information, future events or otherwise.

# CORPORATE ENVIRONMENTAL STATEMENT

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Fortis is committed to conducting business in an environmentally responsible manner. The Corporation uses sound environmental judgment in its decision making, planning and operations to meet the existing and future energy needs of its customers.

To fulfill this commitment, Fortis and its subsidiaries endeavour to:

- meet and comply with all applicable laws, legislation, policies, regulations and accepted standards of environmental protection;
- manage activities consistent with industry practice and in support of the environmental policies of all levels of government;
- identify and manage risks to prevent or reduce adverse consequences from operations, including preventing pollution and conserving natural resources;
- regularly conduct environmental monitoring and audits of environmental management systems and protocols, and strive for continual improvement in performance;
- regularly set and review environmental objectives, targets and programs;
- communicate openly on environmental issues with stakeholders, including customers, employees, contractors and the general public;
- support and participate in community-based projects that focus on the environment;
- provide training for employees and those working on behalf of the utilities to enable them to fulfill their duties in an environmentally responsible manner;
- work with industry associations, government, investors, and other stakeholders to establish standards for the environment appropriate to the utilities' business; and
- seek feasible, cost-effective opportunities to decrease greenhouse gas (GHG) emissions and increase renewable energy sources.

# MESSAGE FROM THE PRESIDENT AND CEO

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Fortis is committed to conducting its business in an environmentally responsible manner. This report discusses a number of initiatives and programs that we have advanced for the benefit of the environment and our customers.

Fortis is primarily an electric and gas transmission and distribution company; most of our assets are comprised of poles and wires for our electricity operations and pipes for our natural gas business. From a GHG emissions perspective, transmission and distribution assets have a significantly lower environmental impact than fossil fuel-based generation assets. In 2016, we dramatically increased our focus on transmission and distribution with the purchase of ITC — the largest independent electric transmission company in the United States.

Our approach to environmental management transcends all parts of our ten utility businesses, large and small. Along with the positive environmental position associated with our asset mix and business focus, we continue to do our part by improving sustainability and reducing our environmental footprint.

A priority of Fortis is assisting our customers to become more energy efficient by taking advantage of our programs to reduce their consumption. Our transmission and distribution networks are built to be more efficient and our water management programs are focused on recovery and reuse. We have the potential to significantly boost our solar energy capacity. Energy storage systems are being implemented to help meet long-term renewable energy needs. We are providing incentives to use natural gas for commercial transportation including for use in ferries and trucking, thereby displacing diesel and reducing GHG emissions.

In Arizona and at our Caribbean utilities, where we own fossil fuel-based electric power generation, we continue to make progress toward providing cleaner energy to our customers. At our largest utility in Arizona, TEP, we continue to make good progress towards delivering at least 30% of retail sales from renewable resources by 2030. In 2015, we reduced our intensity factor, calculated as metric tonnes of GHG emitted per gigawatt hour (GWh) of generation, from our owned generation by 5.7% when compared to 2014. Additionally, energy purchased from others was cleaner, with an improved intensity factor over 2014 of 15.2%. On a combined basis for 2015, the intensity factor for owned generation and purchased energy improved 8.6% from 2014. This improvement was driven by a reduction in our reliance on coal-based generation in Arizona and a cleaner mix of energy purchased from others associated with an increase in supply of solar and wind energy. Improvement in intensity factor should continue in the medium and long term but may not progress in a given year due to changes in the types of energy supplied from owned generation and purchases.

In closing, we congratulate our team in British Columbia on the completion of the 335-MW Waneta hydroelectric facility expansion. Over the coming decades, this amazing piece of infrastructure will produce enough renewable energy to supply 60,000 homes each year and provides strong evidence of our desire to deliver cleaner energy to customers. We will remain focused on operating our energy networks in a sustainable manner and on our goal to deliver safe, reliable, affordable and cleaner energy over the longer term.

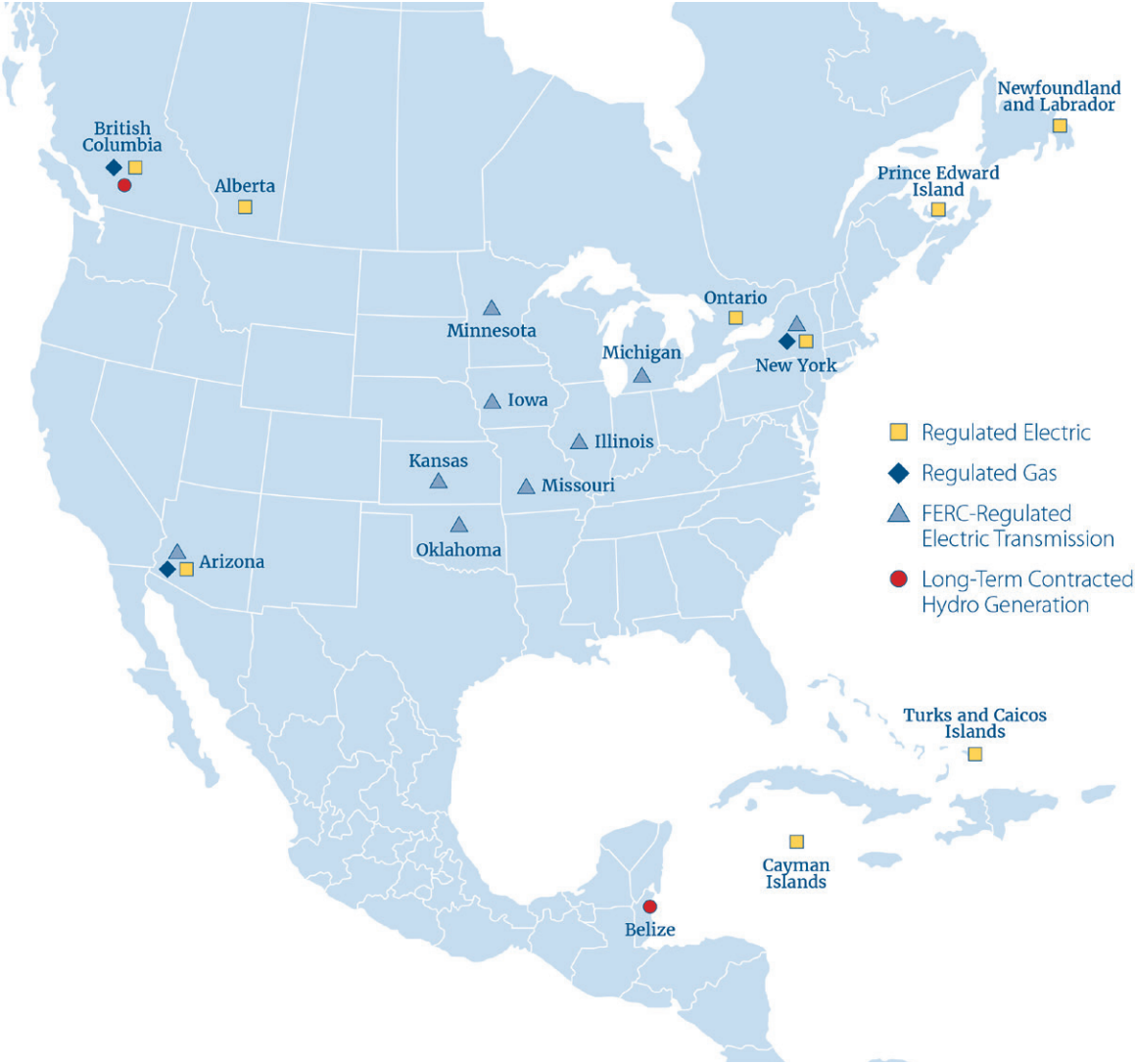
Sincerely,

A handwritten signature in black ink that reads "Barry Perry". The signature is written in a cursive, slightly stylized font.

Barry Perry  
President and Chief Executive Officer  
Fortis Inc.

# SECTION 1: CORPORATE PROFILE

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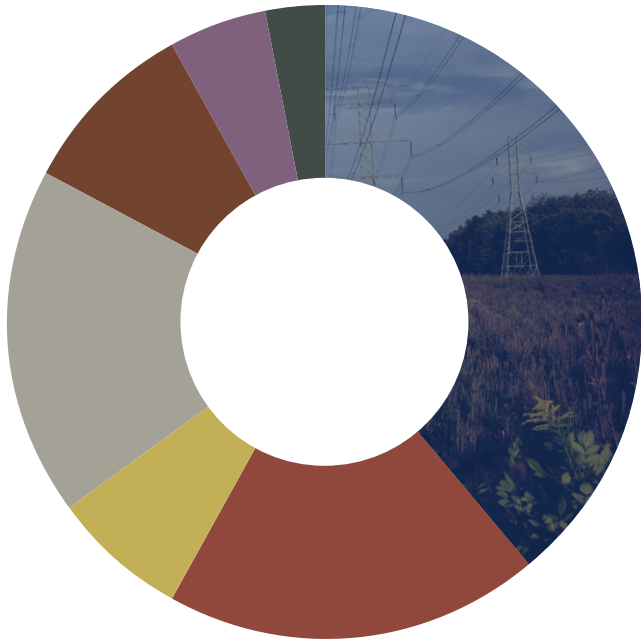


## Overview

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Fortis is a leader in the North American regulated electric and gas utility business, with total assets of approximately \$48 billion, as of December 31, 2016. The Corporation’s more than 8,000 employees serve 3.2 million utility customers in five Canadian provinces, nine U.S. states and three Caribbean

countries. Approximately 97% of our business is comprised of regulated utilities located in Canada, the United States and the Caribbean, operating in a broad range of regulatory jurisdictions across North America.



## 2016 Regulated Assets by Segment

ITC	39%
UNS	19%
Central Hudson	7%
FortisBC	18%
FortisAlberta	9%
Eastern Canada	5%
Caribbean	3%

## 2016 Total Assets

Transmission, Distribution and Other	91%
Generation	9%



Transmission, distribution and other assets represent 91% of total assets with the remaining 9% associated with generation.

Regulated utilities account for approximately 97% of the Corporation's total assets. Fortis also owns long-term contracted hydroelectric generation assets in British Columbia and Belize, and a natural gas storage facility in British Columbia.

As of December 31, 2016, the Corporation's electricity transmission and distribution systems met a combined peak demand of 33,021 MW and its gas distribution system met a peak day demand of 1,586 terajoules (TJ).

We are primarily a transmission and distribution business with certain of our operating utilities having generation.

In October 2016, Fortis closed the \$15.7 billion (US\$11.8 billion) transaction to acquire ITC, the largest independent electric transmission company in the United States. ITC owns and operates high-voltage transmission facilities in Michigan, Iowa, Minnesota, Illinois, Missouri, Kansas and Oklahoma, serving a combined peak load exceeding 26,000 MW along 25,000 kilometres of transmission line. In addition, ITC is a public utility with independent transmission owner status in Wisconsin.

## Objectives and Scope

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The objectives of this Environmental Report are to:

- highlight programs that are delivering on the Corporation's commitment to supply safe, reliable, affordable and cleaner energy to its customers;
- increase the level of disclosure on GHG information with key stakeholders;
- highlight the many programs that Fortis operating subsidiaries have implemented to increase energy efficiency, reducing their environmental footprint; and
- provide a baseline on the Corporation's carbon footprint, to be used as a reference when considering future business strategies.

This report contains 2015 performance indicator data from Fortis operating utilities and recent information about programs and initiatives happening at our operating utilities.<sup>(1)</sup>

A key focus of this report is the disclosure of direct GHG emissions from the Corporation's fossil fuel-based generating facilities and indirect GHG emissions related to the energy that it purchases.

The three main types of GHG emissions that are addressed are: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O). The use of the term GHG refers to the combined total of these gases, which is provided as total CO<sub>2</sub> equivalent quantity.

Fortis shares operational experience and expertise throughout its operating companies; however, each operating company retains autonomy given differences in operations, regulatory environment, size, jurisdiction, and the unique drivers for customers in each area. Each operating company has its own

board of directors that considers the circumstances specific to the subsidiary's own jurisdiction, and strives to balance prudent utility operation with the management of environmental issues important to stakeholders. This approach ensures environmental considerations are incorporated into each operating company's long-term planning process and related decision-making. The priorities, however, must also align with the expectations of regulatory bodies governing the operating utilities given that 97% of our assets are associated with our regulated businesses.

Our operating subsidiaries consider a range of environmental matters, in addition to the management of GHG emissions, such as:

- air emissions, particularly those resulting from fossil fuel generating facilities;
- storage, handling and transportation of petroleum products and potential for spills and fires;
- environmental remediation of contaminated sites where Fortis has or has inherited an ownership interest;
- risk of natural gas leaks;
- fires related to assets and the resulting impact;
- management of hazardous substances; and
- hydroelectric operations and the impact they may have on natural habitats.

Each operating utility has a comprehensive Environmental Management System in place, the majority of which are ISO 14001 compliant.



# SECTION 2: HIGHLIGHTS

This Environmental Report provides information on how we are managing and mitigating our environmental impacts, with a particular focus on GHG emission reductions. This is our second Environmental Report, following on our efforts to increase communication on our environmental and sustainability efforts. We plan to use this report to measure our performance and demonstrate how we consider the environment when discussing our business strategies.



The remaining 9% of assets are related to generation; 6% associated with fossil fuel-based generation and 3% for renewable generation. Our fossil fuel-based generation is almost entirely within two of our service territories, Arizona and the Caribbean. TEP in Arizona produces 96% of the Corporation’s fossil fuel-based generation, with the balance largely attributable to Caribbean Utilities Company, Ltd. (CUC) and FortisTCl Limited (FortisTCl)

The Corporation is primarily an electric and gas transmission and distribution company with transmission, distribution and other assets representing 91% of total assets. Transmission and distribution assets have a significantly lower environmental impact than fossil fuel-based generation assets. In 2016, we acquired ITC, the largest independent electric transmission company in the United States, dramatically increasing the size of, and focus on, our transmission and distribution business. Some of our operating utilities are simply paid a fee for providing the infrastructure to transmit and distribute electricity.

## 2016 Total Assets

<b>Transmission, Distribution and Other</b>	<b>91%</b>
<b>Fossil Fuel-Based Generation Assets</b>	<b>6%</b>
<b>Renewable Generation Assets</b>	<b>3%</b>

in the Caribbean. Our remaining operating companies have very limited fossil fuel-based generation. Our operating companies in Arizona and the Caribbean work closely with all stakeholders, especially their regulators, continually seeking opportunities to invest in cleaner energy and to expand environmental initiatives while ensuring access to safe, reliable and affordable energy for customers.

In Arizona, TEP remains committed to progressing its long-term resource diversification strategy to reduce reliance on coal. TEP and UNS Electric (UNSE) are planning to add 260 MW of capacity to their combined renewable generation portfolio, which already exceeds 600 MW. Both CUC in the Cayman Islands and FortisTCl in Turks and Caicos have ongoing solar initiatives. FortisTCl will soon complete its first utility-scale solar project that will generate enough electricity to power 400 residential homes, reducing CO<sub>2</sub> by over 1,700 tonnes, or the equivalent of removing over 350 cars from the road

for a year. CUC installed a new diesel plant in 2016, replacing existing infrastructure with much more fuel-efficient generation.

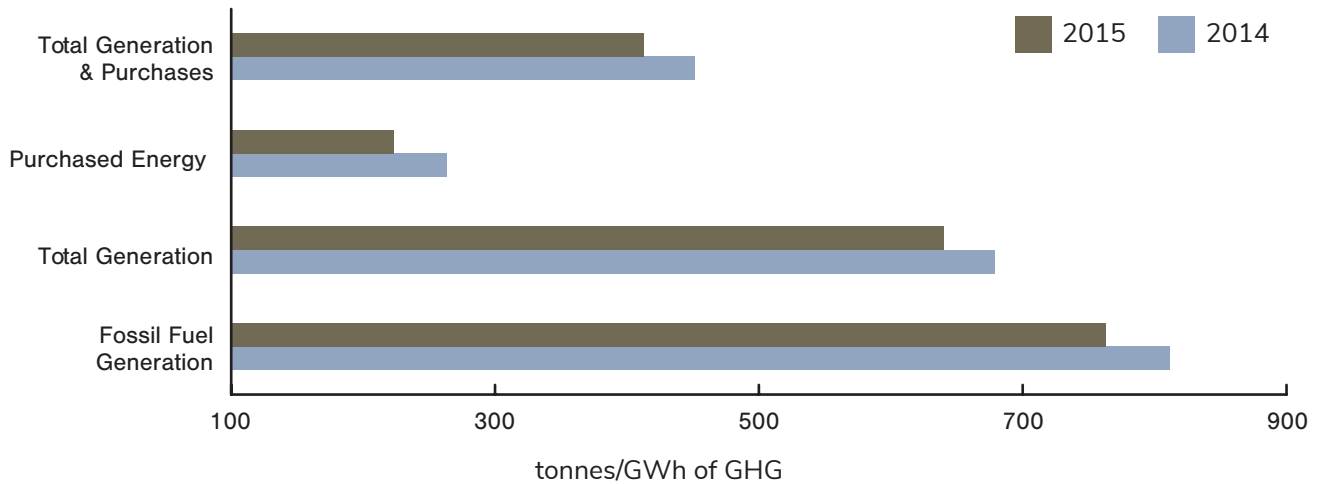
In 2015, coal generation at our utility in Arizona represented 57% of our gross energy production, a reduction from 71% in 2014. The diversification to natural gas generation replaced coal generation and resulted in an overall reduction of 5.9% in the intensity factor of fossil fuel generation from the prior year.



Some of our utilities are dependent on energy purchases for a significant portion of their energy supply. Similar to the improved intensity factor related to gross generation from the Corporation's owned generation, an increase in renewable energy

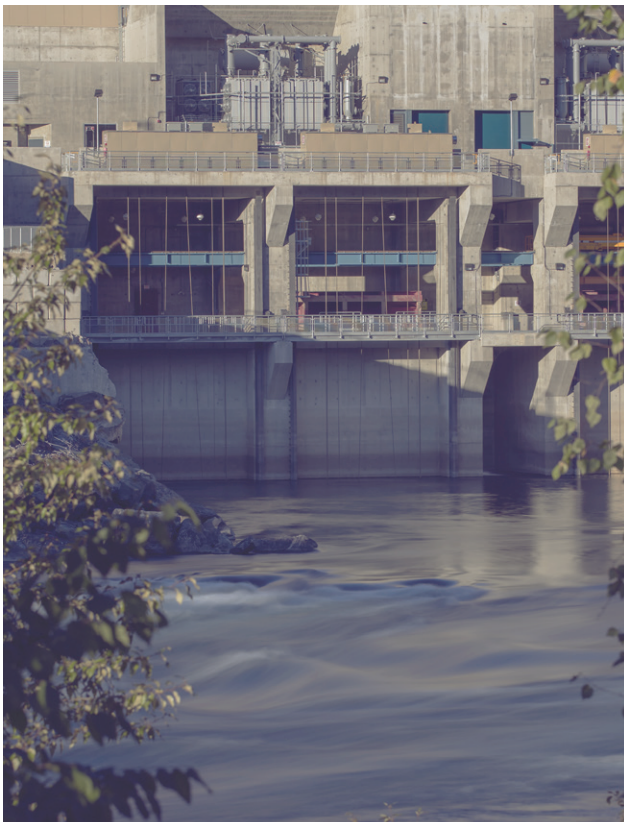
purchases produced a similarly positive outcome relative to 2014. Combined, the direct and indirect generation overall intensity factor for 2015 was 8.6% lower than in 2014.

## Intensity Factor



The preceding information on intensity factor represents the most notable change in year-over-year performance indicators. We will continue to report

progress for all indicators recognizing the long-term nature of improvement initiatives.



In April 2015, Fortis completed construction of the \$900 million, 335-MW Waneta Expansion hydroelectric generating facility (Waneta Expansion) in southern British Columbia. Located immediately downstream of the Waneta Dam on the Pend d'Oreille River, the Waneta Expansion added a second powerhouse that shares the existing hydraulic head and generates clean, renewable, cost-effective power from water that would otherwise be spilled. The Waneta Expansion generates sufficient energy to meet the annual electricity requirements of approximately 60,000 homes.

The eighth largest infrastructure project in British Columbia at its time of construction, the Waneta Expansion maintained an excellent safety and environmental protection record throughout its four-and-a-half year construction period.

# SECTION 3: REDUCING OUR ENVIRONMENTAL FOOTPRINT

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This section highlights environmental advances and initiatives from our utilities.

## Resource Mix

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### **Hydroelectric forges ahead in British Columbia and Newfoundland and Labrador**

In its first full year of operation, FortisBC's 335-MW Waneta Expansion generated 1,700 GWh of energy, which was sold to BC Hydro and FortisBC under 40-year power purchase agreements. Fortis owns a 51% interest in the Waneta Expansion partnership and FortisBC operates and maintains the facility.

FortisBC has received approval from the British Columbia Utilities Commission to make upgrades at two of its hydroelectric generating plants on the Kootenay River in British Columbia. One project is to refurbish four of the original generating units at Upper Bonnington and the second is to replace

14 spillway gates and reinforce the associated structures at the Corra Linn Dam. The Upper Bonnington project will bring the units, originally built in 1907 and 1916, to modern safety and environmental standards, keeping the units operable for at least another 20 years. In addition to power generation, the Corra Linn Dam plays a critical role in controlling the reservoir levels at Kootenay Lake, which helps protect people, habitat and communities downstream from floods. Both projects will start in 2017 and are scheduled to be completed in 2021.

All of FortisBC's electric generating assets are hydroelectric, providing renewable energy for its customers in British Columbia.



Newfoundland Power's Pierre's Brook hydroelectric plant, located in Witless Bay, has been providing reliable energy production for 85 years. Annually, the facility generates approximately 25 GWh of electricity. In 2016, Newfoundland Power invested \$15 million to upgrade the facility to ensure optimal performance for years to come. Other capital programs focus on runner replacements to increase the efficiency of Newfoundland Power's other hydroelectric plants.

### **Solar advances in Arizona, New York and the Caribbean**

TEP continues to pursue clean energy solutions. The utility is working with a developer for the construction of a community-scale solar array that would provide 100 MW of capacity, enough to power more than 21,000 homes annually for the next 20 years. The project, which could be built within TEP's service territory or connected to existing transmission facilities, would boost TEP's total community-scale solar energy resources by nearly 40%.

TEP has installed 405 systems through its Residential Solar Program, that provides customers the opportunity to use solar energy with no upfront installation or maintenance costs. The utility is expected to

install over 70 additional residential solar systems in 2017. This program was first made available to TEP's customers during the summer of 2015 in areas where the utility's rooftop solar arrays would strengthen reliability for the local electric grid that serves all customers.

These solar projects are pushing TEP towards its goal of delivering at least 30% of its retail sales from renewable resources by 2030, surpassing the State of Arizona's goal of 15% by 2025. TEP anticipates an additional 800 MW of new renewable capacity by the end of 2030, boosting its total renewable energy portfolio to approximately 1,300 MW. At year-end 2016, TEP and UNSE had approximately 530 MW and 95 MW, respectively, of renewable generating capacity on their systems.

CUC continues to connect renewable energy sources to its transmission and distribution system. The Consumer-Owned Renewable Energy Generation (CORE) program, which allows consumers to generate energy from renewable sources and be compensated through stable, long-term rates, continues to attract participants. As of December 31, 2016, 181 customers were connected, with 2,755 kilowatts (kW) of



renewable capacity. The CORE program allows customers to connect small-scale solar systems or wind turbines to CUC's distribution system. CUC also signed a power purchase agreement with a third party to install 5 MW of utility-scale solar capacity, which will power over 800 homes by the end of 2017.

To advance solar installations, Central Hudson continues to work closely with solar installers, educators, advocacy organizations and state energy officials. As of year-end 2016, 6,600 homes, businesses and municipalities within the Central Hudson service area have installed solar electric systems, representing more than 60 MW of installed capacity, with the capability of offsetting about 31,000 tonnes of GHG emissions per year. Central Hudson also hosted the Sixth Annual Solar Summit in March 2016, which offered solar installers information on interconnecting the solar electric systems with the utility grid.

### **Advocacy for clean energy policy**

In addition to developing clean energy projects, our subsidiaries advocate for energy policies to ensure equitable treatment for all customers.


Changes and improvements to net metering policies continue to be advanced by our utilities to ensure regulation and opportunity is reasonable and fair for all parties. While such programs are important for the continued development of renewable energy, it is also critical that the cost to maintain the reliability and resiliency of the grid is shared equitably amongst all customers.

FortisAlberta continues to support the provincial government's direction for environmental initiatives, including connecting customers to alternative energy sources for distributed generation and micro-generation. In 2016, FortisAlberta connected 178 micro-generation projects to its system for a total of 5 MW.

### **Wind energy integral to energy mix in the American Midwest, Arizona and Prince Edward Island**

TEP continues to advance wind power generation as part of its energy mix. The utility recently signed a power purchase agreement with a third-party owned and operated 100-MW wind-powered facility. Under this power purchase agreement, TEP would buy power from the new facility for up to 30 years, more than doubling its current 80 MW wind-powered capacity.

Maritime Electric has long-term renewable purchase power agreements in place to buy all the energy supplied by the Government of Prince Edward Island's wind farms. Wind energy accounts for approximately 25% of Maritime Electric's current energy supply mix, with a total capacity of 92 MW.



Wind energy is an integral part of our overall resource management plans at Fortis. Our newest acquired utility, ITC, has developed its transmission network to connect 5,800 MW of wind energy production capacity in Iowa, Minnesota, Michigan, Kansas and Oklahoma, with another 2,225 MW in the production queue. More than half of the wind capacity connected to ITC is in Iowa, where the generation sometimes exceeds the load on the system. ITC recognizes the critical role transmission plays in connecting clean energy. Its investments have enabled wind farms to be optimally located, resulting in millions of dollars of customer savings.

## Natural gas provides clean energy alternative in British Columbia and New York

Natural gas continues to play an important role in resource management strategies at our utilities. FortisBC's Tilbury LNG expansion project in Delta, British Columbia is nearing completion. The \$400 million project includes the construction of a new LNG storage tank, additional liquefaction and LNG truck loading equipment. LNG from the facility provides a clean alternative to diesel for power generation in remote communities, and transportation fuel for buses, trucks and ferries.

FortisBC is upgrading sections of its natural gas lines to increase safety and reliability for Greater Vancouver customers during times of peak demand or when maintenance work is required.

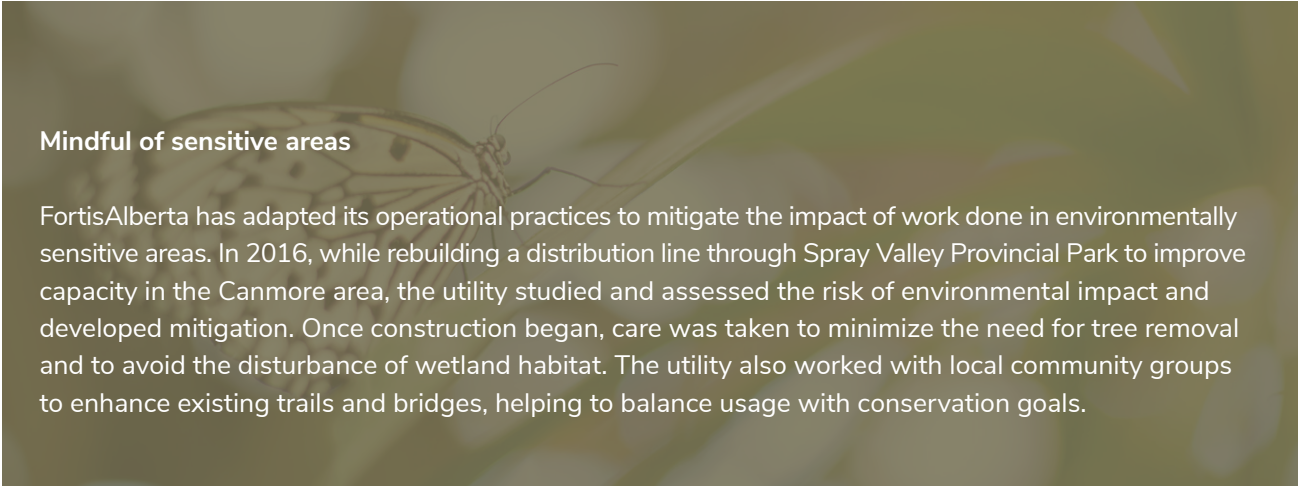
Natural gas infrastructure improvements are also underway in Upstate New York where Central Hudson is providing safe and reliable natural gas to customers. To accomplish this, the utility has been conducting extensive safety testing, replacing and upgrading vast amounts of leak-prone pipeline, and utilizing the latest innovative inspection, monitoring and control technologies.

## Renewable natural gas

Since 2011, FortisBC has captured and purified biogas from agricultural and landfill waste and, as of year-end 2016, has reduced GHG emissions by an amount equivalent to removing 5,879 cars from the road for a year. In 2016, FortisBC customers consumed over 163,000 gigajoules (GJ) of renewable natural gas (RNG) which is approximately 8,117 avoided tonnes of CO<sub>2</sub> emissions, or equivalent to removing 1,715 cars from the road for a year.

To date, FortisBC has invested \$13.2 million in new infrastructure to support RNG offerings and is actively working to increase the available supply.

FortisBC is also working with the City of Surrey on its proposed waste treatment facility. FortisBC plans to purchase RNG and invest an estimated \$900,000 to interconnect the facility to the natural gas system, which will allow its waste haulers to run on RNG. Once complete, the facility will reduce GHG emissions by an amount equivalent to that produced by approximately 5,200 cars annually.



### Mindful of sensitive areas

FortisAlberta has adapted its operational practices to mitigate the impact of work done in environmentally sensitive areas. In 2016, while rebuilding a distribution line through Spray Valley Provincial Park to improve capacity in the Canmore area, the utility studied and assessed the risk of environmental impact and developed mitigation. Once construction began, care was taken to minimize the need for tree removal and to avoid the disturbance of wetland habitat. The utility also worked with local community groups to enhance existing trails and bridges, helping to balance usage with conservation goals.

## System Advances

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### Energy efficient fossil fuel generation

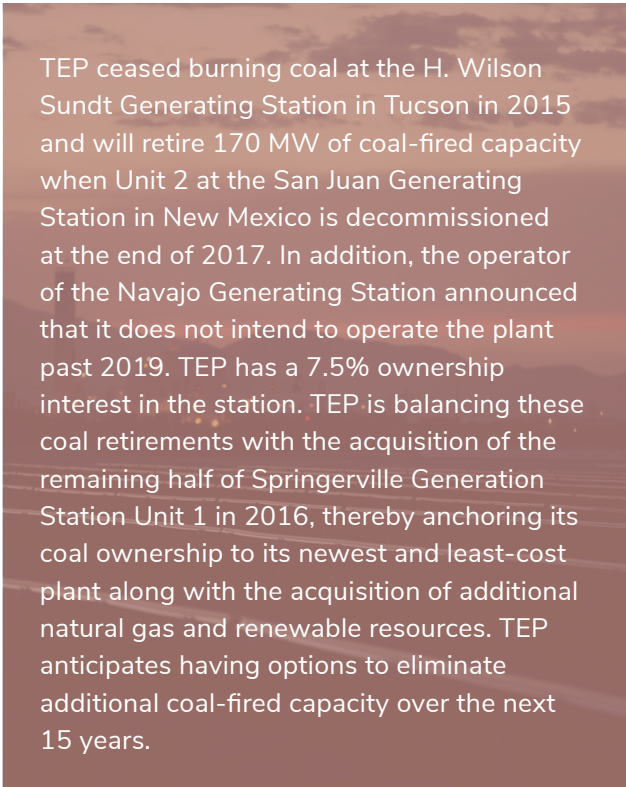
In June 2016, CUC commissioned a 39.7-MW diesel plant, including a 2.7-MW waste heat recovery steam turbine. The new plant is one of the most fuel-efficient diesel plants in the Caribbean and allowed CUC to attain its highest ever annual net fuel efficiency of 19 kWh per imperial gallon in 2016. CUC also utilizes ultra-low sulphur diesel for its entire plant, which gives cleaner exhaust emissions when compared to the high-sulphur diesel commonly used in power plants.

### Smarter, more efficient transmission and distribution

Central Hudson is currently progressing its smart grid initiative which will increase energy efficiency and reduce losses. The program began in 2015 and is expected to be completed by 2022. This initiative incorporates several large, interrelated projects including: the continued deployment of smart distribution devices coupled with distribution circuit upgrades; the installation of a tiered two-way communications network; and the installation of a centralized control center and platform.

In addition to the energy efficiency and loss reduction associated with Central Hudson's smart grid initiative, the utility has a robust condition/age based infrastructure replacement program as part of its ongoing capital program. While loss reduction is not the primary driver for voltage conversions and additional mainline reconductoring programs, both result in reduced losses as an added benefit.

FortisBC completed its \$52 million Advanced Metering Infrastructure project in 2016. This advanced metering platform allows customers to receive information about their consumption, enabling better decisions on the efficient use of energy.



TEP ceased burning coal at the H. Wilson Sundt Generating Station in Tucson in 2015 and will retire 170 MW of coal-fired capacity when Unit 2 at the San Juan Generating Station in New Mexico is decommissioned at the end of 2017. In addition, the operator of the Navajo Generating Station announced that it does not intend to operate the plant past 2019. TEP has a 7.5% ownership interest in the station. TEP is balancing these coal retirements with the acquisition of the remaining half of Springerville Generation Station Unit 1 in 2016, thereby anchoring its coal ownership to its newest and least-cost plant along with the acquisition of additional natural gas and renewable resources. TEP anticipates having options to eliminate additional coal-fired capacity over the next 15 years.

### Water management ensures recovery and reuse

TEP's Springerville Generating Station remains a zero-liquid discharge (ZLD) facility. All of its wastewater recovery occurs on site with none of the liquid discharged into the environment. TEP also has ZLD facilities at the Navajo Generating Station, San Juan Power Plant, Four Corners Power Plant, Gila River Power Station and Luna Energy.

TEP's Sundt, DeMoss Petrie and NorthLoop Generating Stations in Tucson manage water use in an environmentally responsible manner as part of the Tucson Active Management Area for water usage and, as such, account for water usage to the Arizona Department of Water Resources.



## Innovation and Initiatives

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### **Energy storage systems help meet long-term renewable energy goals**

TEP has contracted with two parties to build innovative energy storage systems that help maintain the required balance between energy demand and supply. Energy storage systems like those being pursued by TEP could ensure the quality and reliability of electric service and help meet long-term renewable energy goals.

TEP has contracted with a party to build a 10-MW lithium-nickel-manganese-cobalt storage facility at a TEP substation. A second firm will build a 10-MW lithium-titanate-oxide storage facility and accompanying 2-MW solar array at the University of Arizona Science and Technology Park southeast of Tucson. Both of these parties will complete their projects before the end of the first quarter of 2017.

### **Options to purchase green energy**

Some of our operating utilities provide customers with the option to purchase green energy. For example, FortisBC gas customers who wish to purchase green energy are able to sign up for a 5%, 10%, 25%, 50% or 100% blend of RNG to conventional gas. Also, TEP's Bright Tucson Community Solar Program provides customers with the choice to obtain some or all of their electricity needs by purchasing locally generated solar power.

### **Natural gas for transportation displacing diesel and reducing GHGs**

As of June 2016, FortisBC awarded nearly \$32 million in incentives through its Natural Gas for Transportation (NGT) Program. The NGT Program provides up to 100% of the cost to upgrade commercial vehicles to compressed natural gas (CNG) or LNG. Under the incentive program, more than 650 vehicles have been converted to natural gas, either LNG or CNG. Fortis now has ten CNG and six LNG fuelling stations that provide services to natural gas vehicles. BC Transit and TransLink are committing to new bus fleets fuelled by natural gas including key areas of Whistler, Nanaimo, Abbotsford, Kamloops and the Lower Mainland. This year also saw commitment from UPS for a 40-truck fleet that will begin operation in 2017 between Vancouver and Seattle to be fuelled at a Fortis-owned CNG station.

Since 2011, FortisBC's NGT Program has resulted in the displacement of about 98.2 million litres of diesel fuel and has reduced GHG emissions by about 117,000 tonnes over this period. This is the equivalent of removing nearly 25,000 vehicles from the road.

As natural gas volumes are expected to continue to increase in the future, FortisBC remains committed to displacing traditional fuel and further reducing GHG emissions through increased natural gas adoption.

LNG also provides cleaner and more affordable fuel for marine transport applications. For example, FortisBC has committed to providing up to \$21 million in financial incentives toward the purchase and conversion of seven marine vessels that will operate in British Columbia waterways.

In 2017, five of the planned seven marine vessels will enter into service and the remaining two vessels are expected to enter into service in 2020. FortisBC and its customers worked together to develop and implement the first ever methodology for on-board truck-to-ship LNG fueling. Once all seven vessels are in operation, total diesel demand displaced is estimated to be about 35.7 million litres per year. These seven marine vessels are expected to reduce GHG emissions by an additional 45,000 tonnes per year, or the equivalent of removing about 9,400 vehicles from the road each year.

### **Streetlight conversion reduces energy usage**

FortisAlberta is supporting energy efficiency through the offering of a Streetlight Conversion Program to its municipal customers. This program allows FortisAlberta to partner with municipalities in its service territory who wish to retrofit existing streetlights to energy efficient light-emitting-diode (LED) streetlights. The utility completed the retrofit

of 10,000 lights in 2016 with a further 70,000 planned for 2017-2018. In total, the LED retrofit program is expected to save an estimated 32 million kWh each year with a GHG savings equivalent to approximately 20,000 tonnes of CO<sub>2</sub>.

### **Fleet monitoring technology improves fuel efficiency**

The continued use of systems that combine telecommunications and global positioning systems to monitor driver and vehicle performance has contributed to a second consecutive year of decreased fuel consumption at FortisAlberta. The use of fleet-monitoring technology has improved fuel efficiency by prompting drivers to improve their driving habits.

Central Hudson deploys eight hybrid line trucks in their service territory, resulting in lower emissions and fuel use compared to diesel-only vehicles.

### **Promoting environmental stewardship among employees**

In 2016, FortisAlberta incorporated an environmental module into its annual journey person upgrading program for Power Line Technicians (PLTs). Throughout the seminar, PLTs receive training and education on environmental risk management, including practical operations advice to help staff identify and respond to environmental issues. All FortisAlberta employees also receive environmental awareness training through a new e-learning program rolled out in 2016. The training explains FortisAlberta's commitment to environmental stewardship and highlights the obligations employees and the utility have to operate in an environmentally responsible manner. In its first year, more than 700 employees completed the training.

## SECTION 4: PERFORMANCE INDICATOR RESULTS

### Summary Indicators

The following chart provides a summary of the Corporation's 2015 owned gross energy generation, associated GHG emissions and capacity.

Fortis - Owned Generation — Fossil and Non-Fossil (2015)						
	Gross Energy		GHG		Capacity	
	GWh	%	t	%	MW	%
Fossil						
Coal	9,425	57.20	8,474,369	80.34	1,320	34.63
Oil	4	0.02	6,956	0.07	81	2.12
Diesel	887	5.38	590,951	5.60	347	9.09
Natural Gas	3,472	21.07	1,475,734	13.99	1,399	36.70
Biofuel	32	0.19	(1)	(1)	(2)	(2)
Total Fossil	13,819	83.87	10,548,010	100.00	3,147	82.54
Non-Fossil						
Hydroelectric	2,581	15.67	-	-	612	16.06
Solar	77	0.47	-	-	53	1.40
Total Non-Fossil	2,658	16.13	-	-	666	17.46
Total Owned Generation	16,477	100.00	10,548,010	100.00	3,812	100.00

(1) Biofuel emissions of 16,662 tonnes (t) were not included since these emissions are from a landfill and are considered carbon neutral. The landfill would have emitted GHG through a natural process if the gas was not captured to be used as a fuel for generation.

(2) Biofuel from the City of Tucson's Los Reales Landfill is transported about three miles to help run the H. Wilson Sundt Generating Station's Unit 4, which was also powered by coal and natural gas in 2015. This results in the generation of approximately 3-4 MW of electricity per year.

The following chart illustrates intensity factor for generation and energy purchases for 2015.

Fortis - Owned Generation, Energy Purchases and Intensity Factor (2015)				
	Gross Generation & Purchases (GWh)	GHG (t)	Intensity Factor (t/GWh of GHG)	Year-Over-Year Reduction <sup>(2)</sup>
Fossil Generation	13,819	10,548,010	763	5.9%
Non-Fossil Generation	2,658	-	-	
Total Owned Generation	16,477	10,548,010	640	5.7%
Purchases (from grid) <sup>(1)</sup>	12,482	4,445,323	224	15.2%
Purchases (renewables)	7,349	-	-	
Total	36,308	14,993,332	413	8.6%

(1) A breakdown of energy source by type is not available because a significant portion of the energy purchased is from the grid. Where a determination of the purchased energy source cannot be made, GHG emissions are estimated using emission factors to take into account the energy generation mix from where the grid is located.

(2) 2015 over 2014 reduction. Certain 2014 data restated for comparative purposes.

## Electricity Indicators

The Corporation's sources of direct and indirect GHG emissions are associated with its fossil fuel generating facilities and energy purchases, respectively.

The tables below provide a summary of the Corporation's owned gross generation and energy purchases by fuel type and the associated GHG emissions in 2015.

Fortis - Owned Fossil Fuel Energy Production and GHG Emissions by Fuel Type (2015)				
Fuel Type	Gross Owned Generation		GHG	
	GWh	%	t	%
Coal	9,425	68.20	8,474,369	80.34
Oil	4	0.03	6,956	0.07
Diesel	887	6.42	590,951	5.60
Natural Gas	3,472	25.12	1,475,734	13.99
Biofuel	32	0.23	(1)	(1)
<b>Total Fossil</b>	<b>13,819</b>	<b>100.00</b>	<b>10,548,010</b>	<b>100.00</b>

(1) Biofuel emissions of 16,662 t were not included since these emissions are from a landfill and are considered carbon neutral. The landfill would have emitted GHG through a natural process if the gas was not captured to be used as a fuel for generation.

The table below provides a summary of fossil and non-fossil gross generation and energy purchases and the associated GHG emissions and intensity factors in 2015.

Fortis - Owned Generation and Purchases (2015)							
Fuel	Gross Owned Generation				Energy Purchases		
	GWh		Direct GHG		Indirect GHG		
	GWh	%	t	t per GWh	GWh	t	t per GWh
Fossil	13,819	83.87	10,548,010	763	(1)	(1)	(1)
Non-Fossil	2,658	16.13	-	-	(1)	(1)	(1)
<b>Total</b>	<b>16,477</b>	<b>100.00</b>	<b>10,548,010</b>	<b>640</b>	<b>19,831</b>	<b>4,445,323</b>	<b>224</b>

(1) A breakdown of energy source by type is not available because a significant portion of the energy purchased is from the grid. Where a determination of the purchased energy source cannot be made, GHG emissions are estimated using emission factors to take into account the energy generation mix from where the grid is located.

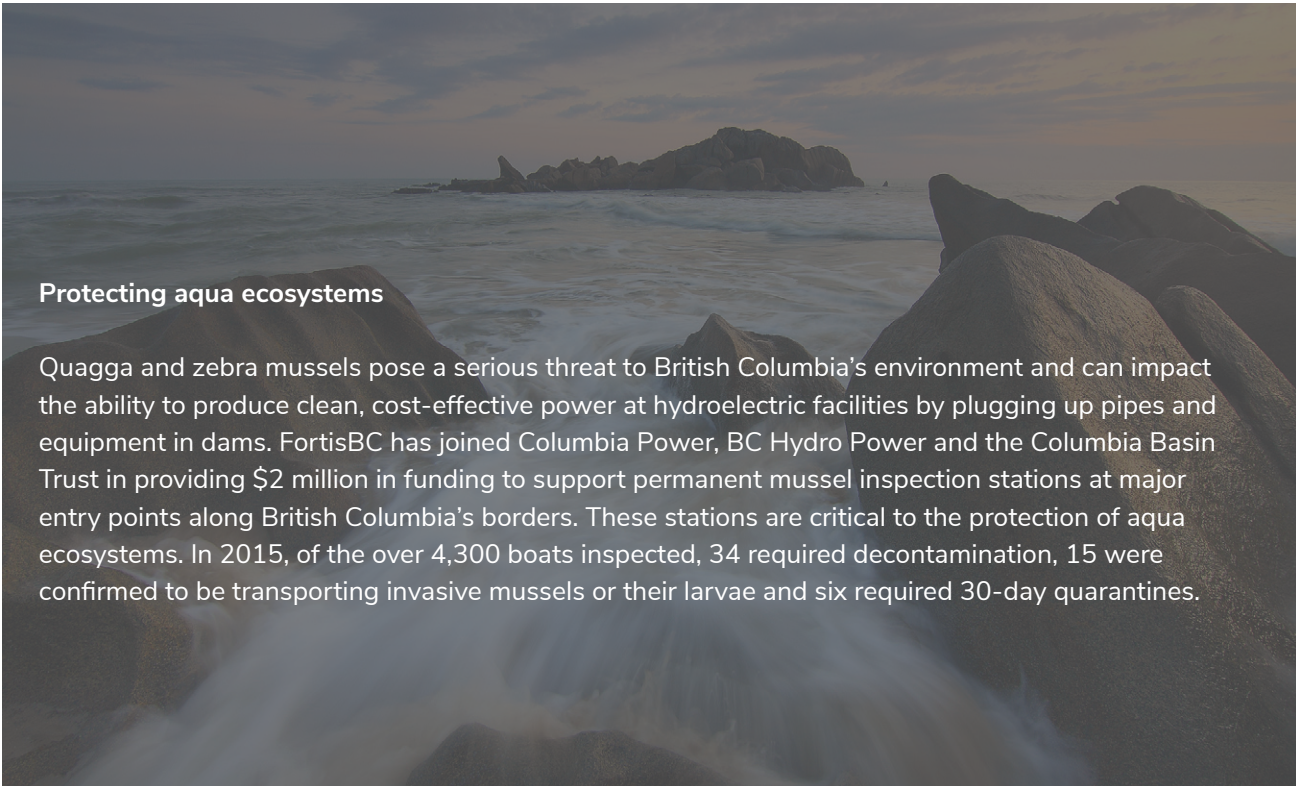
Fortis - Fuel Used in Owned Generation (2015)				
Coal	Oil	Diesel	Natural Gas	Biofuel
4,317,696 t	2,572,081 litres	223,384,382 litres	29 petajoules	0.75 petajoules

The tables below show the water consumption indicators for UNS Energy only and combined results for three Fortis utilities.

UNS Energy - Water Consumed in Energy Production from Owned Fossil Fuel Generation (2015)		
Gross Fossil Fuel Generation	Water Consumed	
12,813 GWh	20,909 million litres	1.63 million litres per GWh

Fortis - Water Consumed in Energy Production from Owned Fossil Fuel Generation (2015) <sup>(1)</sup>		
Gross Fossil Fuel Generation	Water Consumed	
13,456 GWh	20,914 million litres	1.55 million litres per GWh

(1) Includes UNS Energy, Caribbean Utilities and Maritime Electric.



**Protecting aqua ecosystems**

Quagga and zebra mussels pose a serious threat to British Columbia’s environment and can impact the ability to produce clean, cost-effective power at hydroelectric facilities by plugging up pipes and equipment in dams. FortisBC has joined Columbia Power, BC Hydro Power and the Columbia Basin Trust in providing \$2 million in funding to support permanent mussel inspection stations at major entry points along British Columbia’s borders. These stations are critical to the protection of aqua ecosystems. In 2015, of the over 4,300 boats inspected, 34 required decontamination, 15 were confirmed to be transporting invasive mussels or their larvae and six required 30-day quarantines.

## Natural Gas Indicators

The table below summarizes information pertaining to natural gas for the three Fortis utilities with natural gas operations (FortisBC, Central Hudson and UNS Energy).

Fortis - Natural Gas Indicators (2015)			
Sold	Loss	Loss as a Percentage Sold	Loss
223 petajoules	0.236 petajoules	0.11%	115,687 t of GHG

## Revenue and Full-Time Employee Indicators

Fortis - Revenue <sup>(1)</sup> and Full-Time Employee Indicators (2015)			
	GHG		
	t	t per \$M of Revenue	t per FTE <sup>(2)</sup>
Fossil Fuel Generation <sup>(3)</sup>	10,548,010	1,609	1,371
Combined Total of GHG Emissions from Fossil Fuel Generation and Natural Gas Losses <sup>(3)</sup>	10,663,697	1,627	1,386
Energy Purchases <sup>(4)</sup>	4,445,323	678	578
<b>Total</b>	<b>15,109,020</b>	<b>2,305</b>	<b>1,963</b>

(1) Fortis 2015 revenue was adjusted to remove revenue associated with non-utility assets, resulting in a 2015 revenue estimate of \$6,556 million.

(2) Full-time employee

(3) Direct source of emissions

(4) Indirect source of emissions

## Energy Efficiency Indicators

Fortis - Energy Efficiency Programs - Energy Saved (2015)				
	Electricity		Natural Gas	
	GWh	% <sup>(1)</sup>	Petajoules	% <sup>(1)</sup>
Incremental Energy Saved	265	0.78	0.51	0.23
Cumulative Energy Saved	1,296		2.68	

(1) Energy Saved Relative to Energy Sales

Fortis - Energy Efficiency Programs - GHG Avoided (2015)				
	Electricity		Natural Gas	
	CO <sub>2</sub> e Avoided (t)	GHG Avoided per GWh of Energy Sales (t/GWh)	CO <sub>2</sub> e Avoided (t)	GHG Avoided per PJ of Energy Sales (t/GWh)
Incremental GHG Avoided	212,477	6.29	26,231	117.4
Cumulative GHG Avoided	829,838		139,320	

### Footnote:

(1) Fortis sold its non-regulated hydroelectric generating facilities in Upstate New York and Ontario in June 2015 and July 2015, respectively. Data pertaining to these assets is included in this Environmental Report.

The scope does not include the non-utility hotel and commercial real estate assets held by Fortis Properties, which were sold in 2015.

Fortis has an approximate 60% ownership interest in Caribbean Utilities; however, the energy and associated GHG emission data contained in this Environmental Report pertains to 100% of the utility's generation.

FortisAlberta acts as a conduit to deliver energy to customers. The utility has no generation or energy purchases and, as such, has no GHG emissions related to these particular areas. FortisAlberta's electric energy sales were 17,132 GWh in 2015.

Central Hudson's electric energy sales were 5,132 GWh in 2015. Approximately 50% of these sales were from the delivery of electricity to customers who purchase power from third parties. For these sales, Central Hudson only provides delivery service and, as such, it had no GHG emissions associated with this delivered energy.

### Electric vehicle charge stations installed in Kelowna

FortisBC collaborated with the City of Kelowna to open two new electric vehicle charge stations in the downtown core. As part of the collaboration, the City provided the location while FortisBC purchased and installed the units. These stations will provide valuable information that will help both the City and FortisBC better understand electric vehicle use in the community and be prepared with appropriate infrastructure as more people adopt electric vehicles. In 2015, FortisBC worked with BC Hydro to deploy stations in Penticton, Keremeos and Princeton and is working with partners to complete a southern interior highway section of a province-wide charging network.

## SECTION 5: SUMMARY STATEMENT

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Fortis manages its resources carefully and makes deliberate choices to ensure maximum value for its customers and shareholders. We understand our responsibility to the environment and to reduce GHG emissions. We are committed to environmental sustainability and GHG reductions through:

- promoting energy efficiency programs designed to help customers reduce their energy usage;
- focusing on connecting cleaner energy which plays an important role in building new infrastructure and sourcing additional energy supply; and
- reducing reliance on coal over the next few years by replacing portions of existing coal generation with efficient combined-cycle gas turbines and renewables.

Transparency on GHG emissions is important and we will continue to evolve our reporting and disclosure. Fortis plans to continue publishing reports annually on environment, sustainability and GHG emissions to provide baseline information of our carbon footprint. This information will help ensure GHG emissions are fully considered when developing business strategies and plans.

If you have questions on our Environmental Report, please email us at [info@fortisinc.com](mailto:info@fortisinc.com).



### EnviroFest to celebrate 20 years

Newfoundland Power employees hosted their nineteenth annual EnviroFest by supporting five community beautification projects throughout the province. Newfoundland Power has a team of environmental coordinators that work with school, community and environmental partners to identify opportunities for promoting environmental awareness. In operation since 1997, the employee-driven program has partnered with more than 300 community groups and completed approximately 90 projects.



# FORTIS UTILITIES

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ITC, headquartered in Novi, Michigan, is the largest independent electricity transmission company in the United States. The FERC-regulated utility owns and operates high-voltage systems in Michigan's Lower Peninsula and portions of Iowa, Minnesota, Illinois, Missouri, Kansas and Oklahoma. In 2016, ITC owned and operated 25,000 kilometres of transmission lines and met a peak demand of 23,231 MW. ([itc-holdings.com](http://itc-holdings.com))



UNS Energy is a vertically integrated utility services holding company, headquartered in Tucson, Arizona. It is engaged through its subsidiaries in the regulated electric generation and energy delivery business, primarily in the State of Arizona, serving approximately 669,000 electricity and gas customers. UNS Energy is primarily comprised of three wholly owned regulated utilities: TEP, UNS Electric and UNS Gas. In 2016, UNS Energy met a peak day natural gas demand of 103 TJ and a peak electricity demand of 3,386 MW. ([uns.com](http://uns.com))



Central Hudson is a regulated transmission and distribution utility serving approximately 300,000 electricity customers and 79,000 natural gas customers in eight counties of New York State's Mid-Hudson River Valley. In 2016, the utility met a peak day natural gas demand of 149 TJ and a peak electricity demand of 1,088 MW. ([www.cenhud.com](http://www.cenhud.com))



FortisBC is an integrated energy solutions provider focused on providing natural gas, electricity, propane and alternative energy solutions to approximately 1,164,000 customers in more than 135 communities in British Columbia. In 2016, FortisBC met a peak day natural gas demand of 1,334 TJ and a peak electricity demand of 712 MW. ([fortisbc.com](http://fortisbc.com))



FortisAlberta is a regulated distribution utility providing electricity in central and southern Alberta. The utility's distribution network serves approximately 549,000 customers and met a peak demand of 2,581 MW in 2016. ([fortisalberta.com](http://fortisalberta.com))



Newfoundland Power is an integrated electric utility and the principal distributor of electricity on the island portion of Newfoundland and Labrador, serving approximately 264,000 customers in approximately 600 communities. Newfoundland Power met a peak demand of 1,367 MW in 2016. ([newfoundlandpower.com](http://newfoundlandpower.com))



Maritime Electric is an integrated electric utility that directly supplies approximately 79,000 customers, constituting approximately 90% of electricity consumers on Prince Edward Island. The Company purchases most of the energy it distributes to its customers from NB Power, a New Brunswick Crown corporation, through various energy purchase agreements. Maritime Electric met a peak demand of 265 MW in 2016. ([maritimeelectric.com](http://maritimeelectric.com))



FortisOntario provides integrated electric utility service to some 65,000 customers in Fort Erie, Cornwall, Gananoque, Port Colborne and the District of Algoma in Ontario. The Company owns a 10% interest in three regional electric distribution companies, serving approximately 40,000 customers. FortisOntario met a combined peak demand of 248 MW in 2016. ([fortisontario.com](http://fortisontario.com))



Caribbean Utilities, an approximate 60% owned subsidiary, generates, distributes, transmits and supplies electricity on Grand Cayman, Cayman Islands. The Company serves approximately 29,000 customers and met a peak demand of 103 MW in 2016. ([cuc-cayman.com](http://cuc-cayman.com))



FortisTCI generates and transmits electricity to approximately 14,000 customers on the islands of Providenciales, North Caicos, Middle Caicos, East Caicos, South Caicos, Grand Turk and Salt Cay and met a combined record peak demand of 40 MW in 2016. ([fortistci.com](http://fortistci.com))

