All information contained in this AIF is presented as at December 31, 2019, unless otherwise specified. In this AIF, all dollar figures are in U.S. dollars, unless otherwise indicated.
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Caution Concerning Forward-looking Statements and Forward-looking Information

This document may contain statements that constitute “forward-looking information” within the meaning of applicable securities laws in each of the provinces of Canada and the respective policies, regulations and rules under such laws or “forward-looking statements” within the meaning of the U.S. Private Securities Litigation Reform Act of 1995 (collectively, “forward-looking information”). The words “anticipates”, “believes”, “budget”, “could”, “estimates”, “expects”, “forecasts”, “intends”, “may”, “might”, “plans”, “projects”, “schedule”, “should”, “will”, “would” and similar expressions are often intended to identify forward-looking information, although not all forward-looking information contains these identifying words. Specific forward-looking information in this document includes, but is not limited to, statements relating to: the future growth, results of operations, performance, business prospects and opportunities of the Corporation; expectations regarding earnings and cash flow; expectations regarding credit ratings and the maintenance thereof; statements relating to renewable energy credits expected to be generated and sold; tax credits expected to be available and/or received; the expected timeline for regulatory approvals and permits; the expected approval timing and cost of various transactions; expectations and plans with respect to current and planned capital projects; expectations with respect to revenues pursuant to energy production hedges; ongoing and planned acquisitions, projects and initiatives, including expectations regarding costs, financing, results and expected completion dates; expectations regarding the Corporation’s corporate development activities and the results thereof; the resolution of legal and regulatory proceedings; expected demand for renewable sources of power; government procurement opportunities; expected capacity of and energy sales from new energy projects; business plans for APUC’s subsidiaries and joint ventures; expected future base rates; environmental liabilities; dividends to shareholders; and the timing for closing of pending acquisitions, including the acquisitions of Ascendant and New York American Water. All forward-looking information is given pursuant to the “safe harbour” provisions of applicable securities legislation.

The forecasts and projections that make up the forward-looking information contained herein are based on certain factors or assumptions which include, but are not limited to: the receipt of applicable regulatory approvals and requested rate decisions; the absence of material adverse regulatory decisions being received and the expectation of regulatory stability; the absence of any material equipment breakdown or failure; availability of financing on commercially reasonable terms and the stability of credit ratings of the Corporation and its subsidiaries; the absence of unexpected material liabilities or uninsured losses; the continued availability of commodity supplies and stability of commodity prices; the absence of sustained interest rate increases or significant currency exchange rate fluctuations; the absence of significant operational or supply chain disruptions or liability due to natural disasters, diseases or catastrophic events; the continued ability to maintain systems and facilities to ensure their continued performance; the absence of a severe and prolonged downturn in general economic, credit, social and market conditions; the successful and timely development and construction of new projects; the absence of material capital project or financing cost overruns; sufficient liquidity and capital resources; the continuation of observed weather patterns and trends; the absence of significant counterparty defaults; the continued competitiveness of electricity pricing when compared with alternative sources of energy; the realization of the anticipated benefits of the Corporation’s acquisitions and joint ventures; the absence of a material change in political conditions or public policies and directions by governments materially negatively affecting the Corporation; the ability to obtain and maintain licenses and permits; the absence of a material decrease in market energy prices; the absence of material disputes with taxation authorities or changes to applicable tax laws; continued maintenance of information technology infrastructure and the absence of a material breach of cyber security; favourable relations with external stakeholders; and favourable labour relations.

The forward-looking information contained herein is subject to risks, uncertainties and other factors that could cause actual results to differ materially from historical results or results anticipated by the forward-looking information. Factors which could cause results or events to differ materially from current expectations include, but are not limited to: changes in general economic, credit, social and market conditions; changes in customer energy usage patterns and energy demand; global climate change; the incurrence of environmental liabilities; natural disasters and other catastrophic events; the failure of information technology infrastructure and cybersecurity; the loss of key personnel and/or labour disruptions; seasonal fluctuations and variability in weather conditions and natural resource availability; reductions in demand for electricity, gas and water due to developments in technology; reliance on transmission systems owned and operated by third parties; issues arising with respect to land use rights and access to the Corporation’s facilities; critical equipment breakdown or failure; terrorist attacks; fluctuations in commodity prices; capital expenditures; reliance on subsidiaries; the incurrence of an uninsured loss; a credit rating downgrade; an increase in financing costs or limits on access to credit and capital markets; sustained increases in interest rates; currency exchange rate fluctuations; restricted financial flexibility due to covenants in existing credit agreements; an inability to refinance maturing debt on commercially reasonable terms; disputes with taxation authorities or changes to applicable tax laws; failure to identify, acquire, develop or timely place in service projects to maximize the value of PTC qualified equipment; requirement for greater than expected contributions to post-employment
benefit plans; default by a counterparty; inaccurate assumptions, judgments and/or estimates with respect to asset retirement obligations; failure to maintain required regulatory authorizations; changes to health and safety laws, regulations or permit requirements; failure to comply with and/or changes to environmental laws, regulations and other standards; compliance with new foreign laws or regulations; failure to identify attractive acquisition or development candidates necessary to pursue the Corporation’s growth strategy; delays and cost overruns in the design and construction of projects, including as a result of the 2019 novel coronavirus outbreak in China (the “2019 Novel Coronavirus”); loss of key customers; failure to realize the anticipated benefits of acquisitions or joint ventures; Atlantica or the Corporation’s joint venture with Abengoa acting in a manner contrary to the Corporation’s interests; a drop in the market value of Atlantica’s ordinary shares; facilities being condemned or otherwise taken by governmental entities; increased external stakeholder activism adverse to the Corporation’s interests; and fluctuations in the price and liquidity of the Common Shares. Although the Corporation has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking information, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. Some of these and other factors are discussed in more detail under the heading “Enterprise Risk Factors”.

Forward-looking information contained herein is made as of the date of this document and based on the plans, beliefs, estimates, projections, expectations, opinions and assumptions of management on the date hereof. There can be no assurance that forward-looking information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such forward-looking information. Accordingly, readers should not place undue reliance on forward-looking information. While subsequent events and developments may cause the Corporation’s views to change, the Corporation disclaims any obligation to update any forward-looking information or to explain any material difference between subsequent actual events and such forward-looking information, except to the extent required by applicable law. All forward-looking information contained herein is qualified by these cautionary statements.

**Non-GAAP Financial Measures**

The terms “Net Utility Sales” and “Net Energy Sales” are used in this AIF. These terms are not recognized measures under U.S. GAAP. There is no standardized measure of “Net Utility Sales” or “Net Energy Sales”; consequently, APUC’s method of calculating these measures may differ from methods used by other companies and therefore may not be comparable to similar measures presented by other companies. A calculation and analysis of “Net Utility Sales” and “Net Energy Sales” can be found in APUC’s Management’s Discussion and Analysis (“MD&A”) for the year ended December 31, 2019 (which may be found on SEDAR at www.sedar.com and on EDGAR at www.sec.gov/edgar) under the headings “Regulated Services Group – 2019 Regulated Services Group Operating Results” and “Renewable Energy Group – 2019 Renewable Energy Group Operating Results”. Such calculations and analysis are incorporated by reference herein.

**Net Utility Sales**

Net Utility Sales is a non-GAAP measure used by investors to identify utility revenue after commodity costs, either natural gas or electricity, where these commodity costs are generally included as a pass through in rates to its utility customers. APUC uses Net Utility Sales to assess its utility revenues without the effects of fluctuating commodity costs as such costs are predominantly passed through and paid for by utility customers. APUC believes that analysis and presentation of Net Utility Sales on this basis will enhance an investor’s understanding of the revenue generation of its utility businesses. It is not intended to be representative of revenue as determined in accordance with U.S. GAAP.

**Net Energy Sales**

Net Energy Sales is a non-GAAP measure used by investors to identify revenue after commodity costs used to generate revenue where such revenue generally increases or decreases in response to increases or decreases in the cost of the commodity used to produce that revenue. APUC uses Net Energy Sales to assess its revenues without the effects of fluctuating commodity costs as such costs are predominantly passed through either directly or indirectly in the rates that are charged to customers. APUC believes that analysis and presentation of Net Energy Sales on this basis will enhance an investor’s understanding of the revenue generation of its businesses. It is not intended to be representative of revenue as determined in accordance with U.S. GAAP.
1. CORPORATE STRUCTURE

1.1 Name, Address and Incorporation

Algonquin Power & Utilities Corp. ("APUC") was originally incorporated under the Canada Business Corporations Act on August 1, 1988 as Traduction Militech Translation Inc. Pursuant to articles of amendment dated August 20, 1990 and January 24, 2007, the Corporation amended its articles to change its name to Société Hydrogénique Incorporée – Hydrogenics Corporation and Hydrogenics Corporation – Corporation Hydrogénique, respectively. Pursuant to a certificate and articles of arrangement dated October 27, 2009, the Corporation, among other things, created a new class of common shares, transferred its existing operations to a newly formed independent corporation, exchanged new common shares for all of the trust units of Algonquin Power Co. ("APCo") and changed its name to Algonquin Power & Utilities Corp. The head and registered office of APUC is located at Suite 100, 354 Davis Road, Oakville, Ontario L6J 2X1.

Unless the context indicates otherwise, references in this AIF to the “Corporation” refer collectively to APUC, its direct or indirect subsidiary entities and partnership interests held by APUC and its subsidiary entities.

1.2 Intercorporate Relationships

Most of the Corporation’s business is conducted through subsidiary entities, including those entities which hold project assets. The following represents a summarized organizational chart for the Corporation.

![Organizational Chart](chart.png)

The following table outlines the Corporation’s significant subsidiaries, and excludes certain other subsidiaries. The assets and revenues of the excluded subsidiaries did not individually exceed 10%, or in the aggregate exceed 20%, of the total consolidated assets or total consolidated revenues of the Corporation as at December 31, 2019. The voting securities of each subsidiary are held in the form of common shares, share quotas or partnership interests in the case of partnerships and their foreign equivalents, and units in the case of trusts.
<table>
<thead>
<tr>
<th>Significant Subsidiaries</th>
<th>Description</th>
<th>Jurisdiction</th>
<th>Ownership of Voting Securities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RENEWABLE ENERGY GROUP</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAGES (AY Holdings) B.V. (&quot;AY Holdings&quot;)</td>
<td>Owner of equity interest in Atlantica</td>
<td>Netherlands</td>
<td>100%</td>
</tr>
<tr>
<td>Algonquin Power Co. (or APCo dba Liberty Power)</td>
<td></td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>St. Leon Wind Energy LP (&quot;St. Leon LP&quot;)</td>
<td>Owner of the St. Leon Wind Facility</td>
<td>Manitoba</td>
<td>100%</td>
</tr>
<tr>
<td>Minonk Wind, LLC</td>
<td>Owner of the Minonk Wind Facility</td>
<td>Delaware</td>
<td>100%&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>Senate Wind, LLC</td>
<td>Owner of the Senate Wind Facility</td>
<td>Delaware</td>
<td>100%&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>GSG 6, LLC</td>
<td>Owner of the Shady Oaks Wind Facility</td>
<td>Illinois</td>
<td>100%</td>
</tr>
<tr>
<td>Odell Wind Farm, LLC</td>
<td>Owner of the Odell Wind Facility</td>
<td>Minnesota</td>
<td>100%&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>Deerfield Wind Energy, LLC</td>
<td>Owner of the Deerfield Wind Facility</td>
<td>Delaware</td>
<td>100%&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>Great Bay Solar I, LLC</td>
<td>Owner of the Great Bay Solar Facility</td>
<td>Maryland</td>
<td>100%&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>REGULATED SERVICES GROUP</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liberty Utilities (Canada) Corp.</td>
<td></td>
<td>Canada</td>
<td>100%</td>
</tr>
<tr>
<td>Liberty Utilities Co.</td>
<td></td>
<td>Delaware</td>
<td>100%</td>
</tr>
<tr>
<td>Liberty Utilities (CalPeco Electric) LLC</td>
<td>Owner of the CalPeco Electric System</td>
<td>California</td>
<td>100%</td>
</tr>
<tr>
<td>Liberty Utilities (Granite State Electric) Corp.</td>
<td>Owner of the Granite State Electric System</td>
<td>New Hampshire</td>
<td>100%</td>
</tr>
<tr>
<td>Liberty Utilities (EnergyNorth Natural Gas) Corp.</td>
<td>Owner of the EnergyNorth Gas System</td>
<td>New Hampshire</td>
<td>100%</td>
</tr>
<tr>
<td>Liberty Utilities (Midstates Natural Gas) Corp.</td>
<td>Owner of the Midstates Gas Systems</td>
<td>Missouri</td>
<td>100%</td>
</tr>
<tr>
<td>Liberty Utilities (Peach State Natural Gas) Corp.</td>
<td>Owner of the Peach State Gas System</td>
<td>Georgia</td>
<td>100%</td>
</tr>
<tr>
<td>Liberty Utilities (New England Natural Gas Company) Corp.</td>
<td>Owner of the New England Gas System</td>
<td>Delaware</td>
<td>100%</td>
</tr>
<tr>
<td>The Empire District Electric Company (&quot;Empire&quot;)</td>
<td>Owner of, among other things, (i) electric and water distribution and electric transmission utility assets serving locations in Missouri, Kansas, Oklahoma and Arkansas, (ii) the Mid-West wind development project, and (iii) the Ozark Beach hydro facility in Missouri, the Riverton, Energy Center, and Stateline No. 3 natural gas-fired power generation facilities in Kansas and Missouri, the Asbury coal-fired power generation facility in Missouri and a 60% interest in the Stateline combined cycle gas facility in Missouri</td>
<td>Kansas</td>
<td>100%</td>
</tr>
<tr>
<td>The Empire District Gas Company (&quot;EDG&quot;)</td>
<td>Operator of a natural gas distribution utility in Missouri</td>
<td>Kansas</td>
<td>100%</td>
</tr>
<tr>
<td>Liberty Utilities (Litchfield Park Water &amp; Sewer) Corp.</td>
<td>Owner of the LPSCo System</td>
<td>Arizona</td>
<td>100%</td>
</tr>
<tr>
<td>Liberty Utilities (St. Lawrence Gas) Corp.</td>
<td>Owner of the St. Lawrence Gas System</td>
<td>New York</td>
<td>100%</td>
</tr>
<tr>
<td>Liberty Utilities (Canada) LP (&quot;Liberty Utilities Canada&quot;)</td>
<td></td>
<td>Canada</td>
<td>100%</td>
</tr>
<tr>
<td>Liberty Utilities (Gas New Brunswick) LP</td>
<td>Owner of the New Brunswick Gas System</td>
<td>New Brunswick</td>
<td>100%</td>
</tr>
</tbody>
</table>

<sup>1</sup> The Corporation holds 100% of the managing interests, with 100% of the non-managing interests held by third party partners.
2. GENERAL DEVELOPMENT OF THE BUSINESS

The Corporation owns and operates a diversified portfolio of regulated and non-regulated generation, distribution, and transmission utility assets which are expected to deliver predictable earnings and cash flows. APUC seeks to maximize total shareholder value through real per share growth in earnings and cash flow to support a growing dividend and share price appreciation.

One of APUC’s financial objectives is to maintain a BBB flat investment grade credit rating. To realize that objective, APUC monitors and strives to adhere to various targets communicated by rating agencies related to their assessments of financial and business risk at APUC. These targets currently include expectations that APUC satisfies specific leverage targets and continues to generate no less than approximately its current portion of EBITDA (as determined by applicable rating agency methodologies) from APUC’s Regulated Services Group. In pursuing its growth strategy, APUC evaluates investment opportunities with a view to preserving its ability to achieve these rating agency targets, which would require APUC to grow its Regulated Services Group at least in the same proportions as the Renewable Energy Group. The business mix target may from time to time require APUC to grow its Regulated Services Group or implement other strategies in order to pursue investment opportunities within its Renewable Energy Group.

The Corporation’s operations are organized across two primary business units consisting of: the Regulated Services Group, which primarily owns and operates a portfolio of regulated assets in the United Stated and Canada; and the Renewable Energy Group, which primarily owns and operates a diversified portfolio of renewable generation assets. The Corporation also undertakes development activities for both business units, working with a global reach to identify, develop, acquire, or invest in renewable power generating facilities, regulated utilities and other complementary infrastructure projects. See “Description of the Business – Corporate Development Activities” for more information.

<table>
<thead>
<tr>
<th>Renewable Energy Group</th>
<th>Regulated Services Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind Power Generation</td>
<td>Electric Utilities</td>
</tr>
<tr>
<td>Solar Generation</td>
<td>Natural Gas Utilities</td>
</tr>
<tr>
<td>Hydro Electric Generation</td>
<td>Water and Wastewater Utilities</td>
</tr>
<tr>
<td>Thermal Co-Generation</td>
<td>Natural Gas and Electric Transmission</td>
</tr>
</tbody>
</table>

**Renewable Energy Group**

The Renewable Energy Group generates and sells electrical energy produced by its diverse portfolio of renewable power generation and clean power generation facilities primarily located across the United States and Canada. The Renewable Energy Group seeks to deliver continuing growth through development of new greenfield power generation projects and accretive acquisitions of additional electric energy generation facilities.

In addition to directly owned and operated assets, the Corporation also holds an approximate 44.2% indirect beneficial interest in Atlantica Yield plc (“Atlantica”), a NASDAQ-listed company that acquires, owns and manages a diversified international portfolio of contracted renewable energy, power generation, electric transmission and water assets. APUC reports its investment in Atlantica under the Renewable Energy Group.

**Regulated Services Group**

The Regulated Services Group operates a diversified portfolio of regulated utility systems throughout the United States and Canada serving approximately 804,000 connections. The Regulated Services Group seeks to provide safe, high quality and reliable services to its customers and to deliver stable and predictable earnings to the Corporation. In addition to encouraging and supporting organic growth within its service territories, the Regulated Services Group seeks to deliver continued growth in earnings through accretive acquisitions of additional utility systems.

2.1 Three Year History

The following is a description of the general development of the business of the Corporation over the last three fiscal years.
2.1.1 Fiscal 2017

Corporate

(i) Agreement for the Formation of AAGES and Purchase of Interest in Atlantica Yield plc

On November 1, 2017, APUC announced that it had entered into a memorandum of understanding to create AAGES to identify, develop, and construct clean energy and water infrastructure assets with a global focus. Concurrently with the agreement to create the AAGES joint venture, APUC announced that it had entered into a definitive agreement to purchase from Abengoa an indirect 25% equity interest in Atlantica (the “Initial Atlantica Investment”) for a total purchase price of approximately $608 million, or $24.25 per ordinary share of Atlantica, plus a contingent payment of up to $0.60 per share payable two years after closing, subject to certain conditions.

(ii) November 2017 Offering of Common Shares

Coincident with the announcement of the Abengoa/Atlantica transaction on November 1, 2017, APUC announced a bought deal offering of Common Shares. The offering, including the exercise in full of the underwriters’ over-allotment option, closed on November 10, 2017. A total of 43,470,000 Common Shares were sold at a price of $13.25 per share for gross proceeds of approximately C$576 million.

(iii) Corporate Credit Facilities

During the third quarter of 2017, APUC’s senior unsecured bilateral revolving facility was increased from C$65 million to C$165 million. This facility was terminated in July 2019. During the fourth quarter of 2017, APUC entered into a term credit agreement in the amount of $600 million with a maturity of December 21, 2018 to support the closing of its transactions with Abengoa and Atlantica, as described above. On March 7, 2018, APUC drew $600 million under this facility, which was subsequently repaid in 2019.

Renewable Energy Group

(i) Issuance of C$300 million of Senior Unsecured Debentures

On January 17, 2017, the Renewable Energy Group issued C$300 million of senior unsecured debentures bearing interest at 4.09% and with a maturity date of February 17, 2027. The debentures were sold at a price of C$99.929 per C$100.00 principal amount. Concurrent with the offering, the Renewable Energy Group entered into a cross currency swap, coterminous with the debentures, to economically convert the Canadian dollar denominated offering into U.S. dollars.

(ii) Completion of Deerfield Wind Facility

On February 21, 2017, the 149 MW Deerfield Wind Facility achieved commercial operation, on March 14, 2017, the Renewable Energy Group acquired the remaining 50% interest in the project, and on May 10, 2017, tax equity financing of approximately $167 million was completed. The project has a 20-year PPA with a local electric distribution utility.

(iii) Renewable Energy Group Credit Facilities

On April 19, 2017, the Renewable Energy Group entered into a C$150 million senior unsecured bilateral revolving credit facility with a maturity date of August 19, 2018 (“Liberty Power Bilateral Facility”). On October 6, 2017, the Renewable Energy Group amended its existing revolving credit facility, increasing the size to $500 million. Concurrently the Liberty Power Bilateral Facility was fully repaid and terminated.

Regulated Services Group

(i) Completion of the Empire District Electric Acquisition

On January 1, 2017, the Regulated Services Group successfully completed its acquisition of Empire for an aggregate purchase price of approximately $2.4 billion including the assumption of approximately $0.9 billion of debt. Empire is a Joplin, Missouri based regulated electric, gas and water utility serving customers in Missouri, Kansas, Oklahoma, and Arkansas.

For more detail about the Empire business, see “Description of the Business – Regulated Services Group – Description of Operations – Electric Distribution Systems” below.

(ii) Completion of Financing Related to the Empire Acquisition

On March 1, 2017, the Regulated Services Group’s financing entity entered into an agreement to issue $750 million of senior unsecured notes by way of private placement. The notes are of varying maturities ranging from three to 30 years with a
weighted average life of approximately 15 years and an effective weighted average interest expense of 3.6% (inclusive of interest rate hedges). The closing of the offering occurred on March 24, 2017, with the proceeds used to repay the balance of the acquisition facility for the acquisition of Empire and other existing indebtedness.

(iii) Completion of the Luning Solar Facility

On February 15, 2017, the Regulated Services Group obtained control of a 50 MW solar generating facility located in Mineral County, Nevada (the “Luning Solar Facility”) for approximately $110.9 million. The net capital cost of the project is included in the rate base of the CalPeco Electric System as energy produced from the project is being consumed by the utility’s customers.

(iv) Definitive Agreement to Acquire St. Lawrence Gas Company, Inc.

On August 31, 2017, the Regulated Services Group announced the entering into of a definitive agreement with Enbridge Gas Distribution Inc., a subsidiary of Enbridge Inc., to acquire St. Lawrence Gas Company, Inc. (“SLG”), a regulated natural gas distribution utility located in northern New York State, and its subsidiaries. The transaction was structured as a stock purchase in exchange for a cash purchase price of $70 million less the total amount of outstanding SLG indebtedness which was to be assumed by the Regulated Services Group at closing and was expected to be approximately $10 million and was subject to customary working capital adjustments.

2.1.2 Fiscal 2018

Corporate

(i) Acquisition of Interest in Atlantica

On March 9, 2018, the Corporation completed the formation of AAGES and the Initial Atlantica Investment closed. APUC filed a business acquisition report dated April 16, 2018 in respect of the Initial Atlantica Investment which may be found on SEDAR at www.sedar.com and on EDGAR at www.sec.gov/edgar.

On November 27, 2018, the Corporation, through its indirect subsidiary AY Holdings, completed the purchase of an additional stake of 16,530,348 ordinary shares of Atlantica from Abengoa (the “Additional Atlantica Investment”), for a total purchase price of $20.90 per share, comprised of a payment on closing of approximately $305 million, with up to $40 million payable at a later date contingent on satisfaction of certain conditions. APUC filed a business acquisition report dated January 22, 2019 in respect of the Additional Atlantica Investment which may be found on SEDAR at www.sedar.com and on EDGAR at www.sec.gov/edgar.

The funds for the $305 million paid on closing of the Additional Atlantica Investment were drawn on the APUC’s credit agreement dated November 19, 2012, as amended from time to time (the “Corporation Credit Facility”). On November 28, 2018, AAGES obtained a secured credit facility in the amount of $306.5 million (the “AAGES Secured Credit Facility”) and subscribed to a preference share ownership interest in AY Holdings, which subscription proceeds were distributed by AY Holdings to APUC and used by APUC to repay the $305 million drawn under the Corporation Credit Facility. The AAGES Secured Credit Facility is collateralized through a pledge of all of the Atlantica ordinary shares held by AY Holdings.

(ii) April 2018 Offering of Common Shares

Coincident with the initial announcement of the Additional Atlantica Investment on April 17, 2018, APUC announced an offering of 37,505,274 Common Shares at a price of C$11.85 per share for gross proceeds of approximately C$444.4 million. The Common Shares were offered and sold directly to certain institutional investors. The offering closed on April 24, 2018.

(iii) Offering of Subordinated Notes

On October 17, 2018, APUC completed an underwritten offering of 6.875% fixed-to-floating subordinated notes – Series 2018-A (the “2018 Subordinated Notes”). Under the offering, APUC issued $287.5 million aggregate principal amount of 2018 Subordinated Notes, including the exercise in full of the underwriters’ over-allotment option. The 2018 Subordinated Notes are redeemable by APUC on or after October 17, 2023 and have a maturity date of October 17, 2078. Upon the occurrence of certain bankruptcy-related events in respect of APUC, the 2018 Subordinated Notes automatically convert into preferred shares, Series F of APUC (the “Series F Shares”). See “Description of Capital Structure – Subordinated Notes” for more detail on the 2018 Subordinated Notes and see “Description of Capital Structure – Preferred Shares” for more detail on the Series F Shares.
(iv) December 2018 Offering of Common Shares
On December 20, 2018, APUC completed an offering of 12,536,350 Common Shares at a price of C$13.76 per share for gross proceeds of approximately C$172.5 million. The Common Shares were offered and sold directly to certain institutional investors.

Renewable Energy Group
(i) Increase to Letter of Credit Facility
On February 16, 2018, the Renewable Energy Group increased availability under its revolving letter of credit facility to $200 million.

(ii) Completion of Great Bay Solar Facility and Amherst Island Wind Facility
On March 29, 2018, the 75 MW Great Bay Solar Facility achieved commercial operation. On June 15, 2018, the 75 MW Amherst Island Wind Facility achieved commercial operation.

Regulated Services Group
(i) Regulated Services Group Credit Facilities
On February 23, 2018, the Regulated Services Group increased availability under its senior unsecured syndicated revolving credit facility from $200 million to $500 million. The Regulated Services Group simultaneously terminated a $200 million revolving credit facility previously available to Empire.

(ii) Definitive Agreement to Acquire Enbridge Gas New Brunswick Limited Partnership
On December 3, 2018, the Regulated Services Group entered into an agreement to purchase Enbridge Gas New Brunswick Limited Partnership ("EGNB"), a subsidiary of Enbridge Inc., along with its general partner, for C$331 million, subject to certain customary adjustments (the "EGNB Acquisition"). EGNB is a regulated utility that provides natural gas to approximately 12,000 customers in 12 communities across New Brunswick and operates approximately 1,200 kilometres of natural gas distribution pipeline.

2.1.3 Fiscal 2019
Corporate
(i) At-the-Market Equity Program
On February 28, 2019, APUC announced that it established an at-the-market equity program that allows APUC to issue up to $250 million (or the equivalent in Canadian dollars) of Common Shares from treasury to the public from time to time, at APUC’s discretion, at the prevailing market price when issued on the TSX, the NYSE or on any other existing trading market for the Common Shares in Canada or the United States.

(ii) Offering of Subordinated Notes
On May 23, 2019, APUC completed an underwritten offering of 6.2% fixed-to-floating subordinated notes – Series 2019-A (the "2019 Subordinated Notes"). Under the offering, APUC issued $350 million aggregate principal amount of 2019 Subordinated Notes. The 2019 Subordinated Notes are redeemable by APUC on or after July 1, 2024 and have a maturity date of July 1, 2079. Upon the occurrence of certain bankruptcy-related events in respect of APUC, the 2019 Subordinated Notes automatically convert into preferred shares, Series G of APUC (the “Series G Shares”). See “Description of Capital Structure – Subordinated Notes” for more detail on the 2019 Subordinated Notes and see “Description of Capital Structure – Preferred Shares” for more detail on the Series G Shares.

(iii) October 2019 Offering of Common Shares
In October 2019, APUC completed an underwritten marketed public offering of approximately 26.3 million of its Common Shares, including the exercise of a portion of the over-allotment option, at a price to the public of $13.50 per share, for gross proceeds of $354.4 million.
(iv) Corporate Credit Facilities
In July 2019, APUC entered into a new $500 million senior unsecured revolving credit facility with a syndicate of lenders. In conjunction with the new facility, APUC’s C$165 million credit facility was terminated. In May 2019, APUC fully repaid the remaining outstanding balance of $187 million on its corporate term facility in conjunction with the issuance of the 2019 Subordinated Notes. In October 2019, APUC entered into a new $75 million uncommitted bilateral letter of credit facility.

Renewable Energy Group
(i) Issuance of C$300 million of Senior Unsecured Debentures
On January 29, 2019, APCo issued C$300 million of senior unsecured debentures bearing interest at 4.60% and with a maturity date of January 29, 2029. The debentures were sold at a price of C$999.52 per C$1,000.00 principal amount. This was the Renewable Energy Group’s inaugural “green bond” offering, with the debentures being issued under the APCo Green Bond Framework, which was adopted in January 2019.

Regulated Services Group
(i) Definitive Agreement to Acquire Bermuda Electric Light Company
On June 3, 2019, APUC announced the execution of an implementation agreement with Ascendant Group Limited ("Ascendant") pursuant to which it is expected to acquire Ascendant and its subsidiaries. Ascendant, through its major subsidiary, Bermuda Electric Light Company Limited ("BELCO"), is the sole electric utility providing safe and reliable regulated electrical generation, transmission and distribution services to approximately 63,000 residents and businesses in Bermuda. Under the terms of the transaction, Ascendant’s shareholders will receive $36.00 per common share, representing an aggregate share purchase price of approximately $365 million. Closing of the transaction is expected to occur in 2020 subject to customary closing conditions and the receipt of certain regulatory and government approvals in Bermuda.

(ii) Completion of the EGNB Acquisition
On October 1, 2019, the Regulated Services Group completed the EGNB Acquisition for C$331 million. The New Brunswick Gas System is a regulated utility that provides natural gas to approximately 12,000 customers in 12 communities across New Brunswick and operates approximately 1,200 kilometres of natural gas distribution pipeline.


(iii) Completion of the Acquisition of SLG
On November 1, 2019, the Regulated Services Group completed the acquisition of SLG for approximately $61.8 million. The St. Lawrence Gas System is a regulated utility that provides natural gas to approximately 17,000 customers in the state of northern New York and operates approximately 1,100 km of natural gas distribution pipeline.

For more detail on the St. Lawrence Gas System, see “Description of the Business – Regulated Services Group – Description of Operations – Natural Gas Distribution Systems” below.

(iv) Definitive Agreement to Acquire New York American Water
On November 20, 2019, the Regulated Services Group entered into a stock purchase agreement with American Water Works Company, Inc. ("American Water"), to purchase American Water’s regulated operations in the State of New York ("New York American Water") for a purchase price of $608 million, subject to customary adjustments. New York American Water is a regulated water and wastewater utility serving over 125,000 customer connections across seven counties in southeastern New York. Operations include approximately 1,270 miles of water mains and distribution lines with 98% of customers in Nassau County on Long Island. Closing of the transaction is expected to occur sometime in 2021 subject to customary closing conditions and the receipt of regulatory approval.

(v) Regulated Services Group Commercial Paper Program
In July 2019, the Regulated Services Group established a commercial paper program pursuant to which the Regulated Services Group can issue up to $500 million of unsecured notes with maturities not exceeding 270 days from the issuance date.
2.1.4 Recent Developments – 2020

Renewable Energy Group

(i) Increase to Letter of Credit Facility

On February 24, 2020, the Renewable Energy Group increased availability under its revolving letter of credit facility to $350 million.

Regulated Services Group

(ii) Issuance of C$200 million of Senior Unsecured Debentures

On February 14, 2020, Liberty Utilities Canada issued C$200 million of senior unsecured debentures bearing interest at 3.315% and with a maturity date of February 14, 2050. The debentures were issued at par.

3. DESCRIPTION OF THE BUSINESS

3.1 Renewable Energy Group

The Renewable Energy Group generates and sells electrical energy produced by its diverse portfolio of renewable power generation and clean power generation facilities located across the United States and Canada. The Renewable Energy Group seeks to deliver continuing growth through development of new greenfield power generation projects and accretive acquisitions of additional electrical energy generation facilities.

The Renewable Energy Group owns and operates hydroelectric, wind, solar and thermal facilities with a combined gross generating capacity of approximately 1.5 GW. Approximately 84% of the electrical output is sold pursuant to long-term contractual arrangements which as of December 31, 2019 had a production-weighted average remaining contract life of approximately 14 years.

3.1.1 Description of Operations

Wind Power Generating Facilities

(i) Production Method

The energy of the wind can be harnessed for the production of electricity through the use of wind turbines. A wind energy system transforms the kinetic energy of wind into electrical energy that can be delivered to the electricity distribution system for use by energy consumers. When the wind blows, large rotor blades on the wind turbines are rotated, generating energy that is converted to electricity. Most modern wind turbines consist of a rotor mounted on a shaft connected to a speed increasing gear box and high-speed generator. Monitoring systems control the angle of and power output from the rotor blades to ensure that the rotor blades are turned to face the wind direction, and generally to monitor the wind turbines installed at a facility. The Renewable Energy Group owns and operates 12 wind power generating facilities with a combined gross generating capacity of approximately 1,130 MW.

(ii) Principal Markets and Distribution Methods

The principal markets for the Renewable Energy Group’s significant operational wind facilities in Canada are Manitoba (the St. Leon Wind Facility) and Ontario (the Amherst Island Wind Facility). The electricity generated by the wind turbines is transmitted to the transmission system of the purchaser, being Manitoba Hydro in the case of the St. Leon Wind Facility and the IESO in the case of the Amherst Island Wind Facility. The principal markets for the Renewable Energy Group’s wind facilities in the United States are PJM, MISO and ERCOT.

(iii) Selected Facilities

(1) St. Leon Wind Facility

The St. Leon Wind Facility is a 103.9 MW wind powered electrical generating facility located near St. Leon, Manitoba, approximately 150 km southwest of Winnipeg. The St. Leon Wind Facility entered into a PPA with Manitoba Hydro effective June 17, 2006 under which all electricity produced is sold to Manitoba Hydro. The term of the PPA is 20 years, with a price renewal term of up to an additional five years.
(2) Shady Oaks Wind Facility

The Shady Oaks Wind Facility is a 109.5 MW wind powered electrical generating facility located in Lee County, Illinois, approximately 80 km west of Chicago. The Shady Oaks Wind Facility is party to a 20-year power sales contract with the largest electric utility in the state of Illinois, Commonwealth Edison. The power sales contract is structured to hedge the preponderance of the Shady Oaks Wind Facility’s production volume against exposure to PJM ComEd Hub current spot market rates. Annual production is subject to contingent curtailment based on certain regulatory constraints of the electricity purchaser. Ancillary services, including capacity, reactive power and RECs, are sold into the PJM market.

(3) Sandy Ridge Wind Facility

The Sandy Ridge Wind Facility is a 50 MW wind powered electrical generating facility located in Centre County, Pennsylvania, 180 km east of Pittsburgh. Sandy Ridge Wind, LLC is party to a long-term energy production hedge (a “Primary Energy Production Hedge”) with respect to the majority of production with J.P. Morgan Ventures Energy Corporation (“JPMVEC”) having a term of 10 years beginning January 1, 2013 and is also party to energy production hedges with another third party for production from 2023 to 2028. Ancillary services, including capacity and RECs, are sold into the PJM market.

(4) Minonk Wind Facility

The Minonk Wind Facility is a 200 MW wind powered electrical generating facility located near Minonk, IL, approximately 200 km southwest of Chicago, Illinois. The Renewable Energy Group first acquired an indirect interest in the Minonk Wind Facility on December 10, 2012. Minonk Wind, LLC is party to a Primary Energy Production Hedge with JPMVEC, having a term of 10 years beginning January 1, 2013 and is also party to energy production hedges with another third party for production from 2023 to 2024. Ancillary services, including capacity, reactive power and RECs, are sold into the PJM market.

(5) Senate Wind Facility

The Senate Wind Facility is a 150 MW wind powered electrical generating facility located near Graham, Texas, approximately 200 km west of Dallas, Texas. Senate Wind, LLC is party to a Primary Energy Production Hedge with JPMVEC, having a term of 15 years beginning January 1, 2013. RECs are sold into the ERCOT market.

(6) Odell Wind Facility

The Odell Wind Facility is a 200 MW wind powered electrical generating facility located near Windom, Minnesota, approximately 230 km southwest of Minneapolis, Minnesota. Odell Wind Farm LLC has entered into a PPA with an investment grade utility under which all electricity and RECs produced at the facility are sold. The term of the PPA is 20 years.

(7) Deerfield Wind Facility

The Deerfield Wind Facility is a 149 MW wind powered electrical generating facility located in central Michigan, approximately 180 km north of Detroit, Michigan. All energy, capacity, and RECs produced at the facility are sold to a local electric distribution utility pursuant to a 20-year PPA.

(8) Amherst Island Wind Facility

The Amherst Island wind facility is a 75 MW wind powered electric generating facility located on Amherst Island near the village of Stella, approximately 15 km southwest of Kingston, Ontario (the “Amherst Island Wind Facility”). The electricity generated by the project is being sold under a 20-year PPA awarded as part of the IESO FIT program. The Renewable Energy Group’s interest in the project was previously held in a joint venture with the EPC contractor. In April 2019, the Renewable Energy Group acquired the balance of the joint venture interest not previously owned and in May 2019 entered into a separate partnership, in which the Corporation holds a majority interest, with Atlantica to hold the Amherst Island Wind Facility.

Solar Power Generating Facilities

(i) Production Method

Solar power is the conversion of sunlight into electricity, either directly using photovoltaics or indirectly using concentrated solar power. The Corporation’s solar generation facilities utilize photovoltaics which convert light into electric current using the photovoltaic effect. The array of a photovoltaic power system produces direct current power which fluctuates with the sunlight’s intensity. For practical use, commercial installations convert this direct current generated power to alternating current through the use of inverters. The Renewable Energy Group owns and operates four solar power generating facilities with a combined gross generating capacity of approximately 115 MW.
(ii) **Principal Markets and Distribution Methods**

The principal markets for the Renewable Energy Group’s operational solar facilities are Ontario, California and PJM. The electricity generated by the solar panels is transmitted via electrical collection lines to the facility substation for subsequent delivery to the distribution/transmission system under control of the local distribution company and the ISO.

(iii) **Selected Facilities**

(1) **Bakersfield I Solar Facility**

The Bakersfield I Solar Facility is a 20 MW ground mounted photovoltaic solar powered electric generating facility that uses single axis trackers to optimize the site’s generating efficiency. The site is located near Bakersfield, California, 150 km northwest of Los Angeles, California. The Bakersfield I Solar Facility achieved commercial operation in April 2015 and has a fixed rate PPA with an investor-owned utility with a term of 20 years from commencement of commercial operation.

(2) **Great Bay Solar Facility**

The Great Bay Solar Facility is a 75 MW solar powered electric generating facility comprising four sites located in Somerset County in southern Maryland. All energy from the project is sold to the U.S. Government Services Administration pursuant to a 10-year PPA, with a 10 year extension option. All RECs from the project are retained by the project company and sold into the Maryland market.

**Hydroelectric Generating Facilities**

(i) **Production Method**

A hydroelectric generating facility consists of a number of key components, including a dam, intake structure, electromechanical equipment consisting of a turbine(s) and a generator(s). A dam structure is required to create or increase the natural elevation difference between the upstream reservoir and the downstream tailrace, as well as to provide sufficient depth within the reservoir for an intake. Water flows are conveyed from the upstream reservoir to the generating equipment via a penstock or headrace canal and an intake structure. Turbine(s) and generator(s) transform the hydraulic energy into electrical energy. The water which has flowed through the hydraulic turbine(s) is discharged back to the natural watercourse. A transmission line is often required to interconnect a facility with the grid. The majority of hydroelectric generating facilities are also equipped with remote monitoring equipment, which allows the facility to be monitored and operated from a remote location. The Renewable Energy Group owns and operates 18 hydroelectric power generating facilities with a combined gross generating capacity of approximately 115 MW.

(ii) **Principal Markets and Distribution Methods**

The principal markets in which the Renewable Energy Group operates hydroelectric generating facilities in Canada are Alberta, Ontario, New Brunswick and Québec. In the U.S., the principal market is Maine. The majority of generated hydroelectricity is conveyed from the relevant facility to the purchasers under the terms of long-term PPAs. The electricity is generally transferred by transmission line from the generating facility to the delivery point for the purchaser, and it is distributed through the grid to end user customers of the purchaser.

(iii) **Selected Facility**

(1) **Tinker Hydro Facility**

The Tinker Hydro Facility is located approximately 8 km north of Perth-Andover, New Brunswick and is situated near the mouth of the Aroostook River. The facility has a total nameplate capacity of approximately 34.5 MW.

As part of the generation assets in New Brunswick, the Corporation owns an electrical transmission system used to interconnect the Tinker Hydro Facility to the New Brunswick transmission network, provide transmission service to Perth Andover Electric Light Commission, and provide export/import capacity between Maine and New Brunswick.

The output of the Tinker Hydro Facility is actively marketed together with any applicable environmental attributes less any associated transportation costs. Additional energy and applicable environmental attributes are purchased from the market to supplement the energy generated from the Tinker Hydro Facility in order to service customer demand.
Thermal (Cogeneration) Electric Generating Facilities

(i) Production Method
Cogeneration is the simultaneous production of electricity and thermal energy such as hot water or steam from a single fuel source. The steam produced is normally required by an associated or nearby commercial facility, while the electricity generated is sold to a utility or used within the facility. Cogeneration provides facilities with greater efficiency, greater reliability and increased process flexibility than conventional generation methods. The Renewable Energy Group owns and operates two thermal electric power generating facilities with a combined gross generating capacity of approximately 130 MW.

(ii) Principal Markets and Distribution Methods
The principal markets for the Corporation’s cogeneration facilities are California and Connecticut. The electricity produced from these facilities is conveyed from the relevant facility to the electricity markets either under the terms of long-term contracts or according to ISO rules. In addition to grid sales of electricity and power, electricity and thermal energy are also sold to onsite or adjacent third-party thermal host facilities for use in production.

(iii) Selected Facilities

(1) Sanger Thermal Facility
The Sanger thermal cogeneration facility is a 56 MW natural gas-fired generating facility located in Sanger, California. The facility has a firm capacity agreement with an investor-owned utility expiring in 2021. The agreement calls for delivery of 38 MW of firm capacity. Following the expiry of the current firm capacity agreement, a new offtake agreement for 19 MW with a local municipality will continue through to the end of 2021.

(2) Windsor Locks Thermal Facility
The Windsor Locks thermal cogeneration facility (the “Windsor Locks Thermal Facility”) is a 71 MW natural gas-fired generating facility located in Windsor Locks, Connecticut. The Windsor Locks Thermal Facility supplies thermal steam energy and a portion of electrical generation to Ahlstrom Corporation pursuant to a ground lease and an energy services agreement. Payments under the energy services agreement are fully indexed to the cost of natural gas consumed by the Windsor Locks Thermal Facility. The additional installed capacity at the site is committed to the ISO-NE market in the day ahead energy market, and the capacity and reserve markets as appropriate.

3.1.2 Specialized Skill and Knowledge
The Renewable Energy Group’s employees have extensive experience in the independent power industry in Canada and the United States. The production of energy from all facilities requires specialized skill and knowledge in relation to such facilities and their component parts, and the Renewable Energy Group employs various personnel, and occasionally uses outside contractors, who have such skill and knowledge.

3.1.3 Competitive Conditions
Deregulation has increased the demand for privately generated power from a variety of sources, including fossil fuels, waste, wind, water and solar. With deregulation and opening of competition in the electricity marketplace, there may continue to be an increased opportunity for the energy customer to choose the type of generation producing the electricity.

Unlike electricity generated by fossil fuels such as natural gas and coal which are subject to potentially dramatic and unexpected price swings due to disruptions in supply or abnormal changes in demand, the supply of hydroelectric, wind and solar power is generally not subject to commodity fuel price volatility or risk. In addition, generation of the above forms of renewable power generally does not involve significant ongoing capital and operating costs to ensure strict compliance with environmental regulations, which is a significant advantage over power generated by burning waste or utilizing landfill gases.

Taking into account capital costs, wind and solar power has generally been more expensive than traditional forms of generated power. However, in recent years costs have decreased with the increased demand for renewable energy, market competitiveness and improvements in generating technology. With production tax incentives, investment tax incentives, RPS and improved equipment capacity factors, both wind and solar energy have achieved parity with market pricing for electricity in many jurisdictions.
The Renewable Energy Group believes that future opportunities for power generation projects will continue to arise given that many jurisdictions continue to increase targets for renewable and other clean power generation projects.

The Renewable Energy Group is positioned to take advantage of this demand for increased renewable energy, given that a significant portion of its assets are from renewable sources.

3.1.4 Cycles and Seasonality

(i) Wind Power Generating Facilities

The Renewable Energy Group’s wind generation facilities are impacted by seasonal fluctuations and year to year variability of the wind resource. During the fall and spring periods, winds are generally stronger than during the summer period. The ability of these facilities to generate income may be impacted by naturally occurring changes in wind patterns and wind strength.

(ii) Solar Power Generating Facilities

The Renewable Energy Group’s solar generation facilities are impacted by seasonal fluctuations and year to year variability in solar radiance. For instance, there are more daylight hours in the summer than there are in the winter, resulting in higher production in the summer months. The ability of these facilities to generate income may be impacted by naturally occurring changes in solar radiance.

(iii) Hydroelectric Generating Facilities

The Renewable Energy Group’s hydroelectric operations are impacted by seasonal fluctuations and year to year variability of the available hydrology. These assets are primarily “run-of-river” and as such fluctuate with natural water flows. During the winter and summer periods, flows are generally lower, while during the spring and fall periods flows are generally higher. The ability of these assets to generate income may be impacted by changes in water availability or other material hydrologic events within a watercourse. Year to year, the level of hydrology varies impacting the amount of power that can be generated in a year.

The Renewable Energy Group attempts to mitigate the above noted natural resource fluctuation risks by acquiring or developing generating stations in different geographic locations.

3.2 Regulated Services Group

The Regulated Services Group operates a diversified portfolio of rate-regulated utilities throughout Canada and the United States that, as at December 31, 2019, provided distribution services to approximately 804,000 connections in the natural gas, electric, water and wastewater sectors, with an approximate regional breakdown as follows.

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<thead>
<tr>
<th></th>
<th>West</th>
<th>Central</th>
<th>East</th>
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<tbody>
<tr>
<td>Natural gas distribution</td>
<td>50,000</td>
<td>128,500</td>
<td>240,500</td>
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<tr>
<td>Electrical distribution</td>
<td>97,000</td>
<td>2,000</td>
<td>—</td>
</tr>
<tr>
<td>Wastewater collection</td>
<td>43,000</td>
<td>26,000</td>
<td>—</td>
</tr>
<tr>
<td>Total</td>
<td>190,000</td>
<td>329,000</td>
<td>285,000</td>
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The Regulated Services Group’s electrical distribution utility systems and related transmission and generation assets are located in the states of Arkansas, California, Kansas, Missouri, New Hampshire, and Oklahoma. The Regulated Services Group’s natural gas distribution utility systems are located in the province of New Brunswick and the states of Georgia, Illinois, Iowa, Massachusetts, Missouri, New Hampshire and New York. The Regulated Services Group’s water distribution and wastewater collection utility systems are located in the states of Arizona, Arkansas, California, Illinois, Missouri and Texas. The Regulated Services Group also owns and manages generating assets with a gross capacity of approximately 1.7 GW and has investments in generating assets with approximately 0.3 GW of net generation capacity.
3.2.1 Description of Operations
Water Distribution and Wastewater Collection Systems
(i) Method of Providing Services and Distribution Methods
A water utility services company provides regulated utility water supply and/or wastewater collection and treatment services to its customers.

A water utility sources, treats and stores potable water and subsequently distributes it to its customers through a network of buried pipes (distribution mains). The raw water for human consumption is sourced from the ground and extracted through wells or from surface water such as lakes or rivers. The water is treated to potable water standards that are specified in federal and state regulations and which are typically administered and enforced by a state or local agency. Following treatment, the water is either pumped directly into the distribution system or pumped into storage reservoirs from which it is subsequently pumped into the distribution system. This system of wells, pumps, storage vessels and distribution infrastructure is owned and maintained by the private utility. The fees or rates charged for water are comprised of a fixed charge component plus a variable fee based on the volume of water used. Additional fees are typically chargeable for other services such as establishing a connection, late fees and reconnects.

A wastewater utility collects wastewater from its customers and transports it through a network of collection pipes, lift stations and manholes to a centralized facility where it is treated, rendering it suitable for discharge to the environment or for reuse, usually as irrigation. The wastewater is ultimately delivered to a treatment plant. Primary treatment at the plant consists of the screening out of larger solids, floating material and other foreign objects and, at some facilities, grit removal. These removed materials are hauled to a landfill. Secondary treatment at the plant consists of biological digestion of the organic and other impurities which is performed by beneficial bacteria in an oxygen enriched environment. Excess and spent bacteria are collected from the bottom of the tanks, digested and/or dewatered, and the resulting solids are sent to landfill or to land application as a soil amendment. The treated water, referred to as “effluent”, is then used for irrigation or groundwater recharging or is discharged by permit into adjacent surface water. The standards to which this wastewater is treated are specified in each treatment facility’s operating permit and the wastewater is routinely tested to ensure its continuing compliance therewith. The effluent quality standards are based on federal and state regulations which are administered, and continuing compliance is enforced by the state agency to which federal enforcement powers are delegated.

(ii) Principal Markets and Regulatory Environments
The Regulated Services Group’s water and wastewater facilities are located in the United States in the states of Arizona, Arkansas, California, Illinois, Missouri and Texas. The water and wastewater utilities are generally subject to regulation by the public utility commissions of the states in which they operate. The respective public utility commissions have jurisdiction with respect to rate, service, accounting procedures, issuance of securities, acquisitions and other matters. These utilities generally operate under cost-of-service regulation as administered by these state authorities. The utilities generally use a historic or forward-looking test year in the establishment of rates for the utility and pursuant to this method the determination of the rate of return on approved rate base, recovery of depreciation on plant, together with all reasonable and prudent operating costs, establishes the revenue requirement upon which each utility’s customer rates are determined.

Rate cases ensure that a particular facility appropriately recovers its operating costs and has the opportunity to earn a rate of return on its capital investment as allowed by the regulatory authority under which the facility operates. The Corporation monitors the rates of return on each of its water and wastewater utility investments to determine the appropriate time to file rate cases in order to ensure it earns the regulatory approved rate of return on its investments. Rates are approved by the agency to provide the utility the opportunity, but not the guarantee, to earn a reasonable return on its investment after recovering its prudently incurred operating expenses.

(iii) Selected Facilities
(1) LPSCo System
The LPSCo System, located in and around the city of Goodyear 15 miles west of Phoenix, Arizona has a service area that includes the City of Litchfield Park and sections of the cities of Goodyear and Avondale as well as portions of unincorporated Maricopa County. The wastewater system’s Palm Valley Water Reclamation Facility has permitted treatment capacity of 6.5 million gallons per day.
(2) Liberty Park Water System

Liberty Utilities (Park Water) Corp. ("Liberty Park Water") owns and operates two regulated water utilities engaged in the production, treatment, storage, distribution and sale of water in Southern California. Liberty Park Water provides, owns and operates the water system in central Los Angeles. Liberty Utilities (Apple Valley Ranchos Water) Corp. (wholly-owned by Liberty Park Water) owns and operates the water system in Apple Valley (the “Liberty Park Water System”).

**Electric Distribution Systems**

(i) Method of Providing Services and Distribution Methods

Electric distribution is the final stage in the delivery system of providing electricity to end users. An electric distribution utility sources and distributes electricity to its customers through a network of buried or overhead lines. The electricity is sourced from power generation facilities. The electricity is transported from the source(s) of generation at high voltages through transmission lines and is then reduced through transformers to lower voltages at substations. The electricity from the substations is then delivered through distribution lines to the customers where the voltage is again lowered through a transformer for use by the customer.

The rates charged for electric distribution service are comprised of a fixed charge that recovers customer related costs, such as meter readings, and a variable rate component that recovers the cost of generation, transmission and distribution. Other revenues are comprised of fees for other services such as establishing a connection, late fee, reconnections, and energy efficiency programs.

The electrical distribution utilities located in Arkansas, California, Kansas, Missouri, New Hampshire and Oklahoma are subject to state regulation and rates charged by these utilities must be reviewed and approved by their respective state regulatory authorities.

(ii) Principal Markets and Regulatory Environments

The Regulated Services Group operates electrical distribution systems in the states of Arkansas, California, Kansas, Missouri, New Hampshire and Oklahoma under a cost-of-service methodology. The utilities use either an historical test year, adjusted pro-forma for known and measurable changes, in the establishment of their rates, or prospective test years based on expenses expected to be incurred in future periods. Pursuant to these methods, the revenue requirement upon which rates are based is determined by applying an approved return on rate base, and adding depreciation, operating expenses and administrative and general expenses.

Rate cases ensure that a particular utility recovers its operating costs and has the opportunity to earn a reasonable rate of return on its capital investment as allowed by the regulatory authority under which the utility operates. The Corporation monitors the rates of return on its utility investments to determine the appropriate times to file rate cases in order to ensure it earns a reasonable rate of return on its investments. In the case of the CalPeco Electric System, a rate case filing is mandatory every three years.

(iii) Selected Facilities

(1) CalPeco Electric System

The CalPeco Electric System provides electric distribution service to the Lake Tahoe basin and surrounding areas. The service territory, centered on a highly popular tourist destination, has a customer base spread throughout Alpine, El Dorado, Mono, Nevada, Placer, Plumas and Sierra Counties in northeastern California. CalPeco Electric System’s connection base is primarily residential. Its commercial connections consist primarily of ski resorts, hotels, hospitals, schools and grocery stores.

The Corporation has entered into a multi-year services agreement with NV Energy that commenced in January 2016 and will expire at the end of 2020. The services agreement obligates NV Energy to use commercially reasonable efforts to supply the CalPeco Electric System with sufficient renewable power to, when combined with the output of the Luning Solar Facility and the Turquoise Solar Facility, satisfy the current California Renewables Portfolio Standard requirement for the term of the services agreement. The parties are currently discussing a renewal of this agreement, which may contemplate additional renewable energy development. The CalPeco Electric System will seek approval from CPUC to recover the costs it will incur under the renewal of this agreement. The CalPeco Electric System has authorization for rate recovery of the costs that the CalPeco Electric System has or will incur to acquire, own and operate the Luning Solar Facility and the Turquoise Solar Facility.
Granite State Electric System

The Granite State Electric System provides distribution service in southern and northwestern New Hampshire, centered around operating centres in Salem in the south and Lebanon in the northwest. The Granite State Electric System’s customer base consists of a mixture of residential, commercial and industrial customers.

The Granite State Electric System is required to provide electric commodity supply for all customers who do not choose to take supply from a competitive supplier (“Energy Service”) in the New England power market and is allowed to fully recover its costs for the provision and administration of Energy Service under the Energy Service Adjustment Factor, as approved by the NHPUC. The Granite State Electric System must file with the NHPUC twice a year to adjust for market prices of power purchased and is also subject to FERC regulation.

Empire District Electric System

Based in Joplin, Missouri, Empire is a regulated utility providing electric, natural gas and water service in parts of Missouri, Kansas, Oklahoma and Arkansas. As part of its electric segment, it provides water service to three towns in Missouri. The vertically-integrated regulated electricity operations of Empire represent the majority of its operating revenues and assets. The largest urban area served is the city of Joplin, Missouri, and its immediate vicinity. Empire also operates a fibre optics business. The utility portions of the business are subject to regulation by the MPSC, the KCC, the OCC, the APSC and FERC.

Natur Gas Distribution Systems

(i) Method of Providing Services and Distribution Methods

Natural gas is a fossil fuel composed almost entirely of methane (a hydrocarbon gas) usually found in deep underground reservoirs formed by porous rock. In making its journey from the wellhead to the customer, natural gas may travel thousands of miles through interstate pipelines owned and operated by pipeline companies. Along the route, the natural gas may be stored underground in depleted oil and gas wells or other natural geological formations for use during seasonal periods of high demand. Interstate pipelines interconnect with other pipelines and other utility systems and offer system operators flexibility in moving the gas from point to point. The interstate pipeline companies are regulated by the FERC. Typically, the distribution network operates pipelines (including transmission and distribution pipelines), gate stations, district regulator stations, peak shaving plants and natural gas meters. The gas distribution utilities owned by the Regulated Services Group are subject to state regulation and rates charged by these facilities may be reviewed and altered by the state regulatory authorities from time to time.

(ii) Principal Markets and Regulatory Environments

The Regulated Services Group owns and operates natural gas distribution systems, under cost-of-service regulation in the states of Illinois, Iowa, Missouri, Georgia, Massachusetts, New Hampshire and New York and the province of New Brunswick. In establishing rates, the natural gas utilities use either a historical test year that is adjusted on a pro-forma basis for known and measurable changes or a prospective test year based on expenses expected to be incurred in a future period, which is the methodology utilized in New Brunswick and Illinois. Pursuant to the prospective test year method, the revenue requirement upon which rates are based is determined by applying an approved return on rate base, and adding depreciation, operating expenses, and administrative and general expenses.

Rate cases ensure that a particular facility appropriately recovers its operating costs and has the opportunity to earn a reasonable rate of return on its capital investment as allowed by the regulatory authority under which the facility operates. The Corporation monitors the rates of return on its utility investments to determine the appropriate times to file rate cases, with the goal of earning a reasonable rate of return on its investments.

(iii) Selected Facilities

(1) EnergyNorth Gas System

The EnergyNorth Gas System is a regulated natural gas utility providing natural gas distribution services in 30 communities covering five counties in New Hampshire. Its franchise service area includes the communities of Nashua, Manchester and Concord. The EnergyNorth Gas System’s customer base consists of a mixture of residential, commercial, industrial and transportation customers.

In its rate case completed during 2018, the rates of the EnergyNorth Gas System were authorized to be decoupled, which means that, going forward, fluctuations in weather will have less impact on revenues.
(2) Empire District Gas System

EDG is engaged in the distribution of natural gas in Missouri serving customers in northwest, north central and west central Missouri. A PGA allows EDG to recover from its customers, subject to audit and final determination by regulators, the cost of purchased gas supplies and related carrying costs associated with EDG’s use of natural gas financial instruments to hedge the purchase price of natural gas. This PGA allows EDG to make rate changes periodically (up to four times) throughout the year in response to weather conditions and supply demands, rather than in one possibly extreme change per year.

(3) Peach State Gas System

The Peach State Gas System is a regulated natural gas system providing natural gas distribution services in 13 communities covering six counties in Georgia. Its franchise service area includes the communities of Columbus, Gainesville, Waverly Hall, Oakwood, Hamilton and Manchester. The Peach State Gas System’s customer base consists of a mixture of residential, commercial, industrial and transportation customers.

The Peach State Gas System’s rates have been reviewed and updated annually through a tariff provision called the Georgia Rate Adjustment Mechanism. This mechanism allowed for the annual review of cost recoveries and the setting of rate base returns with a target of 10.7% return on equity and a range of 10.5% to 10.9%. In early 2020, Peach State Gas System will file its first rate case which will reset the return on equity target and range. In its rate case filing, Peach State expects to request the continuation of the Georgia Rate Adjustment Mechanism.

Georgia allows full recovery of all gas costs (including commodity price, transportation, reservation and demand costs, hedging costs, storage costs).

(4) New England Gas System

The New England Gas System is a regulated natural gas utility providing natural gas distribution services in six communities located in the southeastern portion of Massachusetts. The New England Gas System’s customer base consists of a mixture of residential, commercial, and industrial customers.

The cost of gas is fully recoverable from customers through the Gas Adjustment Factor (“GAF”) when billed to “firm” gas customers included in approved tariffs by the MDPU. The GAF is adjusted twice annually and more frequently under certain circumstances.

(5) Midstates Gas Systems

The Midstates Gas Systems own regulated natural gas utilities providing natural gas distribution services to approximately 203 communities in the states of Illinois, Iowa and Missouri, with a mix of residential, commercial, industrial and transportation customers. The franchise service area includes the communities of Virden, Vandalia, Harrisburg and Metropolis in Illinois, Keokuk in Iowa, and Butler, Kirksville, Canton, Hannibal, Jackson, Sikeston, Malden and Caruthersville in Missouri.

Illinois, Iowa and Missouri allow full recovery of all gas costs (including commodity price, transportation, reservation and demand costs, hedging costs, and storage costs). The rate is adjusted monthly in Illinois and Iowa with an annual reconciliation. In Missouri, the rate is adjusted annually with allowance to file quarterly. In Missouri and Illinois, mechanisms exist to allow for the recovery of the revenue requirement approved by the regulator. In Missouri, the weather normalization adjustment mechanism allows for the adjustment in revenue due to weather and in Illinois, the volume balancing adjustment mechanism allows for the recovery of revenue due to variances in the volume of gas used.

(6) New Brunswick Gas System

The New Brunswick Gas System is regulated by the NB Energy Board and has a distribution network that includes approximately 1,200 kilometers of natural gas pipeline, and provides service to customers in 12 communities in New Brunswick. The NB Energy Board's regulatory activities in the natural gas sector are primarily in relation to the New Brunswick Gas System which is the exclusive holder of the natural gas distribution franchise for the Province of New Brunswick, which expires in 2044 and is extendable for an additional 25 year period.

For rate cases, the NB Energy Board can review all facets of the operations but primarily focuses on the approval of the previous calendar year’s regulatory financial statements, future test year budgets and other decisions like customer retention and incentive programs, load retention rate proposals, return on equity, debt structure and rate class reviews.
The St. Lawrence Gas System is a regulated natural gas utility in the business of distributing natural gas to customers in northern New York State across St. Lawrence County, Franklin County and a portion of Lewis County. The St. Lawrence Gas System’s customer base consists of a mixture of residential, commercial, industrial, and electric generation customers.

In a traditional rate case filing, the filing includes historical operating results (test year) and a 12-month forecast for the period the rates will be in effect (rate year). More commonly, the St. Lawrence Gas System will endeavor to settle the rate case filing, in which case there will be a multi-year plan in which the rate base and revenue requirement is adjusted for subsequent years within the plan. The St. Lawrence Gas System has a revenue decoupling mechanism which applies to residential and commercial customers within sales and transportation service types. This mechanism reconciles actual delivery service revenue to allowed delivery service revenues, which effectively adjusts the revenue for weather, energy efficiency, and customer numbers.

Natural Gas and Electric Transmission

(i) Method of Providing Services and Transmission Methods

Pipelines offer a variety of services under their FERC tariffs to include firm and interruptible transportation, along with other services to provide commercial markets additional flexibility. Some examples of these types of services would be park and loan, pooling and balancing services. In addition, firm service tariff features would also provide additional features to support secondary market activity to include, but not limited to capacity assignment, capacity releases, segmentation and renewal options.

Electric transmission is the bulk transportation of generated electricity over long distances from a generating site, such as a power plant, to an electrical substation. Transmission lines move large amounts of power at a high voltage level to a substation for voltage step-down and on to a lower voltage distribution network resulting in electricity delivered to homes and businesses. Transmission services obtained through the FERC-governed OATT include network and point-to-point transmission service along with other ancillary services. Some examples of these types of services would be spinning and non-spinning reserves, black-start capability, regulation and voltage support and system control and dispatch.

(ii) Principal Markets and Regulatory Environments

Interstate natural gas pipeline transmission assets are regulated primarily by the FERC under the Natural Gas Act. Under this framework, this agency authorizes and certifies all construction, and or abandonment of interstate gas pipeline facilities, requires certificate holders, once operational, to establish and maintain an OATT and publicly post capacity available for transportation, and the agency periodically reviews, under just and reasonable standards, the tariff rates to be charged by the certificate holder. In addition, the FERC prescribes operating and safety standards to be followed along with other federal agencies such as Department of Transportation and the Occupational Safety and Health Administration.

Empire’s transmission rates and services and electric wholesale sales of electric energy in interstate commerce and its facilities are subject to the jurisdiction of the FERC, under the Federal Power Act. Wholesale rate recovery of transmission costs, as with wholesale rate recovery of any other cost, is subject to the FERC review.

The operations and rates of APUC’s transmission facility in New Brunswick are regulated by the NB Energy Board. It is entitled to recover the transmission revenue requirement, pursuant to the transmission tariff administered by New Brunswick Power Corporation. Any increase to its revenue requirement would result in an increase to the transmission rates under the OATT.

(iii) Selected Facilities

(1) Empire Transmission Facilities

The Empire electric transmission facilities are located within a four state area of Missouri, Kansas, Oklahoma and Arkansas and primarily consist of 22 miles of 345 kV lines, 405 miles of 161 kV lines, 750 miles of 69 kV lines and 82 miles of 34.5 kV lines.

Empire is a member of the SPP which spans an area from the Canadian border in Montana and North Dakota in the north to parts of New Mexico, Texas and Louisiana in the south. The transmission facilities are offered for service under an OATT approved by the FERC and administered by SPP. Service requests are placed in the SPP Open Access Same-Time Information System (OASIS) and is evaluated by SPP for available capacity. SPP determines who is offered available transmission capacity subject to the SPP Tariff and SPP Market Rules and is offered on a non-discriminatory basis. Service requests can be either point-to-point or network service, where network service is used for serving electric load. Empire is subject to four different
states regulatory bodies, the Midwest Reliability Organization regional entity for NERC compliance, SPP Market Rules, and the FERC.

### 3.2.2 Specialized Skill and Knowledge

The Regulated Services Group requires specialized knowledge of its utility systems, including electrical, gas, water and wastewater. Upon acquiring a new utility system, the Regulated Services Group will typically retain the existing employees with such specialized skill and knowledge. In addition, the Regulated Services Group will add, when required, additional trained utility personnel at its corporate offices to support the expanded portfolio of utility assets.

### 3.2.3 Competitive Conditions

The Regulated Services Group’s utility businesses have geographic monopolies in their service territories. The Regulated Services Group has developed in-house regulatory expertise in order to effectively interact with the state regulators in the various jurisdictions in which it operates. The Regulated Services Group believes that the relationship with regulators is unique to each state and therefore is best delivered by local managers who work in the service territory. The local regulatory teams meet with regulatory agencies on a regular basis to review regulatory policies, service delivery strategies, operating results and rate making initiatives.

### 3.2.4 Cycles and Seasonality

#### (i) Water and Wastewater Systems

Demand for water is affected by weather conditions including temperature and precipitation. For certain service areas, water usage during the summer months is significantly greater than the winter months primarily because of the outdoor water usage associated with irrigation as well as the water used for other purposes including swimming pools and cooling systems.

When either the amount or frequency of precipitation is significantly above average, water usage may decrease, resulting in reduced operating revenues. Drought conditions arise when the amount and frequency of precipitation is significantly below average for an extended period of time. Drought conditions may lead to voluntary and mandatory restrictions on water usage and thereby impact the Corporation’s ability to recover its fixed costs in delivering clean, safe, and reliable water to customers at reasonable rates.

The Regulated Services Group attempts to mitigate the risk of reduced water usage by seeking regulatory mechanisms in rate case proceedings. Certain regulatory jurisdictions have approved regulatory mechanisms that address changes in the actual recorded water usage as compared to the authorized water usage. For example, for the Liberty Park Water System, the water revenue adjustment mechanism tracks the difference between the CPUC authorized commodity revenue and the actual recorded commodity revenue to ensure recovery of fixed costs that are recovered through the commodity or quantity charge. The purpose of the mechanism is to de-couple water usage from revenues. Not all regulatory jurisdictions in which the Regulated Services Group operates have approved mechanisms to mitigate reduced water usage and the resulting reduction in revenues.

#### (ii) Electricity Systems

The CalPeco Electric System’s demand for energy sales fluctuate depending on weather conditions. The CalPeco Electric System is a winter peaking utility. Above normal snowfall in the Lake Tahoe area brings more tourists and increases demand for electricity. The CalPeco Electric System has implemented a BRRBA rate mechanism that removes the annual variations of recorded revenues to ensure that it recovers its authorized base revenues (gross revenues less fuel, purchased power, and other non-base revenues) over each rate case cycle.

The Granite State Electric System experiences peak loads in both the winter and summer seasons, due to heating and cooling loads associated with New England weather. The competitive market for power supply is managed by the ISO-NE. The Energy Service price for power may fluctuate as a result of the weather, but those costs are passed through directly to customers.

The Empire District Electric System experiences peak loads in both the winter and summer seasons, due to heating and cooling loads associated with weather in its service territory. The Energy Service price for power may fluctuate as a result of the weather, but those costs are passed through directly to customers and as a result does not have a material financial impact.
(iii) Natural Gas Systems

The Regulated Services Group’s primary demand for natural gas from its natural gas distribution systems is driven by the seasonal heating requirements of its residential, commercial and industrial customers. The colder the weather, the greater the demand for natural gas to heat homes and businesses. As such, the natural gas distribution systems’ demand profiles typically peak in the winter months of January and February and decline in the summer months of July and August. Year to year variability also occurs depending on how cold the weather is in any particular year.

The Regulated Services Group attempts to mitigate the above noted fluctuations by seeking regulatory mechanisms during rate case proceedings. Certain jurisdictions have approved constructs to mitigate demand fluctuations. For example, at the Peach State Gas System, EnergyNorth Gas System and Midstates Gas Systems, a weather normalization adjustment is applied to customer bills that adjusts commodity rates to stabilize the revenues of the utility for changes in billing units attributable to weather patterns. Most regulatory jurisdictions in which the Regulated Services Group operates have approved mechanisms to mitigate gas demand fluctuations.

3.3 Corporate Development Activities

The Corporation undertakes development activities with a global reach to identify, develop and construct renewable power generating facilities, power transmission lines, water infrastructure assets and other complementary infrastructure projects, and to invest in electric, natural gas, water distribution and wastewater collection utility systems.

The Corporation has identified an approximately $9.2 billion development pipeline consisting of approximately $6.7 billion of investment in its Regulated Services Group and approximately $2.5 billion of investments in its Renewable Energy Group through the end of 2024.

3.3.1 Development of Renewable Energy Assets

The Renewable Energy Group works to identify, develop and construct new power generating facilities and transmission lines, as well as to identify and acquire existing projects that would be complementary and accretive to the Renewable Energy Group’s existing portfolio. The Renewable Energy Group is committed to working proactively with all stakeholders including local communities. The Renewable Energy Group believes that future opportunities for power generation projects will continue to develop as new targets are set for renewable and other clean power generation projects.

The Renewable Energy Group has successfully advanced a number of projects and has been awarded or acquired a number of PPAs and/or long-term hedging arrangements. The projects identified are at various stages of development, and have advanced to a stage where the resolutions to major project uncertainties are probable, but not certain, and it is expected that the project will meet management’s risk adjusted return expectations.

The Renewable Energy Group’s five-year $2.5 billion development pipeline consists of investments in renewable generation projects in North America and indirect international investments. The following table represents the Renewable Energy Group’s development and construction projects:

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Location</th>
<th>Anticipated Size (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projects in Construction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Altavista Solar Project&lt;sup&gt;1, 2&lt;/sup&gt;</td>
<td>Virginia</td>
<td>80</td>
</tr>
<tr>
<td>Great Bay II Solar Project</td>
<td>Maryland</td>
<td>45</td>
</tr>
<tr>
<td>Maverick Creek Wind Project&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Texas</td>
<td>490</td>
</tr>
<tr>
<td>Sugar Creek Wind Project&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Illinois</td>
<td>202</td>
</tr>
<tr>
<td>Val-Éo Wind Project&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Québec</td>
<td>24</td>
</tr>
<tr>
<td>Total Projects in Construction</td>
<td></td>
<td>841</td>
</tr>
<tr>
<td>Total Projects in Development</td>
<td></td>
<td>600</td>
</tr>
<tr>
<td>Total Projects in Construction and Development</td>
<td></td>
<td>1,441</td>
</tr>
</tbody>
</table>

<sup>1</sup> The project is currently held in a joint venture, of which the Renewable Energy Group and a third party each own a 50% equity interest.

<sup>2</sup> Power from the project will be sold, in part, to Facebook Operations, LLC, a wholly-owned subsidiary of Facebook, Inc., pursuant to a 12-year power purchase agreement.
3.3.2 Development of Regulated Services Assets

The Regulated Services Group’s strategy is to grow its business organically and through acquisitions. The approximately five-year $6.7 billion Regulated Services asset pipeline consists of investments in organic rate base capital expenditures, capital expenditures related to improving the choice and efficiency of service provided to customers, pending acquisitions and initiatives focused on transition to green energy ("Greening the Fleet").

Organic rate base capital expenditures are primarily related to the maintenance and expansion of existing rate base assets, including: the construction of transmission and distribution main replacements, work on new and existing substation assets and initiatives relating to the safety and reliability of the electric and gas systems.

Capital expenditures related to improving quality and efficiency of service to the Corporation’s customers include the implementation of new customer information systems, advanced metering systems and behind the meter solutions.

Pending acquisitions include Ascendant and New York American Water.

The Greening the Fleet initiatives consist primarily of the Mid-West Wind Development Project (described below) and other initiatives related to the transition to renewable energy generation at our existing regulated facilities, including transitioning the CalPeco Electric System to 100% renewable energy and, following the anticipated closing of the acquisition of Ascendant, reducing the reliance on diesel generation at BELCO by replacing it with a combination of renewable energy generation and storage.

(i) Mid-West Wind Development Project

In 2017, the Regulated Services Group presented a plan to the applicable public utility commissions for an investment in up to 600 MW of strategically located wind energy generation which is forecast to reduce energy costs for its customers. The plan consists of development of an approximately 300 MW wind project in southeastern Kansas, and two approximately 150 MW wind projects in southwestern Missouri.

On May 9, 2019, the APSC issued its order allowing the commencement of construction of the projects. In the fourth quarter of 2018, Empire applied to the MPSC for approval of certificates of convenience and necessity ("CC&N") for the projects. The Commission issued an order approving the CC&N application, effective June 29, 2019.

Liberty Utilities Co. has acquired an interest in the entities that own the two Missouri projects and, in partnership with a third-party developer, will continue development and construction of the two Missouri projects. A second third-party developer is developing the wind project in Kansas. Empire has entered into contracts to acquire the three wind projects upon completion.

Construction of two of the wind projects began in the fourth quarter of 2019 and construction of the third project began in the first quarter of 2020.

(ii) Wataynikaneyap Power Transmission Project

On January 17, 2019, the Regulated Services Group acquired from Fortis Inc. a 9.8% ownership interest in an electricity transmission project located in Northwestern Ontario (the "Wataynikaneyap Power Transmission Project") that is expected to connect 17 remote First Nation communities to the Ontario provincial electricity grid through the construction of approximately 1,800 km of transmission lines. In addition to providing participating First Nations communities ownership in the transmission line, the Wataynikaneyap Power Transmission Project is expected to result in socio-economic benefits for surrounding communities, reduce environmental risk, and lessen greenhouse gas emissions associated with diesel-fired generation currently used in that area.

In April 2019, the Ontario Energy Board approved the leave-to-construct application. Completion of construction financing and issuance of notice to proceed to the EPC contractor occurred in October 2019. The Wataynikaneyap Power Transmission Project is targeted to be complete by the end of 2023.

3.4 Principal Revenue Sources

APUC owns, directly or indirectly, interests in renewable generation facilities, thermal generation facilities, electricity distribution utilities, natural gas and propane distribution utilities, and water distribution and wastewater utilities.
The following provides a breakdown of the Corporation’s total revenue by percentage for the years ended December 31, 2018 and December 31, 2019:

<table>
<thead>
<tr>
<th>% Total Revenue</th>
<th>December 31, 2018</th>
<th>December 31, 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-regulated energy sales</td>
<td>14.3%</td>
<td>15.2%</td>
</tr>
<tr>
<td>Utility electricity sales &amp; distribution</td>
<td>50.5%</td>
<td>48.3%</td>
</tr>
<tr>
<td>Utility natural gas sales &amp; distribution</td>
<td>26.1%</td>
<td>27.0%</td>
</tr>
<tr>
<td>Utility water distribution and wastewater treatment sales &amp; distribution</td>
<td>7.8%</td>
<td>8.0%</td>
</tr>
<tr>
<td>Other revenue¹</td>
<td>1.3%</td>
<td>1.5%</td>
</tr>
</tbody>
</table>

¹ Other revenue includes gas transportation and RECs.

The purchase of electricity and natural gas by the Corporation’s electricity distribution and natural gas distribution systems is a significant revenue driver and component of operating expenses, but these costs are effectively passed through to its customers. As a result, the Corporation uses Net Energy Sales for the Renewable Energy Group (see “Non-GAAP Financial Measures”) and Net Utility Sales for the Regulated Services Group (see “Non-GAAP Financial Measures”) as a more appropriate measure of the results. Adjusting for the impact of these commodity costs, the following provides a breakdown of the Corporation’s Net Energy Sales and Net Utility Sales by percentage for the years ended December 31, 2018 and December 31, 2019:

<table>
<thead>
<tr>
<th>% Net Energy Sales/Net Utility Sales</th>
<th>December 31, 2018</th>
<th>December 31, 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-regulated energy sales</td>
<td>17.9%</td>
<td>19.4%</td>
</tr>
<tr>
<td>Utility electricity sales &amp; distribution</td>
<td>48.7%</td>
<td>45.4%</td>
</tr>
<tr>
<td>Utility natural gas sales &amp; distribution</td>
<td>21.3%</td>
<td>22.7%</td>
</tr>
<tr>
<td>Utility water distribution and wastewater treatment sales &amp; distribution</td>
<td>10.3%</td>
<td>10.4%</td>
</tr>
<tr>
<td>Other revenue¹</td>
<td>1.8%</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

¹ Other revenue includes gas transportation and RECs.

For the Renewable Energy Group, the following provides a breakdown of revenue by percentage for the years ended December 31, 2018 and December 31, 2019:

<table>
<thead>
<tr>
<th>% Revenue</th>
<th>December 31, 2018</th>
<th>December 31, 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind generation</td>
<td>54.0%</td>
<td>59.4%</td>
</tr>
<tr>
<td>Solar generation</td>
<td>7.0%</td>
<td>7.2%</td>
</tr>
<tr>
<td>Hydroelectric generation</td>
<td>17.2%</td>
<td>16.2%</td>
</tr>
<tr>
<td>Thermal generation</td>
<td>17.0%</td>
<td>12.8%</td>
</tr>
<tr>
<td>Other revenue¹</td>
<td>4.8%</td>
<td>4.4%</td>
</tr>
</tbody>
</table>

¹ Other revenue includes RECs.
For the Regulated Services Group, the following provides a breakdown of revenue by percentage for the years ended December 31, 2018 and December 31, 2019:

<table>
<thead>
<tr>
<th>Service Description</th>
<th>December 31, 2018</th>
<th>December 31, 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utility electricity sales &amp; distribution</td>
<td>59.4%</td>
<td>57.4%</td>
</tr>
<tr>
<td>Utility natural gas sales &amp; distribution</td>
<td>30.6%</td>
<td>32.0%</td>
</tr>
<tr>
<td>Utility water distribution and wastewater treatment sales &amp; distribution</td>
<td>9.2%</td>
<td>9.5%</td>
</tr>
<tr>
<td>Other revenue¹</td>
<td>0.8%</td>
<td>1.1%</td>
</tr>
</tbody>
</table>

¹ Other revenue includes gas transportation.

3.5 Environmental Protection

The Corporation’s businesses encompass operations which require adherence to environmental standards imposed by regulatory bodies through licenses, permits, standards, policies and legislation. Failure to operate such businesses in strict compliance with these regulatory standards may expose them to citations, claims, clean-up costs, penalties, and loss of operating licenses and permits.

The Corporation has an environmental management program including environmental policies and procedures that involve long-term environmental monitoring programs, reporting, government liaison and the development and implementation of emergency action plans as related to environmental matters, and environmental and compliance departments with responsibility for monitoring the Corporation and its subsidiaries’ operations.

Environmental protection requirements did not have a significant financial or operational effect on the Corporation’s capital expenditures, earnings and competitive position for the twelve months ended December 31, 2019. Moreover, other regimes that provide incentives and credits for generation of renewable energy and for carbon offsets, such as those described elsewhere in this AIF, are expected to increase the earnings and benefit the competitive position of the Corporation.

The Corporation faces a number of environmental risks that are normal aspects of operating within the renewable power generation, thermal power generation and utilities business segments which have the potential to become environmental liabilities (see “Enterprise Risk Factors – Risks Relating to Operations”).

3.6 Employees

The Corporation’s executive management group consists of ten individuals. As at December 31, 2019, the Corporation employed a total of 2,469 people.

3.7 Foreign Operations

For the twelve months ended December 31, 2019, 98.65% of the revenue of the Regulated Services Group and approximately 66.19% of the revenue of the Renewable Energy Group was generated from operations located in the United States.

3.8 Economic Dependence

The Corporation does not believe it is substantially dependent on any single contractual agreement or set of related agreements.

3.9 Social and Environmental Policies and Commitment to Sustainability

The Corporation is committed to advancing a sustainable energy and water future. The Corporation aims to be a top quartile global utility, known for its dedication to safety and reliability, customer experience, employee engagement, community inclusion, environmental and social responsibility and financial performance.

Sustainability is often defined by a company’s philosophy to operate in an economically, socially and environmentally sustainable manner, while recognizing the interests of its stakeholders. The Corporation believes this philosophy will
contribute to a sustainable future for its investors, communities, environment, customers, employees, governments and business partners. The Corporation has formal policies and procedures that support its commitment to sustainability.

**Oversight of Sustainability**

The mandate of the Board states that in providing oversight of the corporate strategy, the Board will “...review the [strategy] plans in light of management’s assessment of emerging trends, opportunities, the competitive environment, risk issues and significant business practices.” The Board has determined that the mandate of its Corporate Governance Committee includes oversight of the ongoing development and progress of Corporations’ sustainability plan and initiatives, and periodic reporting to the Board on progress related to the plan. The oversight of the Board is an essential step to ensure that sustainability performance is explicitly integrated into APUC’s corporate strategy.

Accountability for developing and managing the Corporation’s sustainability plans and initiatives has been assigned to APUC’s Chief Governance Officer and Corporate Secretary who leads the Corporation’s sustainability team. The mandate of the sustainability team is to ensure that the opportunities and risks relating to sustainability (environmental, social, and governance) as identified by the Corporation are considered and addressed as core components of the strategy and business processes of the organization, and to implement practices and programs throughout the Corporation that support the achievement of its mission.

In September 2018, the Corporation adopted its first Corporate Sustainability Policy. The Sustainability Policy is aligned with the United Nations’ Sustainable Development Goals (SDGs), namely Gender Equality (SDG5), Clean Water and Sanitation (SDG6), Affordable and Clean Energy (SDG7), Decent Work and Economic Growth (SDG8), Sustainable Cities and Communities (SDG11) and Climate Action (SDG13). By embedding these tenets into its decision making, the Corporation is committed to building and operating its business such that it makes a positive and durable contribution to a sustainable energy and water future.

**Social Policies**

The Corporation’s Code of Business Conduct and Ethics is a key component of the Corporation’s sustainability plan. All directors, officers, employees, agents and contractors are required to read the Code of Business Conduct and Ethics and apply the code to their work. Employees are required to complete an annual online test which confirms their compliance with and understanding of the Code of Business Conduct and Ethics.

The Corporation’s sustainability efforts incorporate local spending, local hiring and operational efficiency. The Corporation’s commitment to people is demonstrated through its employee training, learning and development programs, organizational improvements, emergency management programs and community involvement. Policies in place that support the Corporation’s commitment to sustainability include its Diversity Policy, Ethic Reporting Policy and Supplier Code of Conduct.

**Environmental, Health and Safety**

The Corporation’s businesses have safety and environmental compliance policies in place. These policies have been communicated with employees and have been incorporated into their respective Safety Mission Statements and employee manuals. The Corporation’s Environmental and Health and Safety Groups are responsible for developing environmental and safety policies, developing and facilitating environmental and safety training, conducting internal audits of environmental and safety performance, and arranging for third party environmental and safety audits. The Corporation is in the process of implementing an environmental management system designed to provide for the continuous measurement, evaluation and improvement of the Corporation’s management of its environmental compliance, risks and performance. The Corporation has environmental programs in place that promote energy efficiency and responsible water usage, help facilitate habitat conservation to minimize impact, monitor greenhouse gas emissions and promote waste reduction and spill prevention.

**Sustainability Report**

In November 2019, the Corporation released its 2019 Sustainability Report, which sets out its commitment to sustaining energy and water by communicating the Corporation’s strategies, initiatives, and goals relating to the three elements of sustainability: the environment; the social matters important to the Corporation’s strategy and the Corporation’s relationship with its key stakeholder groups including employees, customers and the communities in which it operates and serves; and the governance framework under which the Corporation operates.
3.10 Credit Ratings

The following chart shows credit ratings issued to the Corporation and currently in effect.\(^1\)

<table>
<thead>
<tr>
<th></th>
<th>S&amp;P</th>
<th>DBRS</th>
<th>Fitch</th>
<th>Moody's</th>
</tr>
</thead>
<tbody>
<tr>
<td>APUC - Issuer rating</td>
<td>BBB</td>
<td>BBB</td>
<td>BBB</td>
<td>-</td>
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<tr>
<td>APUC - Preferred Shares (high)</td>
<td>P-3</td>
<td>Pfd-3</td>
<td>-</td>
<td>-</td>
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<tr>
<td>APUC - 2018 Subordinated Notes</td>
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<td>-</td>
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<td>APCo - Issuer rating</td>
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<td>APCo - Senior unsecured debt</td>
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<tr>
<td>Liberty Utilities Co. - Issuer rating</td>
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<td>-</td>
<td>BBB</td>
<td>-</td>
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<tr>
<td>Liberty Utilities Co. - Commercial Paper</td>
<td>A-2</td>
<td>-</td>
<td>F2</td>
<td>-</td>
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<td>Empire - Commercial paper</td>
<td>A-2</td>
<td>-</td>
<td>-</td>
<td>P-2</td>
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1 Credit ratings are intended to provide investors with an independent measure of the credit quality of an issue of securities. Credit ratings are not a recommendation to buy, sell or hold securities of APUC or any of its subsidiaries and do not comment as to market price or suitability for a particular investor. There can be no assurance that a rating will remain in effect for any given period of time or that the rating will not be revised or withdrawn at any time by the rating agency.

2 Issued by Liberty Utilities Finance GP1 and guaranteed by Liberty Utilities Co.

S&P

S&P rates long-term debt instruments and issuers with ratings ranging from “AAA”, which represents an extremely strong capacity of an obligor to meet its financial commitment, to “D”, which means that, in the case of an issue rating, that the issuer is in default or in breach of an imputed promise, and in the case of an issuer rating, that there is a general default and the obligor will fail to pay all or substantially all of its obligations as they become due. A rating of “A” by S&P denotes an obligation somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than obligations in higher-rated categories; however, the obligor’s capacity to meet its financial commitments on the obligation is still strong. A rating of “BBB” by S&P denotes an obligor having adequate capacity to meet its financial commitments; however, adverse economic conditions or changing circumstances are more likely to weaken the obligor’s capacity to meet its financial commitments. A rating of “BB” by S&P is included amongst a range of ratings determined to have significant speculative characteristics. An obligation rated “BB” is less vulnerable to nonpayment than other speculative issues; however, it faces major ongoing uncertainties or exposure to adverse business, financial, or economic conditions that could lead to the obligor having inadequate capacity to meet its financial commitments. S&P ratings from “AA” to “CCC” may be modified by the addition of a plus “+” or minus “−” sign to show relative standing within the major rating categories. The absence of either a plus “+” or minus “−” sign indicates that the rating is in the middle of the category.

S&P rates short-term debt instruments and issuers with ratings ranging from “A-1”, which represents an extremely strong capacity of an obligor to meet its financial commitment, to “D”, which means that the issuer is in default or in breach of an imputed promise. A rating of “A-2” by S&P denotes an obligation somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than obligations in higher-rated categories; however, the obligor’s capacity to meet its financial commitments on the obligation is still satisfactory.
S&P’s Canadian preferred share rating scale serves the Canadian financial markets by expressing preferred share ratings in terms of rating symbols that have been actively used in the Canadian market over a number of years. There is a direct correspondence between the specific ratings assigned on the Canadian preferred share scale and the various rating levels on S&P’s global preferred share rating scale. S&P’s Canadian preferred share rating scale ranges from “P-1”, which represents a very strong capacity of an obligor to meet its financial commitments, to “P-5”, which represents an obligation vulnerable to nonpayment and which is dependent upon favorable business, financial and economic conditions for the obligor to meet its financial commitments. A preferred share rating of “P-3 (high)” is equivalent to a rating of “BB+” on S&P’s global scale (which is discussed above). Ratings from “P-1” to “P-5” may be modified by “high” and “low” grades which indicate relative standing within the major rating categories.

DBRS

DBRS rates debt instruments and issuers with ratings ranging from “AAA”, which represents debt instruments and issuers of the highest credit quality, to “D”, which represents debt instruments for which an issuer has filed under any applicable bankruptcy, insolvency or winding up statute or for which there is a failure to satisfy an obligation after the exhaustion of grace periods. A rating of “BBB” by DBRS denotes an obligor having adequate credit quality; the capacity for the payment of financial obligations is considered acceptable although it may be vulnerable to future events. All rating categories other than “AAA” and “D” also contain subcategories “(high)” and “(low)”. The absence of either a “(high)” or “(low)” designation indicates that the rating is in the middle of the category.

The DBRS preferred share rating scale ranges from “Pfd-1”, which represents a superior credit quality, supported by entities with strong earnings and balance sheet characteristics, to “D”, which represents that an issuer has filed under any applicable bankruptcy, insolvency or winding up statute or is in default per the legal documents. Preferred shares rated “Pfd-3” are of adequate credit quality. While protection of dividends and principal is still considered acceptable, the issuing entity is more susceptible to adverse changes in financial and economic conditions, and there may be other adverse conditions present which detract from debt protection. “High” or “low” grades are used to indicate the relative standing within a rating category. The absence of either a “high” or “low” designation indicates the rating is in the middle of the category.

Fitch

Fitch rates long-term debt instruments and issuers with ratings ranging from “AAA”, which represents the highest credit quality and denotes the lowest expectation of default risk, to “C”, which indicates exceptionally high levels of credit risk, or, in the case of issuer ratings, “D”, which indicates an issuer that in Fitch’s opinion has entered into bankruptcy filings, administration, receivership, liquidation or other formal winding-up procedure or that has otherwise ceased business. A rating of “BBB” by Fitch indicates that expectations of default risk are currently low. The capacity for payment of financial commitments is considered adequate, but adverse business or economic conditions are more likely to impair this capacity. A rating of “BB” by Fitch indicates an elevated vulnerability to credit risk, particularly in the event of adverse changes in business or economic conditions over time; however, business or financial alternatives may be available to allow financial commitments to be met. Ratings from “AA” to “CCC” may be modified by the addition of a plus “+” or minus “-” sign to show relative standing within the major rating categories. The absence of either a plus “+” or minus “-” sign indicates that the rating is in the middle of the category.

Fitch rates short-term debt instruments and issuers with ratings ranging from “F1”, which represents the highest credit quality and denotes the lowest expectation of default risk, to “D”, which indicates an issuer default or the default of a short-term obligation. A rating of “F2” by Fitch indicates that expectations of default risk are currently low. There is considered to be a good capacity for payment of financial commitments. Ratings of “F1” may be modified by the addition of a plus “+” to denote any exceptionally strong credit feature.

Moody’s

Moody’s rates long-term debt instruments and issuers with ratings ranging from “Aaa”, which represents obligations judged to be of the highest quality, subject to the lowest level of credit risk, to “C”, which represents an obligation typically in default, with little prospect for recovery of principal or interest. A rating of “A” by Moody’s denotes obligations judged to be upper-medium grade and subject to low credit risk, while a rating of “Baa” by Moody’s denotes obligations judged to be medium-grade and subject to moderate credit risk and as such may possess certain speculative characteristics. A Moody’s rating of “Aa” through “Caa” may be modified by the addition of numerical modifiers 1, 2 and 3 to show relative standing within the major rating categories. 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 the modifier 3 indicates a ranking in the lower end of that generic rating category.
Short-term obligations and issuers thereof may carry a rating ranging from Prime-1 or “P-1”, which represents an issuer’s superior ability to repay short-term debt obligations, to “Prime-3” or “P-3”, which represents an issuer’s acceptable ability to repay short-term obligations. Issuers may also be rated “Not Prime” or “NP”, which represents that an issuer does not fall within any of the Prime rating categories.

The Corporation has made, or will make, payments to each of S&P, DBRS, Fitch and Moody’s in connection with the assignment of ratings to both the Corporation and its securities. In addition, the Corporation has made customary payments in respect of certain subscription services provided to the Corporation by S&P and Fitch during the last two years.

4. ENTERPRISE RISK FACTORS

The Corporation is subject to a number of risks and uncertainties, certain of which are described in more detail below. The actual effect of any event on the Corporation’s business could be materially different from what is anticipated or described below. The description of risks below does not include all possible risks. See APUC’s MD&A for the year ended December 31, 2019 for additional risks which it faces.

Led by the Chief Compliance and Risk Officer, the Corporation has an established enterprise risk management, or ERM, framework. The Corporation’s ERM framework follows the guidance of ISO 31000 and the COSO Enterprise Risk Management – Integrated Framework. The Corporation’s ERM framework is intended to systematically identify, assess and mitigate the key strategic, operational, financial and compliance risks that may impact the achievement of the Corporation’s current objectives, as well as those inherent to strategic alternatives available to the Corporation. The Corporation’s Board-approved ERM policy details the Corporation’s risk management processes, risk appetite and risk governance structure.

As part of the risk management process, risk registers have been developed across the organization through ongoing risk identification and risk assessment exercises facilitated by the Corporation’s internal ERM team. Key risks and associated mitigation strategies are reviewed by the executive-level Enterprise Risk Management Council and are presented to the Board’s Risk Committee periodically.

Risks are evaluated consistently across the Corporation using a standardized risk scoring matrix to assess impact and likelihood. Financial, reputational and safety implications are among those considered when determining the impact of a potential risk. Risk treatment priorities are established based upon these risk assessments and incorporated into the development of the Corporation’s strategic and business plans.

4.1 Risk Factors Relating to Operations

*The Corporation’s operations involve numerous risks which, if they materialize, could disrupt or adversely affect its business, results of operations, financial position and cash flows.*

The Corporation’s ability to safely and reliably operate, maintain, construct and decommission (as applicable) its power generation facilities, utility systems and other assets involve a variety of risks customary to the power and utilities sector, many of which are beyond the Corporation’s control, including those that arise from:

- severe weather conditions and natural disasters;
- global climate change;
- environmental contamination/wildlife impacts;
- casualty or other significant events such as fires, explosions, security breaches or drinking water contamination;
- commodity supply and transmission constraints or interruptions;
- workplace and public safety events;
- infectious diseases, pandemics and similar public health threats, such as the 2019 Novel Coronavirus;
- loss of key personnel;
- labour disputes;
- employee performance/workforce effectiveness;
- improper or erroneous acts of employees;
- demand (including seasonality);
- loss of key customers;
• reduction in the price received for goods/services;
• reliance on transmission systems and facilities operated by third parties;
• land use rights/access;
• critical equipment breakdown or failure;
• supply chain disruptions;
• lower-than-expected levels of efficiency or operational performance;
• acts by third parties, including cyber-attacks, criminal acts, vandalism, war and acts of terrorism;
• projects with a limited operating history;
• opposition by external stakeholders, including local groups, communities and landowners;
• commodity price fluctuations;
• lower prices for alternative fuel sources;
• obligations to serve; and
• the Corporation’s reliance on subsidiaries.

These and other operating events and conditions could result in service and operational disruptions and may reduce the Corporation’s revenues, increase costs or both, and may materially affect its business, results of operations, financial position, valuation and cash flows, particularly if a situation is not resolved in a timely manner or the financial impacts of restoration are not alleviated through insurance policies or regulated rate recovery.

The Corporation’s generation, distribution and transmission utility assets may be negatively impacted by changes in general economic, credit, social and market conditions.

The Corporation’s generation, distribution and transmission utility assets are affected by energy demand in the jurisdictions in which they operate. That demand may change as a result of fluctuations in general economic conditions, energy prices, employment levels, personal disposable income and housing starts. Significantly reduced energy demand in the Corporation’s service territories could reduce capital spending forecasts, and specifically capital spending related to new customer growth. A reduction in capital spending could, in turn, affect the Corporation’s rate base and earnings growth. A severe prolonged downturn in economic conditions may have an adverse effect on the Corporation’s results of operations, financial condition and cash flows despite regulatory measures, where applicable, available to compensate for reduced demand. In addition, an extended decline in economic conditions could make it more difficult for customers to pay for the utility services they consume, thereby affecting the aging and collection of the utilities’ trade receivables.

Energy conservation, energy efficiency, distributed generation, community choice aggregation and other factors that reduce energy demand could adversely affect the Corporation’s business, financial condition and results of operations.

The emergence of initiatives designed to reduce greenhouse gas emissions and control or limit the effects of climate change has increased the incentive to increase energy efficiency and reduce energy consumption. In addition, significant technological advancements are taking place in the electric industry, including advancements related to self-generation and distributed energy technologies such as fuel cells, micro turbines, wind turbines and solar panels. Adoption of these technologies may increase as a result of government subsidies, improving economics and changing customer preferences. Increased adoption of these practices, requirements and technologies could reduce demand for utility-scale electricity generation, which may adversely affect market prices at which the Renewable Energy Group can sell wholesale electric power.

Increased adoption of these practices may decrease the pool of customers from whom fixed costs would be recovered. If the Regulated Services Group were unable to adjust distribution rates to reflect the reduced energy demand, the Corporation’s business, financial condition and results of operations could be adversely affected.

The Corporation and its facilities, operations and personnel are exposed to the effects of severe weather, natural disasters, diseases, and other catastrophic and force majeure events beyond the Corporation’s control, as well as those that may be caused by climate change, and such events could result in a material adverse effect on the Corporation.

The Corporation’s facilities and operations are exposed to potential interruption and damage, and partial or full loss, resulting from environmental disasters, other seismic activity, equipment failures and the like. There can be no assurance that in the event of an earthquake, hurricane, tornado, fire, flood, ice storm, tsunami, typhoon, terrorist attack, cyber-attack, act of war or other natural, manmade or technical catastrophe, all or some parts of the Corporation’s generation facilities and infrastructure systems will not be disrupted. The occurrence of a significant event which disrupts the ability of the
Corporation’s power generation assets to produce or sell power for an extended period, including events which preclude existing customers under PPAs from purchasing electricity, could have a material negative impact on the Corporation’s business. The Corporation’s assets could be exposed to effects of severe weather conditions, natural and man-made disasters and potentially other catastrophic events. The occurrence of such an event may not release the Corporation from performing its obligations pursuant to PPAs or other agreements with third parties. In addition, certain of the Corporation’s utilities operate in remote and mountainous terrain, where the Corporation’s facilities are at increased risk of loss or damage from fires, floods, washouts, landslides, earthquakes, avalanches and other acts of nature.

An outbreak of infectious disease, a pandemic or a similar public health threat, such as the 2019 Novel Coronavirus outbreak, or a fear of any of the foregoing, could adversely impact the Corporation by causing operating, supply chain and project development delays and disruptions, labour shortages and shutdowns (including as a result of government regulation and prevention measures), and increased costs to the Corporation.

Climate change is predicted to lead to increased frequency and intensity of weather events and related impacts such as storms, wildfires, flooding and storm surge. Extreme weather events create a risk of physical damage to the Corporation’s assets. High winds can damage structures, and cause widespread damage to transmission and distribution infrastructure. Increased frequency and severity of weather events increases the likelihood that the duration of power outages and fuel supply disruptions could increase. Increased intensity of flooding could adversely affect the operations of the Corporation’s hydroelectric generating facilities.

The potential impacts of climate change, such as rising sea levels and larger storm surges from more intense hurricanes, can combine to produce greater damage to coastal located generation and other facilities.

Although assets have been constructed and are operated and maintained to minimize such damage, there can be no assurance these measures will fully mitigate the risk.

Climate change is also characterized by increases in global air temperatures. Increased air temperatures may bring increased frequency and severity of wildfires, including within the Corporation’s service territories in California and the southern United States. Increased air temperatures could also result in decreased efficiencies over time of both generation and transmission facilities.

If it is found to be responsible for such a fire, the Corporation could suffer costs, losses and damages, all or some of which may not be recoverable through insurance, legal, regulatory cost recovery or other processes and could materially affect the Corporation’s business, results of operations and cash flows, including its reputation with customers, regulators, governments and financial markets. Resulting costs could include fire suppression costs, regeneration, timber value, asset replacement costs, increased insurance costs and costs arising from damages and losses incurred by third parties.

In addition, customers’ energy needs vary significantly in response to weather conditions, primarily temperature and humidity. For residential customers, heating and cooling represent their largest energy use. To the extent weather conditions are affected by climate change, customers’ energy use could increase or decrease depending on the duration and magnitude of the changes, which may adversely affect the Corporation’s business, results of operations and cash flows.

The Corporation and its subsidiaries face a number of environmental risks which have the potential to result in significant environmental liabilities.

The Corporation and its subsidiaries face a number of environmental risks that are normal aspects of operating within the power generation and utilities business segments, which have the potential to result in harm to the environment, including wildlife, resulting in significant environmental liabilities and reputational impact. Certain environmental risks associated with the Corporation’s operations include uncontrolled natural gas or contaminant releases (or releases above the permitted limits), generation of hazardous materials, failure to maintain compliance with obligations under permits and licenses (such as continuous emissions monitoring, periodic reporting/source testing, and general performance/operating conditions), acquired legacy environmental liabilities, operations adjustments or liability, and related financial impacts, resulting from wildlife mortality, emissions, including noise, and dam safety.

In addition, the Corporation’s operating subsidiaries generate certain hazardous wastes, which must be managed in accordance with various federal, state and local environmental laws. Under federal and state laws, potential liability for historic contamination of property may be imposed on responsible parties jointly and severally, without fault, even if the activities were lawful when they occurred.
Harming of protected species can result in curtailment of wind project operations as well as delays in construction project schedules and could have a material adverse effect on the Corporation's business, financial condition, results of operation and cash flows.

The operation of energy and transmission projects can adversely affect endangered, threatened or otherwise protected animal species under federal, state or provincial statutes, laws, rules and regulations. Wind projects and transmission and distribution lines involve a risk that protected flying species, such as birds and bats, will be harmed due to collision. Energy generation and transmission facilities result in impacts to protected wildlife, including death caused by collision, electrocution and poisoning. Violations of wildlife protection laws in certain jurisdictions, including violations of certain laws protecting migratory birds and endangered species, may result in civil or criminal penalties, or cessation of certain operations or projects, and could adversely affect the Corporation's financial condition, results of operations and cash flows.

Security breaches, criminal activity, theft, terrorist attacks, cyber-attacks and other threats or incidents relating to the Corporation’s information security could directly or indirectly interfere with the Corporation’s operations, could expose the Corporation or its customers or employees to risk of loss, and could expose the Corporation to liability, regulatory penalties, reputational damage and other harm to its business.

The Corporation relies upon information technology networks, systems and devices to process, transmit and store electronic information, and to manage and support a variety of business processes and activities. The Corporation also uses information technology systems to record, process and summarize financial information and results of operations for internal reporting purposes and to comply with financial reporting, legal and tax requirements. The Corporation’s technology networks, systems and devices collect and store sensitive data, including system operating information, proprietary business information belonging to the Corporation and third parties, as well as personal information belonging to the Corporation’s customers and employees.

The Corporation’s or its third-party vendor’s information systems and information technology networks, devices and infrastructure may be vulnerable to damage, disruptions or shutdowns due to attacks by hackers or breaches due to employee error or malfeasance, disruptions during software or hardware upgrades, telecommunication failures, theft, natural disasters or other similar events. In addition, certain sensitive information and data may be stored by the Corporation in physical files and records on its premises or transmitted to the Corporation verbally, subjecting such information and data to a risk of loss, theft and misuse. The occurrence of any of these events could impact the reliability of the Corporation’s power generation facilities and utility distribution systems; could expose the Corporation, its customers or its employees to a risk of loss or misuse of information; and could result in legal claims or proceedings, liability or regulatory penalties against the Corporation, damage the Corporation’s reputation or otherwise harm the Corporation’s business.

The Corporation cannot accurately assess the probability that a security breach may occur or accurately quantify the potential impact of such an event. The Corporation can provide no assurance that it will be able to identify and remedy all cybersecurity, physical security or system vulnerabilities or that unauthorized access or errors will be identified and remedied.

The loss of key personnel, the inability to hire and retain qualified employees, and labour disruptions could adversely affect the Corporation’s business, financial position and results of operations.

The Corporation’s operations depend on the continued efforts of its employees. Hiring and retaining key employees and maintaining the ability to attract new employees are important to the Corporation’s operational and financial performance. The Corporation cannot guarantee that any member of its management or any one of its key employees will continue to serve in any capacity for any particular period of time or that any leadership transitions will be successful.

Certain events or conditions, such as an aging workforce, epidemic, pandemic or similar public health emergency (including the 2019 Novel Coronavirus), mismatch of skill set or complement to future needs, or unavailability of contract resources may lead to operating challenges, labour disruption and increased costs. The challenges the Corporation might face as a result of such risks include a lack of resources, losses to its knowledge base and the time required to develop new workers’ skills. In any such case, costs, including costs for contractors to replace employees, productivity costs and safety costs may rise. If the Corporation is unable to successfully attract and retain an appropriately qualified workforce, its financial position or results of operations could be negatively affected.

The maintenance of a productive and efficient labour environment without disruptions cannot be assured. In the event of a strike, work stoppage or other form of labour disruption, the Corporation would be responsible for procuring replacement labour and could experience disruptions in its operations and incur additional expense.
The Corporation's revenues and results of operations are affected by seasonal fluctuations and year to year variability in weather conditions and natural resource availability.

The Corporation is subject to risks associated with seasonal fluctuations and year to year variability in weather conditions and natural resource availability, which affect the quantity of electric power generated and sold by the Renewable Energy Group, the availability of water to be distributed by the Regulated Services Group and the demand for the utility services of the Regulated Services Group.

The Regulated Services Group's water distribution operations depend on an adequate supply of water to meet present and future demands of customers. Drought conditions could interfere with sources of water supply used by the utilities and affect their ability to supply water in sufficient quantities to existing and future customers. An interruption in the water supply could have an adverse effect on the results of operations of these utilities.

Demand for water, electricity and natural gas from the Regulated Services Group's utility distribution systems is affected by weather conditions and temperature. Demand for water may decrease if there is above normal rainfall or rainfall is more frequent than normal, or if government restrictions are imposed on water usage during drought conditions. Demand for electricity and natural gas are also subject to significant seasonal variation, year-to-year variations and changes in weather patterns.

Please see “Description of the Business – Renewable Energy Group – Cycles and Seasonality” and “Description of the Business – Regulated Services Group – Cycles and Seasonality” for a description and discussion of these risks.

The Corporation historically has entered, and may in the future, enter into long-term PPAs and derivative contracts to reduce the risk of fluctuations in electricity prices, which contracts could give rise to performance and financial risks and could result in significant costs to the Corporation.

The Renewable Energy Group sells a significant portion of the energy (and renewable energy credits) it generates under long-term PPAs. The Renewable Energy Group also enters into financial or physical power hedges to reduce the risk from fluctuations in market price. For instance, several of the Renewable Energy Group's wind energy production facilities are subject to long-term hourly energy price hedges for a portion of their expected energy production. The Corporation may incur significant costs in establishing or terminating hedging arrangements or may be unable to benefit from favourable changes in market price as a result of these hedges.

In addition, the Corporation may not be able to generate power in the amounts or at the times required by the applicable hedge contract, due to the variable nature of the natural resource (for renewable power generation) or due to transmission grid curtailments, mechanical failures or other reasons. Because of this risk, the Corporation typically does not hedge the full expected production of a particular facility, which leaves a portion of expected production subject to market price risk. In addition, production shortfalls may force the Renewable Energy Group to purchase power in the merchant market at prevailing rates to settle against the applicable hedge contract. Such factors could materially and adversely affect the Corporation's results of operations and cash flows, depending on both the amount of shortfall and the market price of electricity at the time of the shortfall.

Changes in technology and regulatory policies may lower the value of electric utility facilities.

The Corporation primarily generates electricity at large central facilities and delivers that electricity to customers using its transmission and distribution facilities. This method results in economies of scale and generally lower costs than newer technologies, such as fuel cells and microturbines, and distributed generation using either new or existing technology. Other technologies, such as light emitting diodes (LEDs), increase the efficiency of electricity and, as a result, lower the demand for it. Changes in regulatory policies and advances in batteries or energy storage, wind turbines and photovoltaic solar cells are reducing costs of new technology to levels that are making them competitive with some central station electricity production and delivery. The ability to maintain relatively low-cost, efficient and reliable operations, to establish fair regulatory mechanisms and to provide cost-effective programs and services to customers are significant determinants of the Corporation's competitiveness. Further, in the event that alternative generation resources are mandated, subsidized or encouraged through climate legislation or regulation or otherwise are economically competitive and added to the available generation supply, such resources could displace a higher marginal cost central generating plant, which could reduce the price at which market participants sell their electricity. This occurrence could then reduce the market price at which all generators in that region would be able to sell their output and could adversely affect the Corporation's financial condition, results of operations and cash flows, which could also result in an impairment of certain long-lived assets.
The Renewable Energy Group’s facilities rely on national and regional transmission systems and related facilities that are owned and operated by third parties and have both regulatory and physical constraints that could impede access to electricity markets.

A substantial portion of the Renewable Energy Group’s power generation facilities depend on electric transmission systems and related facilities owned and operated by third parties to deliver the electricity the Renewable Energy Group generates to delivery points where ownership changes and the Corporation is paid. These grids operate with both regulatory and physical constraints which in certain circumstances may impede access to electricity markets. There may be instances in system emergencies in which the Renewable Energy Group’s power generation facilities are physically disconnected from the power grid, or their production curtailed, for short periods of time. Most of the Corporation’s electricity sales contracts do not provide for payments to be made if electricity is not delivered.

The power generation facilities of the Renewable Energy Group may also be subject to changes in regulations governing the cost and characteristics of use of the transmission and distribution systems to which its power generation facilities are connected. In the future, these power generation facilities may not be able to secure access to interconnection or transmission capacity at reasonable prices, in a timely fashion or at all, which could then cause delays and additional costs in attempting to negotiate or renegotiate PPAs or to construct new projects. Any such increased costs and delays could delay the commercial operation dates of Renewable Energy Group’s new projects and negatively impact the Corporation’s revenues and financial condition.

The Corporation does not own all of the land on which its projects are located and its use and enjoyment of real property rights for its projects may be adversely affected by the rights of lienholders and leaseholders that are superior to those of the grantors of those real property rights to the Corporation’s subsidiaries’ projects, which could have a material adverse effect on its business, results of operations, financial condition and cash flows.

The Corporation does not own all of the land on which its projects are located. Such projects generally are, and future projects may be, located on land occupied under long-term easements, leases and rights of way. The ownership interests in the land subject to these easements, leases and rights of way may be subject to mortgages securing loans or other liens and other easements, lease rights and rights of way of third parties that were created previously. As a result, some of the rights under such easements, leases or rights of way held by the Corporation may be subject to the rights of these third parties, and the rights of the Corporation to use the land on which its projects are or will be located and its rights to such easements, leases and rights of way could be lost or curtailed. Any such loss or curtailment of the rights of the Corporation to use the land on which its projects are or will be located could have a material adverse effect on its business, results of operations, financial condition and cash flows.

The Corporation may experience critical equipment breakdown or failure, which could have a material adverse effect on the Corporation’s financial condition, results of operations, liquidity, reputation and ability to make distributions.

The Corporation’s facilities are subject to the risk of critical equipment breakdown or failure and lower-than-expected levels of efficiency or operational performance due to the deterioration of assets from use or age, latent defect and design or operator error, among other things. These and other operating events and conditions could result in service disruptions and, to the extent that a facility’s equipment requires longer than forecasted down times for maintenance and repair, or suffers disruptions of power generation, distribution or transmission for other reasons, the Corporation’s business, operating results, financial condition or prospects could be adversely affected. In addition, a portion of the Corporation’s infrastructure is located in remote areas, which may make access to perform maintenance and repairs difficult if such assets become damaged.

Disruption in the Corporation’s supply chain may have a material adverse effect on the Corporation’s business, results of operation, financial condition and cash flows.

The Corporation’s ability to operate effectively is in part dependent upon timely access to equipment, materials and service suppliers. Loss of key equipment, materials and service suppliers and the reputational and financial risk exposures of key vendors could affect the Corporation’s operations and execution and profitability of capital projects. In February 2020, the Corporation received force majeure notices from certain of its suppliers related to the 2019 Novel Coronavirus outbreak. The notices relate to wind energy projects from both the Regulated Services Group and the Renewable Energy Group and a solar project from the Renewable Energy Group. While the exact impacts of the 2019 Novel Coronavirus outbreak on the Corporation and its projects remain unknown, manufacturing and delivery delays caused by the 2019 Novel Coronavirus could adversely affect its projects, including (a) causing one or more projects scheduled for completion in 2020 to not be placed in service until 2021 or (b) adversely impacting the availability of tax equity or other financing. The Corporation is
working with its suppliers, contractors and advisors in an effort to mitigate the impacts on its projects, but there can be no assurance that such efforts will be successful.

**Terrorist attacks and cyber-attacks, and the threat of terrorist attacks and cyber-attacks, have resulted in increased costs to the business of the Corporation. Continued hostilities or sustained military campaigns may adversely impact the Corporation’s consolidated financial position, results of operations and cash flows.**

The long-term impact of terrorist attacks and cyber-attacks and the magnitude of the threat of future terrorist attacks and cyber-attacks on the electric utility and natural gas midstream industry in general, and on the Corporation in particular, cannot be known. Increased security measures taken by the Corporation as a precaution against possible terrorist attacks and cyber-attacks have resulted in increased costs to the business of the Corporation. Uncertainty surrounding continued hostilities or sustained military campaigns may affect operations of the Corporation in unpredictable ways, including disruptions of supplies and markets for products of the Corporation, and the possibility that the Corporation’s infrastructure facilities could be direct targets of, or indirect casualties of, an act of terror. The Corporation cannot predict the impact that a terrorist attack or a cyber-attack may have on the energy industry in general. The Corporation’s facilities could be direct targets or indirect casualties of such attacks. The effects of such attacks could include disruption to the Corporation’s generation, transmission and distribution systems or to the electrical grid in general, and could result in a decline in the general economy and have a material adverse effect on the Corporation.

**The Corporation’s portfolio includes development and constructions projects, as well as recently completed projects that have a limited operating history. Such projects may not perform as expected.**

The Corporation’s portfolio includes development and constructions projects, as well as recently completed projects that have recently commenced operations and therefore have a limited operating history. As a result, the assumptions and estimates regarding the performance of these projects are and will be made without the benefit of a meaningful operating history. The ability of such projects to perform as expected will also be subject to risks inherent in newly constructed generation and transmission projects, including, but not limited to, equipment performance below the Corporation’s expectations, unexpected component failures and product defects, and generation and transmission system failures and outages. The failure of some or all of the projects to perform as expected could have a material adverse effect on the Corporation’s business, results of operations, financial condition and cash flows.

**The Corporation’s financial performance may be adversely affected by fluctuations in commodity prices.**

Market prices for power, generation capacity, ancillary services and natural gas are unpredictable and tend to fluctuate substantially, which may affect the Corporation’s operating results. With respect to the Regulated Services Group, commodity price exposure is primarily limited to the cost of electricity and natural gas. Although the Regulated Services Group’s utility rates and tariffs are generally designed to allow recovery of commodity costs, timing differences and other factors, which may be exacerbated by fluctuating prices, may result in less than full recovery.

**Lower prices for other fuel sources may reduce the demand for the electrical energy generated and sold by the Renewable Energy Group.**

Demand for the electrical energy generated by Renewable Energy Group’s electric generation assets is affected by the price and availability of other fuels, including, but not limited to, nuclear, coal and oil. To the extent renewable energy becomes less cost-competitive due to reduced or eliminated government renewable energy targets and other tax credits and incentives that favour renewable energy, cheaper alternatives or otherwise, demand for renewable energy could decrease. Slow growth or a long-term reduction in renewable energy demand could have a material adverse effect on the Corporation’s business, results of operations, financial condition and cash flows.

**Cash flow deferrals related to energy commodities can be significant.**

The Corporation is permitted to collect from customers only amounts approved by regulatory commissions. However, the Corporation’s costs to provide utility services can be much higher or lower than the amounts currently billed to customers. The Corporation is permitted to defer income statement recognition and recovery from customers for some of these differences, which are recorded as deferred charges with the opportunity for future recovery through retail rates. These deferred costs are subject to review for prudence and potential disallowance by regulators, who have discretion as to the extent and timing of future recovery or refund to customers.

Power and natural gas costs higher than those recovered in retail rates reduce cash flows. Amounts that are not allowed for deferral or which are not approved to become part of customer rates affect the Corporation’s results of operations.
Even if the regulators ultimately allow the Corporation to recover deferred power and natural gas costs, the Corporation’s operating cash flows can be negatively affected until these costs are recovered from customers.

**The Regulated Services Group is obligated to serve utility customers within its certificated service territories, which may require that the Corporation make capital expenditures and incur indebtedness to expand service to new customers.**

The Regulated Services Group may have facilities located within areas experiencing growth. These utilities may have an obligation to service new residential, commercial and industrial customers. While expansion to serve new customers could result in increased future cash flows, it may require significant capital commitments in the immediate term. Accordingly, the Regulated Services Group may be required to solicit additional capital or incur additional borrowings to finance these future construction obligations.

**As a holding company, the Corporation does not have its own operating income and must rely on the cash flows from its subsidiaries to pay dividends and make debt payments.**

The Corporation is a holding company with no significant operations of its own, and the Corporation’s primary assets are shares or other ownership interests of its subsidiaries. The Corporation’s subsidiaries are separate and distinct legal entities and may have no obligation to pay any amounts to the Corporation, whether through dividends, loans or other means. The ability of the Corporation’s subsidiaries to pay dividends or make distributions to the Corporation depends on several factors, including each subsidiary’s actual and projected earnings and cash flow, capital requirements and general financial condition, regulatory restrictions, covenants contained in credit facilities to which they are parties, and the prior rights of holders of their existing and future secured debt and other debt or equity securities. Further, the amount and payment of dividends from any subsidiary is at the discretion of such subsidiary’s board of directors, which may reduce or cease payment of dividends at any time. In addition, there may be changes to tax regulation affecting the repatriation of dividends from other countries, which may negatively affect the Corporation.

**The Corporation and its subsidiaries are not able to insure against all potential risks and may become subject to higher insurance premiums, and the Corporation's ability to obtain insurance and the terms of any available insurance coverage could be materially adversely affected by international, national, state or local events and company-specific events, as well as the financial condition of insurers.**

The Corporation maintains insurance coverage for certain exposures, but this coverage is limited and the Corporation is generally not fully insured against all significant losses. Such insurance may not continue to be offered on an economically feasible basis and may not cover all events that could give rise to a loss or claim involving the Corporation’s assets or operations. The Corporation’s ability to obtain and maintain insurance and the terms of any available insurance coverage could be materially adversely affected by international, national, state or local events and company-specific events, as well as the financial condition of insurers.

If the Corporation were to incur a serious uninsured loss or a loss significantly exceeding the limits of its insurance policies, the results could have a material adverse effect on the Corporation’s business, results of operations, financial condition and cash flows. In the event of a large uninsured loss caused by severe weather conditions, natural disasters and certain other events beyond the control of the Regulated Services Group, the Corporation may make an application to an applicable regulatory authority for the recovery of these costs through customer rates to offset any loss. However, the Corporation cannot provide assurance that the regulatory authorities would approve any such application in whole or in part. This potential recovery mechanism is not available to the Renewable Energy Group.

**The Corporation is subject to litigation or administrative proceedings, which may adversely impact the Corporation’s consolidated financial position, results of operations and cash flows.**

The Corporation has been and continues to be involved in legal proceedings, administrative proceedings, claims and other litigation that arise in the ordinary course of its business. These actions may include contractual disputes, employment-related claims, securities-based litigation and claims for personal injury or property damage that occur in connection with services performed relating to the operation of the Corporation’s business, or actions by regulatory or tax authorities. The final outcome with respect to such legal proceedings cannot be predicted with certainty, and unfavourable outcomes or developments relating to these proceedings or future proceedings, such as judgments for monetary damages, injunctions, denial or revocation of permits or settlement of claims, could have an adverse effect on the Corporation’s financial condition, results of operations and cash flows. Even if the Corporation prevails in any such legal proceedings, the proceedings could be costly, time-consuming and divert the attention of management and other personnel, which could adversely affect the Corporation.
4.2 Risk Factors Relating to Financing and Financial Reporting

A downgrade in APUC’s credit ratings or the credit ratings of its subsidiaries could have a material adverse effect on the Corporation’s business, cost of capital, financial condition and results of operations.

APUC has long-term consolidated corporate credit ratings of BBB from S&P, BBB from DBRS and BBB from Fitch. The ratings indicate the agencies’ assessment of the ability to pay the interest and principal of debt securities issued by the Corporation. See “Description of the Business – Credit Ratings”.

There can be no assurance that any of the current ratings of the Corporation will remain in effect for any given period of time or that a rating will not be lowered or withdrawn entirely by a rating agency if, in its judgment, circumstances in the future so warrant. Factors rating agencies typically consider in evaluating the creditworthiness of a business such as APUC’s include but are not limited to the following: amount of leverage used in the business, the business mix including the relative contribution to EBITDA of regulated utility operations versus non-regulated operations and the countries in which the business operates. Negative changes in these and other factors a rating agency deems to be significant that are expected to be prolonged could result in a credit rating downgrade. A downgrade in credit ratings would result in an increase in the Corporation’s borrowing costs under its bank credit facilities and future issuances of long-term debt securities. Any such downgrade could also adversely impact the market price of the outstanding securities of the Corporation, and could require the Corporation to post additional collateral security under some of its contracts and hedging arrangements. If any of these ratings fall below investment grade (defined as BBB- or above for S&P and Fitch and BBB (low) or above for DBRS), the Corporation’s ability to issue short-term debt or other securities, or to market those securities, may be impaired or become more difficult or expensive. Therefore, any such downgrades could have a material adverse effect on the Corporation’s business, cost of capital, financial condition and results of operations. Each rating agency employs proprietary scoring methodologies that assess business and financial risks of the entity rated. There can be no assurance that the principles on which the rating is based remain consistently applied, and these principles are subject to change from time to time at each rating agency’s discretion. For example, the rating agency’s views on total allowable leverage, specific industry risk factors, country risk and the company’s business mix, amongst other factors, may change. Such changes could require APUC to adjust its business and strategy in order to maintain its credit ratings. APUC currently anticipates that to continue to maintain a BBB flat investment grade credit rating, it will, amongst other things, need to execute its growth strategy in a manner that preserves satisfaction of financial leverage targets and continues to generate no less than approximately its current portion of EBITDA (as determined by applicable rating agency methodologies) from APUC’s Regulated Services Group. There can be no assurance that APUC will be successful, and the failure to do so could have a negative impact on APUC’s credit ratings.

Financial market disruptions or other factors could increase financing costs or limit access to credit and capital markets, which could adversely affect the Corporation’s ability to refinance existing indebtedness on favourable terms, execute its acquisition and investment strategy, and finance its other activities upon favourable terms.

As of December 31, 2019, the Corporation had substantial indebtedness. Management of the Corporation believes, based on its current expectations as to the Corporation’s future performance, that the cash flow from operations, the funds available under its credit facilities and its ability to access capital markets will be adequate to enable the Corporation to finance its operations, execute its business strategy and maintain an adequate level of liquidity. However, the Corporation’s expected revenue and capital expenditures are only estimates. Moreover, actual cash flows from operations will depend on regulatory, market and other conditions that are beyond the Corporation’s control. As a result, there can be no assurance that management’s expectations as to future performance will be realized.

The Corporation’s ability to raise additional debt or equity, on favourable terms or at all, may be adversely affected by any adverse financial and operational performance or by financial market disruptions or other factors outside the Corporation’s control.

In addition, the Corporation may at times incur indebtedness in excess of its long-term leverage targets, in advance of raising the additional equity capital necessary to repay such indebtedness and maintain its long-term leverage target. Any increase in the Corporation’s leverage could, among other things: limit the Corporation’s ability to obtain additional financing for working capital, investment in subsidiaries, capital expenditures, debt service requirements, acquisitions and general corporate or other purposes; restrict the Corporation’s flexibility and discretion to operate its business; limit the Corporation’s ability to declare dividends; require the Corporation to dedicate a portion of cash flows from operations to the payment of interest on its existing indebtedness, in which case such cash flows would not be available for other purposes; cause ratings agencies to re-evaluate or downgrade the Corporation’s existing credit ratings; expose the Corporation to increased interest expense on borrowings at variable rates; limit the Corporation’s ability to adjust to changing market conditions; place the Corporation at a competitive disadvantage compared to its competitors; make the Corporation vulnerable to any downturn
in general economic conditions; and render the Corporation unable to make expenditures that are important to its future growth strategies.

The Corporation will need to refinance its existing consolidated indebtedness over time. There can be no assurance that the Corporation will be successful in refinancing its indebtedness when necessary or that additional financing will be obtained when needed, on commercially reasonable terms or at all. In the event that the Corporation cannot refinance indebtedness or raise additional indebtedness, or if the Corporation cannot refinance its indebtedness or raise additional indebtedness on terms that are not less favourable than the current terms, the Corporation’s cash flows and ability to declare dividends may be adversely affected.

The Corporation’s ability to meet its debt service requirements will depend on its ability to generate cash in the future, which depends on many factors, including the Corporation’s financial performance, debt service obligations, the realization of the anticipated benefits of acquisition and investment activities, and working capital and capital expenditure requirements. In addition, the Corporation’s ability to borrow funds in the future to make payments on outstanding debt will depend on the satisfaction of covenants in existing credit agreements and other agreements. A failure to comply with any covenants or obligations under the Corporation’s consolidated indebtedness could result in a default under one or more such instruments, which, if not cured or waived, could result in the termination of dividends by the Corporation and permit acceleration of the relevant indebtedness. There can be no assurance that, if such indebtedness were to be accelerated, the Corporation’s assets would be sufficient to repay such indebtedness in full. There can also be no assurance that the Corporation will generate cash flow in amounts sufficient to pay its outstanding indebtedness or to fund the Corporation’s other liquidity needs.

**Sustained increases in interest rates could negatively affect the Corporation’s financing costs, ability to access capital and ability to continue successfully implementing its business strategy.**

The Corporation is exposed to interest rate risk from certain outstanding variable interest indebtedness. As a result, increases in interest rates could materially increase the Corporation’s financing costs and adversely affect its results of operations, cash flows, borrowing capacity and ability to implement its business strategy.

**Currency exchange rate fluctuations may affect the Corporation’s financial results and increase certain financing risks.**

Currency fluctuations may affect the cash flows the Corporation realizes from its consolidated operations because a significant portion of the Corporation’s revenues are generated in U.S. dollars. Although the Corporation may enter into derivative contracts to hedge currency exchange rate exposure, the Corporation typically does not hedge its full exposure. If the Corporation does enter into currency hedges and exchange rates move in a favourable direction, such currency hedges may reduce or eliminate the Corporation’s realization of the benefit of favourable exchange rate movement. In addition, currency hedging transactions will be subject to risks that the applicable counterparty may prove unable or unwilling to perform their obligations under the contracts, as a result of which the Corporation would lose some or all of the anticipated benefits of such hedging transactions.

**The Corporation is, and will continue to be, party to agreements, including credit agreements and indentures, that contain covenants that restrict its financial flexibility.**

The Corporation’s existing credit facilities contain covenants imposing certain requirements on the Corporation’s business including covenants regarding the ratio of indebtedness to total capitalization. Furthermore, APUC and its subsidiaries have, and may continue to, periodically issue long-term debt, which may consist of both secured and unsecured indebtedness. These third-party debt agreements also contain covenants, including covenants regarding the ratio of indebtedness to total capitalization. These requirements may limit the Corporation’s ability to take advantage of potential business opportunities as they arise and may adversely affect the Corporation’s conduct and the current business of certain operating subsidiaries, including restricting the ability to finance future operations and capital needs and limiting the subsidiaries’ ability to engage in other business activities. Other covenants place or could place restrictions on the Corporation’s ability and the ability of its operating subsidiaries to, among other things, incur additional debt, create liens, and sell or transfer assets.

Agreements the Corporation enters into in the future may also have similar or more restrictive covenants, especially if the general credit market deteriorates. A breach of any covenant in the existing credit facilities or the agreements governing the Corporation’s other indebtedness would result in an event of default. Certain events of default may trigger automatic acceleration of payment of the underlying obligations or may trigger acceleration of payment if not remedied within a specified period. Events of default under one agreement may trigger events of default under other agreements, although the Corporation’s regulated utilities are not subject to the risk of default of affiliates. Should payments become accelerated as the result of an event of default, the principal and interest on such borrowing would become due and payable immediately. If that should occur, the Corporation may not be able to make all of the required payments or borrow sufficient funds to
refinance the accelerated debt obligations. Even if new financing is then available, it may not be on terms that are acceptable to the Corporation.

**A significant portion of the Corporation’s debt will mature over the next five years and will need to be paid or refinanced, and changes to the debt and equity markets could adversely affect the Corporation’s business.**

A significant portion of the Corporation’s debt is set to mature in the next five years, including its revolving credit facility. The Corporation may not be able to refinance its maturing debt on commercially reasonable terms, or at all, depending on numerous factors, including its financial condition and prospects at the time and the then current state of the banking and capital markets in Canada and the United States.

**Challenges to the Corporation’s tax positions, and changes in applicable tax laws, could materially and adversely affect returns to the Corporation’s shareholders.**

The Corporation is subject to income and other taxes primarily in the United States and Canada. Changes in tax laws or interpretations thereof in the jurisdictions in which we do business could adversely affect the Corporation’s results from operations, returns to shareholders and cash flow.

The Corporation cannot provide assurance that the Canada Revenue Agency, the Internal Revenue Service or any other applicable taxation authority will agree with the tax positions taken by the Corporation, including with respect to claimed expenses and the cost amount of the Corporation’s depreciable properties. A successful challenge by an applicable taxation authority regarding such tax positions could adversely affect the results of operations and financial position of the Corporation.

Development by the Corporation of renewable power generation facilities in the United States depends in part on federal tax credits and other tax incentives. These credits are currently subject to a multi-year step-down. While recently enacted U.S. tax reform legislation did extend some of the credits, at reduced levels, for renewable power generation facilities that begin construction in 2020, there can be no assurance that there will be further extensions in the future or that the reduced credits will be sufficient to support continued development and construction of renewable power facilities in the United States. Moreover, if the Corporation is unable to complete construction on current or planned projects on anticipated schedules, the reduced incentives may be insufficient to support continued development or may result in substantially reduced financial benefits from facilities that the Corporation is committed to complete. In addition, the Corporation has entered into certain tax equity financing transactions with financial partners for certain of its renewable power facilities in the United States, under which allocations of future cash flows to the Corporation from the applicable facility could be adversely affected in the event that there are changes in U.S. tax laws that apply to facilities previously placed in service.

On December 22, 2017, H.R. 1, the Tax Cuts and Jobs Act was signed into law which resulted in significant changes to U.S. tax law that will affect the Corporation. The U.S. Department of Treasury has released proposed regulations related to business interest expense limitations, Base Erosion Anti-Abuse Tax, and anti-hybrid structures as part of the implementation of U.S. tax reform. Some of the proposed regulations were finalized during 2019. Many of the regulations are still in proposed form and are subject to change in the regulatory review process which is expected to be completed during 2020. The timing or impacts of any future changes in tax laws, including the impacts of proposed regulations, cannot be predicted. As a result, there may be future impacts on the results of operations, financial condition and cash flows of the Corporation.

**The Corporation is subject to funding risks associated with defined benefit pension and OPEB plans.**

Certain utility businesses acquired by the Corporation maintain defined benefit pension plans covering substantially all of the employees of the acquired business, and other post-employment benefit (“OPEB”) plans for eligible retired employees, including retiree health care and life insurance benefits. The Corporation also provides a defined benefit cash balance pension plan covering substantially all its new employees and current employees at its water utilities, under which employees are credited with a percentage of base pay plus a prescribed interest rate credit.

Future contributions to the Corporation’s plans are impacted by a number of variables, including the investment performance of the plans’ assets and the discount rate used to value the liabilities of the plans. If capital market returns are below assumed levels, or if discount rates decrease, the Corporation could be required to make contributions to its plans in excess of those currently expected, which would adversely affect the Corporation’s cash flows.

**The Corporation is subject to credit risk of customers and other counterparties.**

The Corporation is subject to credit risk with respect to the ability of customers and other counterparties to perform their obligations to the Corporation, including paying amounts that they owe to the Corporation. This credit risk exists with
respect to utility customers, as well as counterparties to long-term PPAs, supply agreements and derivative financial instruments, among others.

Adverse conditions in the energy industry or in the general economy, as well as circumstances of individual customers or counterparties, may adversely affect the ability of a customer or counterparty to perform as required under its contract with the Corporation. Losses from a utility customer may not be offset by bad debt reserves approved by the applicable utility regulator. If a customer under a long-term PPA is unable to perform, the Renewable Energy Group may be unable to replace the contract on comparable terms, in which case sales of power (and, if applicable, renewable energy credits and ancillary services) from the facility would be subject to market price risk and may require refinancing of indebtedness related to the facility or otherwise have a material adverse effect. Default by other counterparties, including counterparties to supply and construction contracts, to hedging contracts that are in an asset position, and to short-term investments, also could adversely affect the financial results of the Corporation.

The Corporation makes certain assumptions, judgments and estimates that affect amounts reported in its consolidated financial statements, which, if not accurate, may adversely affect its financial results.

APUC prepares its consolidated financial statements in accordance with U.S. GAAP. The preparation of consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, related amounts of revenues and expenses, and disclosure of contingent assets and liabilities. Significant areas requiring the use of management judgment include the scope of consolidated entities, useful lives and recoverability of depreciable assets, the measurement of deferred taxes and the recoverability of deferred tax assets, rate-regulation, unbilled revenue, asset retirement obligations, pension and post-employment benefits, fair value of derivatives and fair value of assets and liabilities acquired in a business combination. Actual results may differ from these estimates and any inaccuracies in these estimates could result in the Corporation incurring significant expenses and adversely affect the Corporation’s financial results.

As a foreign private issuer, APUC is subject to different U.S. securities laws and rules than a domestic U.S. issuer, which may limit the information publicly available to shareholders.

APUC is a “foreign private issuer,” as such term is defined in Rule 405 under the U.S. Securities Act of 1933, as amended, and is permitted, under a multijurisdictional disclosure system adopted by the U.S. and Canada, to prepare its disclosure documents under the U.S. Securities Exchange Act of 1934, as amended (the “U.S. Exchange Act”) in accordance with Canadian disclosure requirements. Under the U.S. Exchange Act, APUC is subject to reporting obligations that, in certain respects, are less detailed and less frequent than those of U.S. domestic reporting companies. As a result, APUC does not file the same reports that a U.S. domestic issuer would file with the U.S. Securities and Exchange Commission (the “SEC”), although APUC is required to file or furnish to the SEC the continuous disclosure documents that it is required to file in Canada under Canadian securities laws. In addition, APUC’s officers, directors, and principal shareholders are exempt from the reporting and “short swing” profit recovery provisions of Section 16 of the U.S. Exchange Act. Therefore, APUC’s shareholders may not know on as timely a basis when APUC’s officers, directors and principal shareholders purchase or sell shares, as the reporting deadlines under the corresponding Canadian insider reporting requirements are longer.

As a foreign private issuer, APUC is exempt from the rules and regulations under the U.S. Exchange Act related to the furnishing and content of proxy statements. APUC is also exempt from Regulation FD, which prohibits issuers from making selective disclosures of material non-public information. While APUC will comply with the corresponding requirements relating to proxy statements and disclosure of material non-public information under Canadian securities laws, these requirements differ from those under the U.S. Exchange Act and Regulation FD and shareholders should not expect to receive the same information at the same time as such information is provided by U.S. domestic companies. In addition, APUC has four months after the end of each fiscal year to file its annual information form with the SEC and is not required under the U.S. Exchange Act to file quarterly reports with the SEC as promptly as U.S. domestic companies whose securities are registered under the U.S. Exchange Act.

In addition, as a foreign private issuer, APUC has the option to follow certain Canadian corporate governance practices, except to the extent that such laws would be contrary to U.S. securities laws, and provided that APUC discloses the requirements that it is not following and describe the Canadian practices it follows instead. APUC currently relies on this exemption with respect to requirements regarding the quorum for any meeting of its shareholders. APUC may in the future elect to follow home country practices in Canada with regard to other matters. As a result, APUC’s shareholders may not have the same protections afforded to shareholders of U.S. domestic companies that are subject to all U.S. corporate governance requirements.
4.3 Risk Factors Relating to Regulatory Environment

The profitability of the Corporation’s businesses depends in part on regulatory climates in the jurisdictions in which it operates, and the failure to maintain required regulatory authorizations could materially and adversely affect the Corporation.

The utility commissions in the jurisdictions in which the Regulated Services Group operates regulate many aspects of its utility operations, including the rates that the Regulated Services Group can charge customers, siting and construction of facilities, pipeline safety and compliance, customer service and the utility’s ability to recover the costs that it incurs, including capital expenditures and fuel and purchased power costs.

A fundamental risk faced by any regulated utility is the disallowance by the utility’s regulator of costs requested to be placed into the utility’s revenue requirement. In addition, the time between the incurrence of costs and the granting of the rates to recover those costs by state or provincial regulatory agencies—known as “regulatory lag”—can adversely affect profitability. If the Corporation is unable to recover increased costs of operations or its investments in new facilities, or in the event of significant regulatory lag, the Corporation’s results of operations could be adversely affected.

In addition, there is a risk that the utility’s regulator will not approve the revenue requirements requested in outstanding or future applications for rates or will, on its own initiative, seek to reduce the existing revenue requirements. Rate applications for revenue requirements are subject to the utility regulator’s review process, usually involving participation from intervenors and a public hearing process. There can be no assurance that resulting decisions or rate orders issued by the utility regulators will permit the Corporation to recover all costs actually incurred, costs of debt and income taxes, or to earn a particular return on equity. A failure to obtain acceptable rate orders, or approvals of appropriate returns on equity and costs actually incurred, may materially adversely affect: the Regulated Services Group’s businesses, the undertaking or timing of capital expenditures, ratings assigned by credit rating agencies, the cost and issuance of long-term debt, and other matters, any of which may in turn have a material adverse effect on the Corporation. In addition, there is no assurance that the Corporation will receive regulatory decisions in a timely manner and, therefore, costs may be incurred prior to having an approved revenue requirement.

In the case of some of the Corporation’s hydroelectric generating facilities, water rights are owned by governments that reserve the right to control water levels, which may affect revenue, while in the United States, hydroelectric generating facilities are required to be licensed or have valid exemptions from FERC. The failure to obtain all necessary licenses or permits for such facilities, including renewals thereof or modifications thereto, may result in an inability to operate the facility and could adversely affect cash generated from operating activities.

FERC has jurisdiction over wholesale rates for all electric energy sold by the Renewable Energy Group in the United States. Certain Renewable Energy Group’s facilities in the United States are required to meet the requirements of a “qualifying facility” or an “exempt wholesale generator” and, subject to certain exceptions, to obtain and maintain authority from FERC to sell power at market-based rates. The failure of the Renewable Energy Group to obtain or maintain, as applicable, market-based rate authorization for its facilities could materially and adversely affect the Corporation.

Additionally, owners, operators and users of the bulk electric system in the United States are subject to mandatory reliability standards developed by the NERC and its regional entities. Increased reliability standard compliance obligations may cause higher operating costs or capital expenditures for the Corporation’s utilities.

The operations of each of the Corporation’s business units are also subject to a variety of federal, provincial and state environmental and other regulatory bodies, the requirements and regulations of which affect the operations of, and costs incurred by, the Corporation. If any of the Corporation’s business units were found to be in violation of applicable requirements or regulations, they could also be subject to significant penalties. In addition, changes in regulations or the imposition of additional regulations also could have a material adverse effect on the Corporation’s results of operations.

The Corporation’s operations are subject to numerous health and safety laws and regulations that could adversely affect its business, financial condition and results of operations.

The operation of the Corporation’s facilities requires adherence to safety standards imposed by regulatory bodies. These laws and regulations require the Corporation to obtain approvals and maintain permits, undergo environmental impact assessments and review processes and implement environmental, health and safety programs and procedures to control risks associated with the siting, construction, operation and decommissioning of energy projects. Failure to operate the facilities in strict compliance with these regulatory standards may expose the facilities to claims and administrative sanctions.
Health and safety laws, regulations and permit requirements may change or become more stringent. Any such changes could require the Corporation to incur materially higher costs than the Corporation has incurred to date. The Corporation’s costs of complying with current and future health and safety laws, regulations and permit requirements, and any liabilities, fines or other sanctions resulting from violations of them, could adversely affect its business, financial condition and results of operations.

The Corporation is subject to numerous environmental laws, regulations and other standards that may result in capital expenditures, increased operating costs and various liabilities.

The Corporation is subject to extensive federal, state, provincial and local regulation with regard to air and other environmental matters. Failure to comply with these laws and regulations could have a material adverse effect on the Corporation’s results of operations and financial position. In addition, new environmental laws and regulations, and new interpretations of existing environmental laws and regulations, have been adopted and may in the future be adopted, which may substantially increase the Corporation’s future environmental expenditures. Although the Regulated Services Group has historically recovered such costs through regulated customer rates, there can be no assurance that the Regulated Services Group will recover all or any part of such increased costs in future rate cases. The Renewable Energy Group generally has no right to recover such costs from customers. The incurrence of additional material environmental costs which are not recovered in utility rates may have a material adverse effect on the Corporation’s business, financial condition and results of operations.

The Corporation may pursue growth opportunities in new markets that are subject to foreign laws and regulations that are more onerous than the laws and regulations to which it is currently subject.

The Corporation may pursue growth opportunities in new markets that are subject to regulation by various foreign governments and regulatory authorities and to the application of foreign laws. Such foreign laws or regulations may not provide the same type of legal certainty and rights, in connection with the Corporation’s contractual relationships in such countries, as are afforded to the Corporation in Canada and the U.S., which may adversely affect the Corporation’s ability to receive revenues or enforce its rights in connection with any operations or projects in such jurisdictions. In addition, the laws and regulations of some countries may limit the Corporation’s ability to hold a majority interest in certain projects, thus limiting the Corporation’s ability to control the operations of such projects. Any existing or new operations or interests of the Corporation may also be subject to significant political, economic and financial risks, which vary by country, and may include: (i) changes in government policies or personnel; (ii) changes in general economic conditions; (iii) restrictions on currency transfer or convertibility; (iv) changes in labour relations; (v) political instability and civil unrest; (vi) regulatory or other changes adversely affecting the local utility market; and (vii) breach or repudiation of important contractual undertakings by governmental entities and expropriation and confiscation of assets and facilities for less than fair market value.

4.4 Risk Factors Relating to Strategic Planning and Execution

The Corporation is subject to risks associated with its growth strategy that may adversely affect its business, results of operations, financial condition and cash flows, and actual capital expenditures may be lower than planned.

The Corporation has a history of growth through acquisitions and organic growth from development projects and capital expenditures in existing service territories. There is no certainty that the Corporation will be successful in pursuing this growth strategy in the future. There can be no assurance that the Corporation will be able to identify attractive acquisition or development candidates in the future or that it will be able to realize growth opportunities that increase the amount of cash available for distribution. The Corporation’s growth strategy may be constrained by factors associated with the maintenance of its BBB flat investment grade credit rating. These factors include: (i) constraints on maximum leverage, (ii) the proportion of EBITDA (as determined by applicable rating agency methodologies) required to be generated from the Regulated Services Group, and (iii) the geographies in which APUC can operate in scale. There can be no assurance that these constraints will not negatively impact the Corporation’s ability to successfully execute on available growth opportunities. The Corporation may also face significant competition for growth opportunities and, to the extent that any opportunities are identified, may be unable to effect such growth opportunities due to a lack of necessary or cost competitive capital resources. Risks related to capital projects include schedule delays and project cost overruns. There is no assurance that any project cost overruns would be approved for recovery in customer rates.

Any growth opportunity could involve potential risks, including an increase in indebtedness, the potential disruption to the Corporation’s ongoing business, the diversion of management’s attention from other business concerns and the possibility that the Corporation will incur more costs than originally anticipated or, in the case of acquisitions, more than the acquired
company or interest is worth. In addition, funding requirements associated with the growth opportunity, including any acquisition, development or integration costs, may reduce the funds available to pay dividends.

The Regulated Services Group’s capital expenditure program and associated rate base growth are key assumptions in the Corporation’s targeted dividend growth guidance. Actual capital expenditures may be lower than planned due to factors beyond the Corporation’s control, which would result in a lower than anticipated rate base and have an adverse effect on the Corporation’s results of operations, financial condition and cash flows. This could limit the Corporation’s ability to meet its targeted dividend growth.

The Corporation’s development and construction activities are subject to material risks, including expenditures for projects that may prove not to be viable, construction cost overruns and delays, inaccurate estimates of expected energy output or other factors, and failure to satisfy tax incentive requirements or to meet third-party financing requirements.

The Corporation actively engages in the development and construction of new power generation facilities, and currently has a pipeline of projects in development or construction, consisting mainly of solar and wind power generation projects, as well as the development and construction of transmission and distribution assets. In addition, each of the Corporation’s business segments may occasionally undertake construction activities as part of normal course maintenance activities.

Significant costs must be incurred to determine the technical feasibility of a project, obtain necessary regulatory approvals and permits, obtain site control and interconnection rights and negotiate revenue contracts for the facility before the viability of the project can be determined. Regulatory approvals can be challenged by a number of mechanisms which vary across state and provincial jurisdictions. Such permitting challenges could identify issues that may result in permits being modified or revoked, or the failure of a project to proceed and the resultant loss of amounts invested or expenses already incurred.

Material delays or cost overruns could be incurred by the Corporation and its development and construction projects as a result of vendor or contractor non-performance, technical issues with the interconnection utility, disputes with landowners or other parties, severe weather and other causes.

The Corporation’s assessment of the feasibility, revenues and profitability of a renewable power generation facility depends upon estimates regarding the strength and consistency of the applicable natural resource (such as wind, solar radiance or hydrology) and other factors, such as assessments of the facility’s potential impact on wildlife. If weather patterns change or actual data proves to be materially different than estimates, the amount of electricity to be generated by the facility and resulting revenues and profitability may differ significantly from expected amounts.

For certain of its development projects, the Renewable Energy Group relies on financing from third party tax equity investors, the participation of which depends upon qualification of the project for U.S. tax incentives and satisfaction of the investors’ investment criteria. These investors typically provide funding upon commercial operation of the facility. Should certain facilities not meet the conditions required for tax equity funding, expected returns from the facilities may be adversely impacted.

The Corporation’s construction activities relating to its utility and power generation projects utilize a variety of products and materials. The cost to the Corporation of such products and materials may be impacted by a number of factors beyond the Corporation’s control, including their general availability and the impact of tariffs and duties imposed by various governmental authorities. While the Regulated Services Group may be able to recover any such increased costs in future rate cases, there is generally no such recovery mechanism available to the Renewable Energy Group for such costs. The financial condition and results of operations of the Corporation may be impacted as a result.

Energy generated by the Corporation is often sold under long-term PPAs. PPAs generally contain customary terms including: the amount paid for energy from the project over the term of the agreement (which rate can be materially higher than prevailing market rates) and a requirement for the project to comply with technical standards and to achieve commercial operation within time frames prescribed by the contract. A failure to achieve satisfactory construction progress and/or the occurrence of any permitting or other unanticipated delays at a project could result in a failure to comply with the applicable PPA requirements within the specified time frames. Remedies for failure to comply with material provisions of a PPA generally include, among other things, the potential termination of the agreement by the non-defaulting party. Any such termination could have a material adverse effect on the Corporation’s results of operations and financial position.

The Renewable Energy Group depends on certain key customers for a significant portion of its revenues. The loss of any key customer or the failure to secure new PPAs, renew existing PPAs or enter into long-term energy production hedge arrangements could increase market price risk with respect to the sale of generated energy and renewable energy credits.

A substantial portion of the output of the Renewable Energy Group’s power generation facilities is sold under long-term PPAs, under which a single purchaser is obligated to purchase all of the output of the applicable facility and (in most cases)
associated renewable energy credits. The production at certain of the Renewable Energy Group's power generation facilities also are subject to long-term energy production hedge arrangements. The termination or expiry of any such PPA or long-term energy production hedge arrangement, unless replaced or renewed on equally favourable terms, would adversely affect the Corporation’s results of operations and cash flows and increase the Corporation’s exposure to risks of price fluctuations in the wholesale power market.

Securing new PPAs is a risk factor in light of the competitive environment in which the Corporation operates. The Corporation expects the Renewable Energy Group to continue to enter into PPAs for the sale of its power, which PPAs are mainly obtained through participation in competitive requests for proposals processes. During these processes, the Corporation faces competitors ranging from large utilities to small independent power producers, some of which have significantly greater financial and other resources than the Corporation. There can be no assurance that the Corporation will be selected as power supplier following any particular request for proposals in the future or that existing PPAs will be renewed or will be renewed on favourable terms and conditions upon the expiry of their respective terms.

**The Corporation may fail to complete planned acquisitions, which may result in a loss of expected benefits from such acquisitions or may generate significant liabilities.**

Acquisitions of businesses and technologies are a part of the Corporation’s overall business strategy. Because of the regulated nature of certain of the business sectors in which the Corporation operates, certain acquisitions by the Corporation, including the acquisition of New York American Water and the acquisition of Ascendant, are subject to various regulatory approvals and, consequently, to the risks that such approvals may not be timely obtained or may impose unfavourable conditions that could impair the ability to complete the acquisition or impose adverse conditions on the Corporation following the acquisition.

In addition, the Corporation may pursue acquisition opportunities through participation in competitive auction processes. During these processes, the Corporation may face competition from other companies with greater purchasing power, capital or other resources or a greater willingness to accept lower returns or risk. The outcomes of such processes are uncertain and the Corporation may fail to win such bids.

Further, the Corporation may enter into acquisition agreements under which the Corporation’s obligations are not contingent upon availability of financing, in which case the Corporation could incur higher than expected financing costs or, if such financing cannot be obtained, significant liability to the seller.

**The Corporation may fail to realize the intended benefits of completed acquisitions or may incur unexpected costs or liabilities as a result of completed acquisitions.**

The Corporation may not effectively integrate the services, technologies, key personnel or businesses of acquired companies or may not obtain anticipated operating benefits or synergies from completed transactions. In addition, the Corporation may incur unexpected costs or liabilities in connection with the closing or integration of any acquisition.

The success of an acquisition may depend on retention of the workforce or key employees of the acquired businesses. The Corporation may not be successful in retaining such workforce or key employees or in retaining them at anticipated costs.

In addition, the Corporation may be subject to unexpected liabilities, despite any due diligence investigation of an acquired business or any contractual remedies the Corporation may have against the seller. Detailed information regarding an acquired business is generally available only from the seller, and contractual remedies are typically subject to negotiated limitations. In addition, in cases in which the target company is publicly traded and its shares are widely held, the Corporation is likely not to have recourse following the completion of the acquisition for misrepresentations made to the Corporation in connection with the acquisition.

**The Corporation’s investment in Atlantica is subject to risks, including that the market price of Atlantica’s securities could decline or Atlantica may make decisions with which the Corporation does not agree or take risks or otherwise act in a manner that does not serve the Corporation’s interests.**

The Corporation owns an equity interest in Atlantica of approximately 44.2%. This investment is subject to a risk that Atlantica may make business, financial or management decisions with which the Corporation does not agree, or that Atlantica’s other stockholders or management of Atlantica may take risks or otherwise act in a manner that does not serve the Corporation’s interests. If any of the foregoing were to occur, the value of the Corporation’s investment could decrease and the Corporation’s financial condition, results of operations and cash flows could be adversely affected.
During 2019 Atlantica announced it was going to undertake a strategic review process. The results of this process have not yet been announced and the outcome is uncertain. Atlantica’s share price may be adversely affected by the outcome of the strategic review, which would in turn could negatively affect Corporation’s results.

Dividends declared and paid by Atlantica are made at the discretion of Atlantica’s board of directors. The Corporation does not control the board of directors of Atlantica. Therefore, there can be no assurance that dividends will continue to be paid on Atlantica’s ordinary shares, will continue to be paid at the same rate as they are currently being paid or will be paid at any specified target rate.

Demand in the capital markets for Atlantica’s ordinary shares can vary over time for numerous reasons outside of the Corporation’s control, including performance of the Atlantica business and changes in the prospects of Atlantica. Consequently, it may be difficult for the Corporation to dispose of its anticipated interest in Atlantica at favourable times or prices.

**The Corporation’s investment in Atlantica and its international acquisition, development, construction and operating activities, including through AAGES, expose the Corporation to certain risks that are particular to certain international markets.**

Atlantica owns, manages and acquires renewable energy, conventional power, electric transmission lines and water assets in certain jurisdictions where the Corporation may not operate. The Corporation, through its investment in Atlantica, is indirectly exposed to certain risks that are particular to the markets in which it operates, including, but not limited to, risks related to: conditions in the global economy; changes to national and international laws, political, social and macroeconomic risks relating to the jurisdictions in which Atlantica operates, including in emerging markets, which could be subject to economic, social and political uncertainties; anti-bribery and anti-corruption laws and substantial penalties and reputational damage from any non-compliance therewith; significant currency exchange rate fluctuations; Atlantica’s ability to identify and/or consummate future acquisitions on favourable terms or at all; Atlantica’s inability to replace, on similar or commercially favourable terms, expiring or terminated offtake agreements; termination or revocation of Atlantica’s concession agreements or PPAs; and various other factors. These risks could affect the profitability and growth of Atlantica’s business, and ultimately the profitability of the Corporation’s anticipated investment therein.

The Corporation’s international acquisition, development, construction and operating activities, including through the AAGES joint venture, expose the Corporation to similar risks and could likewise affect the profitability, financial condition and growth of the Corporation.

**The Regulated Services Group’s water, wastewater, electricity and natural gas distribution systems could be subject to condemnation or other methods of taking by government entities under certain conditions.**

The Regulated Services Group’s water, wastewater, electricity and natural gas distribution systems could be subject to condemnation or other methods of taking by government entities under certain conditions. Any taking by government entities would legally require that just and fair compensation be paid to the Regulated Services Group. However, the determination of such fair and just compensation will be undertaken pursuant to a legal proceeding and, therefore, there can be no assurance that the value received for those assets would reflect the value the Corporation attributes to such assets, that the value received would be above book value or that the Corporation would not recognize a loss.

**Increased external stakeholder activism could have an adverse effect on the Corporation’s business, operations or financial condition.**

External stakeholders are increasingly challenging investor-owned utilities in the areas of climate change, sustainability, diversity, utility return on equity and executive compensation. In addition, public opposition to larger infrastructure projects and renewable energy projects in certain areas is common, which may impact the Corporation’s capital programs, development activities and operations. The social acceptance by external stakeholders, including, in some cases, First Nations and other aboriginal peoples, local communities, landowners and other interest groups, may be critical to the Corporation’s ability to find and develop new sites suitable for viable renewable energy projects. Failure to obtain proper social acceptance for a project may prevent the development and construction of a project and lead to the loss of all investments made in the development and the write-off of such prospective project. Failure to effectively respond to public opposition may adversely affect the Corporation’s capital expenditure programs, and, therefore, future organic growth, which could adversely affect its results of operations, financial condition and cash flows.
The Corporation may not have sole control over the projects that it invests in with its partners, including Abengoa, or over the revenues and certain decisions associated with those projects, which may limit the Corporation’s flexibility and financial returns with respect to these projects.

The Corporation has, and may in the future continue to have, an equity interest of 50% or less in certain projects and facilities, including those owned by AAGES. As a result, the Corporation will not control such projects and its interest may be subject to the decision-making of third parties. This may limit the Corporation’s flexibility and financial returns with respect to these projects and facilities, and create a risk that the Corporation’s joint venture partner may:

- have economic or business interests or goals that are inconsistent with the Corporation’s economic or business interests or goals;
- take actions contrary to the Corporation’s policies or objectives with respect to the Corporation’s investments;
- contravene applicable anti-bribery laws that carry substantial penalties for non-compliance and could cause reputational damage and a material adverse effect on the business, financial position and results of operations of the joint venture and the Corporation;
- have to give its consent with respect to certain major decisions, including among others, decisions relating to funding and transactions with affiliates;
- become bankrupt, limiting its ability to meet calls for capital contributions and potentially making it more difficult to refinance or sell projects;
- become engaged in a dispute with the Corporation that might affect the Corporation’s ability to develop a project; or
- have competing interests in the Corporation's markets that could create conflict of interest issues.

The Corporation’s involvement with AAGES may present a reputational risk, including from the reputation of Abengoa. AAGES has obtained the AAGES Secured Credit Facility, which is collateralized through a pledge of the Atlantica ordinary shares held by AY Holdings. A collateral shortfall would occur if the net obligation (as defined in the credit agreement) would equal or exceed 50% of the market value of the Atlantica shares. In the event of a collateral shortfall, AAGES is required to post additional collateral in cash to reduce the net obligation to 40% of the total collateral provided (the “Collateral Reset Level”). If AAGES were unable to fund the collateral shortfall, the AAGES Secured Credit Facility lenders hold the right to sell Atlantica shares to reduce the facility to the Collateral Reset Level. The AAGES Secured Credit Facility is repayable on demand if Atlantica ceases to be a public company. If AAGES were unable to repay the amounts owed, the lenders would have the right to realize on their collateral.

The Corporation may sell businesses or assets, which may be sold at a loss and which, regardless of the sales price, may reduce total revenues and net income.

For financial, strategic and other reasons, the Corporation may from time to time dispose of businesses or assets that it owns. Such disposals may result in recognition of a loss upon such a sale. In addition, as a result of divestitures, the Corporation’s revenues and net income may decrease and its business mix may change.

The price of the Common Shares may be volatile and the value of shareholders’ investments could decline.

The trading price and value of, and demand for, the Common Shares may fluctuate and depend on a number of factors, including:

- the risk factors described in this AIF;
- general economic conditions internationally and within Canada and the United States, including changes in interest rates;
- changes in electricity and natural gas prices;
- actual or anticipated fluctuations in the Corporation’s quarterly and annual results and those of the Corporation’s competitors;
- the Corporation’s reputation, businesses, operations, results and prospects;
- the timing and amount of dividends, if any, declared on the Common Shares;
- future issuances of Common Shares or other securities by the Corporation;
- future mergers and strategic alliances;
- market conditions in the energy industry;
- changes in government regulation, taxes, legal proceedings or other developments;
shortfalls in the Corporation’s operating results from levels forecasted by securities analysts;
• investor sentiment toward the stock of energy companies in general;
• announcements concerning the Corporation or its competitors;
• maintenance of acceptable credit ratings or credit quality; and
• the general state of the securities markets.
These and other factors may impair the development or sustainability of a liquid market for the Common Shares and the ability of investors to sell Common Shares at an attractive price. These factors also could cause the market price and demand for the Common Shares to fluctuate substantially, which may adversely affect the price and liquidity of the Common Shares. These fluctuations could cause shareholders to lose all or part of their investment in Common Shares. Many of these factors and conditions are beyond the Corporation’s control and may not be related to its operating performance.

If securities or industry analysts do not publish research or publish inaccurate or unfavourable research about the Corporation or its businesses, the price and trading volume of the Common Shares could decline.

The trading market for the Common Shares will, to some extent, be impacted by the research and reports that securities or industry analysts publish about the Corporation or its business. The Corporation does not have any control over these publications. If one or more of the analysts who cover the Corporation should downgrade the Common Shares or change their opinion of the Corporation’s business prospects or report inaccurate information, the Common Share price may decline. If one or more of these analysts cease coverage of the Corporation or fail to publish reports on the Corporation regularly, demand for the Common Shares could decrease, which may cause the price and trading volume of the Common Shares to decline.

### 5. DIVIDENDS

#### 5.1 Common Shares

The amount of dividends declared for each Common Share for fiscal 2017, 2018 and 2019 were $0.47, $0.50 and $0.55, respectively.

APUC follows a quarterly dividend schedule, subject to subsequent Board declarations each quarter. APUC’s current quarterly dividend to shareholders is $0.1410 per Common Share or $0.5640 per Common Share per annum.

The Board has adopted a dividend policy to provide sustainable dividends to shareholders, considering cash flow from operations, financial condition, financial leverage, working capital requirements and investment opportunities. The Board can modify the dividend policy from time to time at its discretion. There are no restrictions on the dividend policy of APUC. The amount of dividends declared and paid is ultimately dependent on a number of factors, including the risk factors previously noted, and there is no assurance as to the amount or timing of such dividends in the future. See “Enterprise Risk Factors”.

#### 5.2 Preferred Shares

On November 9, 2012, APUC issued 4,800,000 cumulative rate reset Series A preferred shares (the “Series A Shares”). Holders of Series A Shares are entitled to receive fixed cumulative preferential cash dividends, as and when declared by the Board, payable quarterly on the last business day of March, June, September and December in each year. In each of 2017 and 2018, dividends were paid at an annual rate equal to C$1.1250 per Series A Share. In 2019, dividends were paid at an annual rate equal to C$1.2905 per Series A Share. For the current five-year period from December 31, 2018 to December 31, 2023, the annual rate of the dividends is equal to C$1.2905 per Series A Share.

On January 1, 2013, the Corporation issued 100 Series C preferred shares (the “Series C Shares”) and exchanged such shares for the 100 Class B units of St. Leon LP, including 36 units held indirectly by certain members of APUC’s senior management. The Series C Shares provide dividends essentially identical to those expected from the Class B units. In 2017, 2018 and 2019, dividends paid to holders of Series C Shares were C$10,389, C$8,866 and C$12,361, respectively, per Series C Share.

On March 5, 2014, APUC issued 4,000,000 cumulative rate reset Series D preferred shares (the “Series D Shares”). Holders of Series D Shares are entitled to receive fixed cumulative preferential cash dividends, as and when declared by the Board, payable quarterly on the last business day of March, June, September and December in each year. In 2017 and 2018,
dividends were paid at an annual rate of C$1.250 per Series D Share. In 2019, dividends were paid at an annual rate equal to C$1.2671 per Series D Share. For the current five-year period from March 31, 2019 to March 31, 2024, the annual rate of the dividends is equal to C$1.2728 per Series D Share.

5.3 Dividend Reinvestment Plan

Under APUC’s shareholder dividend reinvestment plan (the “Reinvestment Plan”), holders of Common Shares who reside in Canada or the United States may opt to reinvest the cash dividends paid on their Common Shares in additional Common Shares which, at APUC’s election, will either be purchased on the open market or newly issued from treasury. Common Shares purchased under the Reinvestment Plan are currently being issued from treasury at a 5% discount to the prevailing market price (as determined in accordance with the terms of the Reinvestment Plan). The 5% discount will remain in effect for all cash dividends that may be declared, if any, by the Board until otherwise announced, at its discretion.

6. DESCRIPTION OF CAPITAL STRUCTURE

6.1 Common Shares

The Common Shares are publicly traded on the TSX and the NYSE under the ticker symbol “AQN”. As at December 31, 2019, APUC had 524,223,323 issued and outstanding Common Shares.

APUC may issue an unlimited number of Common Shares. The holders of Common Shares are entitled to dividends, if and when declared; to one vote for each share at meetings of the holders of Common Shares; and to receive a pro rata share of any remaining property and assets of APUC upon liquidation, dissolution or winding up of APUC. All shares are of the same class and with equal rights and privileges and are not subject to future calls or assessments.

6.2 Preferred Shares

APUC is also authorized to issue an unlimited number of preferred shares, issuable in one or more series, containing terms and conditions as approved by the Board. As at December 31, 2019, APUC had outstanding:

- 4,800,000 Series A Shares, yielding 5.162% annually for the five-year period ending on December 31, 2023;
- 100 Series C Shares; and
- 4,000,000 Series D Shares, yielding 5.091% annually for the five-year period ending on March 31, 2024.

As at December 31, 2019, no Series B Shares, Series E Shares, Series F Shares or Series G Shares were outstanding.

Series A Shares

The Series A Shares rank senior to the Common Shares and rank on parity with every other series of preferred shares as to dividends, may be redeemed by APUC on December 31, 2023 and every five years thereafter and are convertible upon the occurrence of certain events into cumulative floating rate preferred shares, Series B (the “Series B Shares”). The Series A Shares were redeemable by APUC on December 31, 2018 (the “Series A Shares Redemption Right”), but APUC elected not to exercise its redemption right. The Series A Shares rank on parity with the preferred shares of every other series and senior to the Common Shares upon liquidation, dissolution or winding up of APUC. The Series A Shares are entitled to receive C$25.00 per Series A Share plus all accrued and unpaid dividends thereon, but are not entitled to share in any further distribution of the assets of APUC.

Series B Shares

APUC is authorized to issue up to 4,800,000 Series B Shares upon the conversion of Series A Shares upon the occurrence of certain events. The Series B Shares rank senior to the Common Shares and rank on parity with every other series of preferred shares as to dividends, may be redeemed by APUC on any Series B Conversion Date (as defined in the articles of APUC), and are convertible into Series A Shares upon the occurrence of certain events. The Series B Shares rank on parity with the preferred shares of every other series and senior to the Common Shares upon liquidation, dissolution or winding up of APUC. The Series B Shares are entitled to receive C$25.00 per Series B Share plus all accrued and unpaid dividends thereon, but are not entitled to share in any further distribution of the assets of APUC. Upon APUC’s election not to exercise the Series A Shares Redemption Right, the holders of the Series A Shares had the right to convert all or part of their Series A Shares into Series B Shares on December 31, 2018. However, since less than the required minimum of 1,000,000 Series A
Shares were tendered for conversion, none of the Class A Shares were converted into Class B Shares and no Class B Shares have been issued by APUC.

Series C Shares

The Series C Shares rank senior to the Common Shares and rank on parity with every other series of preferred shares as to dividends and are entitled to cumulative dividends in accordance with the formula set forth in the articles of APUC. The Series C Shares rank on parity with the preferred shares of every other series and senior to the Common Shares upon liquidation, dissolution or winding up of APUC. The Series C Shares are entitled to receive the redemption price calculated in accordance with the share terms plus all accrued and unpaid dividends thereon, but are not entitled to share in any further distribution of the assets of APUC. The Series C Shares are redeemable upon the occurrence of certain events. During the period between May 20, 2031 and June 19, 2031, the Series C Shares are convertible into Common Shares and, if not so converted, will be automatically redeemed on June 19, 2031. Holders of the Series C Shares include a partnership controlled by Ian Robertson, Chief Executive Officer of the Corporation and a partnership controlled by Chris Jarratt, Vice Chair of the Corporation.

Series D Shares

The Series D Shares rank senior to the Common Shares and rank on parity with every other series of preferred shares as to dividends, may be redeemed by APUC on March 31, 2024 and every five years thereafter, and are convertible upon the occurrence of certain events into cumulative floating rate preferred shares, Series E (the “Series E Shares”). The Series D Shares were redeemable by APUC on April 1, 2019 (the “Series D Shares Redemption Right”), but APUC elected not to exercise its redemption right. The Series D Shares rank on parity with the preferred shares of every other series and senior to the Common Shares upon liquidation, dissolution or winding up of APUC. The Series D Shares are entitled to receive C$25.00 per Series D Share plus all accrued and unpaid dividends thereon, but are not entitled to share in any further distribution of the assets of APUC.

Series E Shares

APUC is authorized to issue up to 4,000,000 Series E Shares upon the conversion of Series D Shares upon the occurrence of certain events. The Series E Shares rank senior to the Common Shares and rank on parity with every other series of preferred shares as to dividends, may be redeemed by APUC on any Series E Conversion Date (as defined in the articles of APUC), and are convertible into Series D Shares upon the occurrence of certain events. The Series E Shares rank on parity with the preferred shares of every other series and senior to the Common Shares upon liquidation, dissolution or winding up of APUC. The Series E Shares are entitled to receive C$25.00 per Series E Share plus all accrued and unpaid dividends thereon, but are not entitled to share in any further distribution of the assets of APUC. Upon APUC’s election not to exercise the Series D Shares Redemption Right, the holders of the Series D Shares had the right to convert all or part of their Series D Shares into Series E Shares on April 1, 2019. However, since less than the required minimum of 1,000,000 Series D Shares were tendered for conversion, none of the Class D Shares were converted into Class E Shares and no Class E Shares have been issued by APUC.

Series F Shares

APUC is authorized to issue an unlimited number of Series F Shares following the conversion of the 2018 Subordinated Notes upon the occurrence of certain bankruptcy-related events. The Series F Shares rank senior to the Common Shares and rank on parity with every other series of preferred shares as to dividends and may be redeemed by APUC, subject to certain restrictions, at any time after October 17, 2023. The Series F Shares rank on parity with the preferred shares of every other series and senior to the Common Shares upon liquidation, dissolution or winding up of APUC. The Series F Shares are entitled to receive C$25.00 per Series F Share plus all accrued and unpaid dividends thereon, but are not entitled to share in any further distribution of the assets of APUC.

Series G Shares

APUC is authorized to issue an unlimited number of Series G Shares following the conversion of the 2019 Subordinated Notes upon the occurrence of certain bankruptcy-related events. The Series G Shares rank senior to the Common Shares and rank on parity with every other series of preferred shares as to dividends and may be redeemed by APUC, subject to certain restrictions, at any time after July 1, 2024. The Series G Shares rank on parity with the preferred shares of every other series and senior to the Common Shares upon liquidation, dissolution or winding up of APUC. The Series G Shares are entitled to receive C$25.00 per Series G Share plus all accrued and unpaid dividends thereon, but are not entitled to share in any further distribution of the assets of APUC.
Subject to applicable corporate law, the outstanding preferred shares are non-voting and not entitled to receive notice of any meeting of shareholders, except that the Series A Shares (and the Series B Shares into which they are convertible) and Series D Shares (and Series E Shares into which they are convertible), the Series F Shares and the Series G Shares will be entitled to one vote per share if APUC shall have failed to pay eight quarterly dividends on such shares.

6.3 Subordinated Notes

2018 Subordinated Notes

On October 17, 2018, APUC completed the sale of $287.5 million aggregate principal amount of 2018 Subordinated Notes. The 2018 Subordinated Notes are publicly traded on the NYSE under the ticker symbol “AQNA”.

The Corporation will pay interest on the 2018 Subordinated Notes at a fixed rate of 6.875% per year in equal quarterly installments until October 17, 2023. Starting on October 17, 2023, and quarterly on every January 17, April 17, July 17 and October 17 of each year during which the 2018 Subordinated Notes are outstanding thereafter until October 17, 2078 (each such date, a “2018 Notes Interest Reset Date”), the interest rate on the 2018 Subordinated Notes will be reset to an interest rate per annum equal to (i) starting on October 17, 2023, on every 2018 Notes Interest Reset Date until October 17, 2028, the three month LIBOR plus 3.677%, payable in arrears, (ii) starting on October 17, 2028, on every 2018 Notes Interest Reset Date until October 17, 2043, the three month LIBOR plus 3.927%, payable in arrears, and (iii) starting on October 17, 2043, on every 2018 Notes Interest Reset Date until October 17, 2078, the three month LIBOR plus 4.677%, payable in arrears. So long as no event of default has occurred and is continuing, APUC may elect to defer the interest payable on the 2018 Subordinated Notes on one or more occasions for up to five consecutive years.

The 2018 Subordinated Notes have a maturity date of October 17, 2078. On or after October 17, 2023, APUC may, at its option, redeem the 2018 Subordinated Notes at a redemption price equal to 100% of the principal amount thereof, together with accrued and unpaid interest.

Upon the occurrence of certain bankruptcy-related events in respect of APUC, the 2018 Subordinated Notes automatically convert into Series F Shares.

2019 Subordinated Notes

On May 23, 2019, APUC completed the sale of $350 million aggregate principal amount of 2019 Subordinated Notes. The 2019 Subordinated Notes are publicly traded on the NYSE under the ticker symbol “AQNB”.

The Corporation will pay interest on the 2019 Subordinated Notes at a fixed rate of 6.2% per year in equal quarterly installments until July 1, 2024. Starting on July 1, 2024, and quarterly on every January 1, April 1, July 1 and October 1 of each year during which the 2019 Subordinated Notes are outstanding thereafter until July 1, 2079 (each such date, a “2019 Notes Interest Reset Date”), the interest rate on the 2019 Subordinated Notes will be reset to an interest rate per annum equal to (i) starting on July 1, 2024, on every 2019 Notes Interest Reset Date until July 1, 2029, the three month LIBOR plus 4.01%, payable in arrears, (ii) starting on July 1, 2029, on every 2019 Notes Interest Reset Date until July 1, 2049, the three month LIBOR plus 4.26%, payable in arrears, and (iii) starting on July 1, 2049, on every 2019 Notes Interest Reset Date until July 1, 2079, the three month LIBOR plus 5.01%, payable in arrears. So long as no event of default has occurred and is continuing, APUC may elect to defer the interest payable on the 2019 Subordinated Notes on one or more occasions for up to five consecutive years. Concurrent with the offering of the 2019 Subordinated Notes, APUC entered into a cross currency swap to convert the U.S. dollar denominated proceeds from the offering into Canadian dollars, resulting in an effective interest rate to APUC throughout the fixed-rate period of the 2019 Subordinated Notes of approximately 5.96%.

The 2019 Subordinated Notes have a maturity date of July 1, 2079. On or after July 1, 2024, APUC may, at its option, redeem the 2019 Subordinated Notes at a redemption price equal to 100% of the principal amount thereof, together with accrued and unpaid interest.

Upon the occurrence of certain bankruptcy-related events in respect of APUC, the 2019 Subordinated Notes automatically convert into Series G Shares.

6.4 Shareholders’ Rights Plan

The shareholders’ rights plan, as amended and restated in 2019 (the “Amended and Restated Rights Plan”) is designed to ensure the fair treatment of shareholders in any transaction involving a potential change of control of APUC and will provide the Board and shareholders with adequate time to evaluate any unsolicited take-over bid and, if appropriate, to seek out alternatives to maximize shareholder value.
Until the occurrence of certain specific events, the rights will trade with the Common Shares and be represented by certificates representing the Common Shares. The rights become exercisable only when a person, including any party related to it or acting jointly with it (subject to certain exceptions), acquires or announces its intention to acquire 20% or more of the outstanding Common Shares without complying with the permitted bid provisions of the Amended and Restated Rights Plan. Should a non-permitted bid be launched, each right would entitle each holder of shares (other than the acquiring person and persons related to it or acting jointly with it) to purchase additional Common Shares at a 50% discount to the market price at the time.

It is not the intention of the Amended and Restated Rights Plan to prevent take-over bids but to ensure their proper evaluation by the market. Under the Amended and Restated Rights Plan, a permitted bid is a bid made to all shareholders for all of their Common Shares on identical terms and conditions that is open for no less than 105 days. If at the end of 105 days at least 50% of the outstanding Common Shares, other than those owned by the offeror and certain related parties, have been tendered and not withdrawn, the offeror may take up and pay for the Common Shares but must extend the bid for a further 10 days to allow all other shareholders to tender.

The Amended and Restated Rights Plan will remain in effect until the termination of the annual meeting of the shareholders of APUC in 2022 (unless extended by approval of the shareholders at such meeting) or its termination under the terms of the Amended and Restated Rights Plan.

7. MARKET FOR SECURITIES

7.1 Trading Price and Volume

7.1.1 Common Shares

The Common Shares are listed and posted for trading on the TSX and NYSE under the symbol “AQN”. The following table sets forth the high and low trading prices and the aggregate volumes of trading of the Common Shares for the periods indicated (as quoted by the TSX and NYSE).

<table>
<thead>
<tr>
<th></th>
<th>High (C$)</th>
<th>Low (C$)</th>
<th>Volume</th>
<th>High ($)</th>
<th>Low ($)</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>14.58</td>
<td>13.38</td>
<td>22,741,443</td>
<td>11.09</td>
<td>9.91</td>
<td>1,404,432</td>
</tr>
<tr>
<td>February</td>
<td>14.86</td>
<td>14.18</td>
<td>21,483,130</td>
<td>11.18</td>
<td>10.65</td>
<td>1,421,050</td>
</tr>
<tr>
<td>March</td>
<td>15.29</td>
<td>14.62</td>
<td>31,047,577</td>
<td>11.41</td>
<td>11.02</td>
<td>1,668,365</td>
</tr>
<tr>
<td>April</td>
<td>15.46</td>
<td>14.83</td>
<td>19,707,638</td>
<td>11.60</td>
<td>11.11</td>
<td>1,647,943</td>
</tr>
<tr>
<td>May</td>
<td>15.98</td>
<td>15.00</td>
<td>22,747,144</td>
<td>11.86</td>
<td>11.15</td>
<td>2,256,814</td>
</tr>
<tr>
<td>June</td>
<td>16.60</td>
<td>15.69</td>
<td>21,626,090</td>
<td>12.54</td>
<td>11.63</td>
<td>2,066,398</td>
</tr>
<tr>
<td>July</td>
<td>16.65</td>
<td>15.80</td>
<td>20,423,588</td>
<td>12.67</td>
<td>12.03</td>
<td>1,582,660</td>
</tr>
<tr>
<td>August</td>
<td>17.45</td>
<td>16.46</td>
<td>23,273,118</td>
<td>13.10</td>
<td>12.44</td>
<td>1,774,196</td>
</tr>
<tr>
<td>September</td>
<td>18.47</td>
<td>17.19</td>
<td>22,881,613</td>
<td>13.92</td>
<td>13.04</td>
<td>1,882,789</td>
</tr>
<tr>
<td>October</td>
<td>18.80</td>
<td>17.43</td>
<td>43,404,626</td>
<td>14.12</td>
<td>13.02</td>
<td>5,886,721</td>
</tr>
<tr>
<td>November</td>
<td>18.67</td>
<td>17.55</td>
<td>62,281,527</td>
<td>14.04</td>
<td>13.32</td>
<td>2,824,024</td>
</tr>
<tr>
<td>December</td>
<td>19.34</td>
<td>18.25</td>
<td>41,206,121</td>
<td>14.60</td>
<td>13.91</td>
<td>2,086,660</td>
</tr>
</tbody>
</table>
### 7.1.2 Preferred Shares

#### Series A Shares

The Series A Shares are listed and posted for trading on the TSX under the symbol “AQN.PR.A”. The following table sets forth the high and low trading prices and the aggregate volume of trading of the Series A Shares for the periods indicated (as quoted by the TSX).

<table>
<thead>
<tr>
<th></th>
<th>High (C$)</th>
<th>Low (C$)</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>20.60</td>
<td>19.45</td>
<td>74,421</td>
</tr>
<tr>
<td>February</td>
<td>19.90</td>
<td>18.99</td>
<td>91,502</td>
</tr>
<tr>
<td>March</td>
<td>20.64</td>
<td>19.85</td>
<td>40,426</td>
</tr>
<tr>
<td>April</td>
<td>20.55</td>
<td>19.94</td>
<td>37,066</td>
</tr>
<tr>
<td>May</td>
<td>20.02</td>
<td>19.25</td>
<td>48,914</td>
</tr>
<tr>
<td>June</td>
<td>19.90</td>
<td>18.24</td>
<td>58,313</td>
</tr>
<tr>
<td>July</td>
<td>19.34</td>
<td>18.46</td>
<td>235,810</td>
</tr>
<tr>
<td>August</td>
<td>19.35</td>
<td>17.68</td>
<td>154,454</td>
</tr>
<tr>
<td>September</td>
<td>18.63</td>
<td>17.90</td>
<td>109,202</td>
</tr>
<tr>
<td>October</td>
<td>18.50</td>
<td>18.11</td>
<td>135,831</td>
</tr>
<tr>
<td>November</td>
<td>18.97</td>
<td>18.36</td>
<td>64,232</td>
</tr>
<tr>
<td>December</td>
<td>19.60</td>
<td>18.60</td>
<td>118,897</td>
</tr>
</tbody>
</table>

#### Series D Shares

The Series D Shares are listed and posted for trading on the TSX under the symbol “AQN.PR.D”. The following table sets forth the high and low trading prices and the aggregate volume of trading of the Series D Shares for the periods indicated (as quoted by the TSX).

<table>
<thead>
<tr>
<th></th>
<th>High (C$)</th>
<th>Low (C$)</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>22.65</td>
<td>20.69</td>
<td>46,510</td>
</tr>
<tr>
<td>February</td>
<td>21.10</td>
<td>20.38</td>
<td>23,362</td>
</tr>
<tr>
<td>March</td>
<td>21.73</td>
<td>21.00</td>
<td>42,002</td>
</tr>
<tr>
<td>April</td>
<td>21.57</td>
<td>21.25</td>
<td>73,180</td>
</tr>
<tr>
<td>May</td>
<td>21.51</td>
<td>21.05</td>
<td>43,047</td>
</tr>
<tr>
<td>June</td>
<td>21.13</td>
<td>20.49</td>
<td>76,600</td>
</tr>
<tr>
<td>July</td>
<td>20.97</td>
<td>20.45</td>
<td>21,258</td>
</tr>
<tr>
<td>August</td>
<td>20.80</td>
<td>19.50</td>
<td>40,853</td>
</tr>
<tr>
<td>September</td>
<td>20.37</td>
<td>19.51</td>
<td>70,898</td>
</tr>
<tr>
<td>October</td>
<td>20.10</td>
<td>19.18</td>
<td>153,932</td>
</tr>
<tr>
<td>November</td>
<td>19.76</td>
<td>19.01</td>
<td>379,416</td>
</tr>
<tr>
<td>December</td>
<td>20.50</td>
<td>19.30</td>
<td>218,047</td>
</tr>
</tbody>
</table>
7.1.3 Subordinated Notes

2018 Subordinated Notes

The 2018 Subordinated Notes are listed and posted for trading on the NYSE under the symbol "AQNA". The following table sets forth the high and low trading prices and the aggregate volume of trading of the 2018 Subordinated Notes for the periods indicated (as quoted by the NYSE).

<table>
<thead>
<tr>
<th>Year</th>
<th>High ($)</th>
<th>Low ($)</th>
<th>Volume ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>26.74</td>
<td>24.41</td>
<td>921,313</td>
</tr>
<tr>
<td>February</td>
<td>26.47</td>
<td>25.65</td>
<td>633,835</td>
</tr>
<tr>
<td>March</td>
<td>27.25</td>
<td>26.06</td>
<td>799,526</td>
</tr>
<tr>
<td>April</td>
<td>27.00</td>
<td>26.25</td>
<td>622,508</td>
</tr>
<tr>
<td>May</td>
<td>26.78</td>
<td>26.30</td>
<td>1,810,163</td>
</tr>
<tr>
<td>June</td>
<td>26.91</td>
<td>26.31</td>
<td>408,393</td>
</tr>
<tr>
<td>July</td>
<td>27.80</td>
<td>26.42</td>
<td>466,086</td>
</tr>
<tr>
<td>August</td>
<td>27.97</td>
<td>27.40</td>
<td>609,668</td>
</tr>
<tr>
<td>September</td>
<td>28.09</td>
<td>27.12</td>
<td>1,801,748</td>
</tr>
<tr>
<td>October</td>
<td>28.78</td>
<td>27.18</td>
<td>653,045</td>
</tr>
<tr>
<td>November</td>
<td>28.04</td>
<td>27.40</td>
<td>368,180</td>
</tr>
<tr>
<td>December</td>
<td>28.63</td>
<td>26.90</td>
<td>354,229</td>
</tr>
</tbody>
</table>

2019 Subordinated Notes

The 2019 Subordinated Notes are listed and posted for trading on the NYSE under the symbol "AQNB". The following table sets forth the high and low trading prices and the aggregate volume of trading of the 2019 Subordinated Notes for the periods indicated (as quoted by the NYSE).

<table>
<thead>
<tr>
<th>Year</th>
<th>High ($)</th>
<th>Low ($)</th>
<th>Volume ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>May (beginning May 28)</td>
<td>25.85</td>
<td>25.35</td>
<td>1,931,303</td>
</tr>
<tr>
<td>June</td>
<td>25.78</td>
<td>25.38</td>
<td>3,810,178</td>
</tr>
<tr>
<td>July</td>
<td>26.87</td>
<td>25.63</td>
<td>1,479,272</td>
</tr>
<tr>
<td>August</td>
<td>27.86</td>
<td>26.42</td>
<td>466,666</td>
</tr>
<tr>
<td>September</td>
<td>27.94</td>
<td>26.21</td>
<td>509,798</td>
</tr>
<tr>
<td>October</td>
<td>28.24</td>
<td>27.20</td>
<td>663,936</td>
</tr>
<tr>
<td>November</td>
<td>28.14</td>
<td>27.35</td>
<td>568,399</td>
</tr>
<tr>
<td>December</td>
<td>28.50</td>
<td>26.67</td>
<td>406,841</td>
</tr>
</tbody>
</table>

7.2 Prior Sales

During the year ended December 31, 2019, there were no issuances or sales of any class of APUC securities that are outstanding but not listed or quoted on a marketplace.

7.3 Escrowed Securities and Securities Subject to Contractual Restrictions on Transfer

There are no securities of APUC that are, to APUC's knowledge, held in escrow or subject to contractual restrictions on transfer as of the date of this AIF.
8. DIRECTORS AND OFFICERS

8.1 Name, Occupation and Security Holdings

The following table sets forth certain information with respect to the directors and executive officers of APUC as of the date of this AIF, and information on their history with the Corporation.

<table>
<thead>
<tr>
<th>Name and Place of Residence</th>
<th>Principal Occupation</th>
<th>Served as Director or Officer of APUC from</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHRISTOPHER J. BALL</td>
<td>Christopher Ball is the Executive Vice President of Corfinance International Limited, and President of CFI Capital Inc., both of which are boutique investment banking firms. From 1982 to 1988, Mr. Ball was Vice President at Standard Chartered Bank of Canada with responsibilities for the Canadian branch operation. Prior to that, Mr. Ball held various managerial positions with the Canadian Imperial Bank of Commerce. He is also a member of the Hydrovision International Advisory Board, was a director of Clean Energy BC, is a director of First Nations Power Authority and is a recipient of the Clean Energy BC Lifetime Achievement Award. Mr. Ball is a holder of the Institute of Corporate Directors Director designation.</td>
<td>Director of APUC since October 27, 2009</td>
</tr>
<tr>
<td>ARUN BANSKOTA</td>
<td>Arun Banskota is the President of APUC. Prior to that, as Vice President, Data Center Global Services and Energy Team at Amazon.com, Mr. Banskota was responsible for the planning, engineering, and delivery of datacenter capacity for Amazon Web Services, a high growth global market-leader of cloud services. Mr. Banskota previously served as President and CEO of EVGo, a high growth start-up division of NRG created to build scale and presence in the emerging electrical vehicle sector. Mr. Banskota was also Managing Director, Global Power, El Paso Corporation. He was also on the leadership team for a large-scale solar power company and has successfully managed project development and financing for solar, wind, and natural gas projects.</td>
<td>Officer of APUC since February 10, 2020</td>
</tr>
<tr>
<td>DAVID BRONICHESKI</td>
<td>Mr. Broncheksi is the Chief Financial Officer of APUC. He has held various senior management positions including Executive Vice President and CFO of a publicly traded income trust providing local telephone, cable television and internet service. He was also CFO for a large public hospital in Ontario. Mr. Broncheksi holds a Bachelor of Arts in economics (cum laude), a Bachelor of Commerce degree and an MBA (University of Toronto, Rotman School of Management). He is also a Chartered Accountant and a Chartered Professional Accountant.</td>
<td>Officer of APUC since October 27, 2009</td>
</tr>
<tr>
<td>CHRIS HUSKILSON</td>
<td>Christopher Huskilson was the President and Chief Executive Officer of Emera Inc., from 2004-2018. Since leaving Emera Inc., Mr. Huskilson has been involved in supporting the start-up ecosystem emerging in Atlantic Canada. Mr. Huskilson is a founding partner and active mentor in Creative Destruction Lab (CDL - Atlantic) which is an objectives-based program for scalable, seed-stage science- and technology-based companies. Mr. Huskilson is also a founding member of Canada's Ocean Supercluster and has invested in a number of innovation based start-up companies. He has also served as a member on the boards of a number of public and private companies in Canada and internationally. Mr. Huskilson holds a Bachelor of Science in Engineering and a Master of Science in Engineering from the University of New Brunswick.</td>
<td>Director of APUC from October 27, 2009 to June 8, 2017, and since January 2, 2020</td>
</tr>
<tr>
<td>CHRISTOPHER K. JARRATT</td>
<td>Christopher Jarratt has over 25 years of experience in the independent electric power and utility sectors and is Vice Chair of APUC. Mr. Jarratt is a founder and principal of APIC, a private independent power developer formed in 1988 which is the predecessor organization to APCo and APUC. Between 1997 and 2009, Mr. Jarratt was a principal in Algonquin Power Management Inc. which managed APCo (formerly Algonquin Power Income Fund). Since 2009, Mr. Jarratt has been a Board member and served as Vice Chair of APUC. Prior to 1988, Mr. Jarratt was a founder and principal of a consulting firm specializing in renewable energy project development and environmental approvals. Mr. Jarratt earned an Honours Bachelor of Science degree from the University of Guelph in 1981 specializing in water resources engineering and holds an Ontario Professional Engineering designation. Additionally, Mr. Jarratt holds a Chartered Director certification from the Directors College (McMaster University). Mr. Jarratt was co-recipient of the 2007 Ernst &amp; Young Entrepreneur of the Year finalist award.</td>
<td>Director and Officer of APUC since October 27, 2009</td>
</tr>
<tr>
<td>Name and Place of Residence</td>
<td>Principal Occupation</td>
<td>Served as Director or Officer of APUC from</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>ANTHONY (JOHNNY) JOHNSTON</td>
<td>Johnny Johnston is the Chief Operating Officer of APUC. Mr. Johnston has over 20 years of international experience in the utilities industry. Prior to joining the Corporation, Mr. Johnston, worked for National Grid where he led the transformation of its U.S. gas business. He has held a number of senior leadership roles in operations, customer service and strategy working in both the U.K. and U.S. across gas and electric businesses. Mr. Johnston has served on the board of the not-for-profit Heartshare Human Services of New York. Mr. Johnston holds a Masters degree in Engineering Science from the University of Oxford and a Master of Business Administration degree from the University of Cranfield. Mr. Johnston is a registered Chartered Engineer in the U.K.</td>
<td>Officer of APUC since January 8, 2019</td>
</tr>
<tr>
<td>Farmington, Arkansas, USA</td>
<td>D. Randy Laney was most recently Chairman of the board of directors of Empire from 2009 until APUC’s acquisition of Empire on January 1, 2017. He joined the board of Empire in 2003 and served as the Non-Executive Vice Chairman from 2008 to 2009. Mr. Laney, semi-retired since 2008, has held numerous senior level positions with both public and private companies during his career, including 23 years with Wal-Mart Stores, Inc. in various executive positions such as Vice President of Finance, Benefits and Risk Management and Vice President of Finance and Treasurer. In addition, Mr. Laney has provided strategic advisory services to both private and public companies and served on numerous profit and non-profit boards. Mr. Laney brings significant management and capital markets experience, and strategic and operational understanding to his position on the Board. Mr. Laney holds a Bachelor of Science and a Juris Doctor from the University of Arkansas.</td>
<td>Director of APUC since February 1, 2017</td>
</tr>
</tbody>
</table>
| KENNETH MOORE  | Kenneth Moore is the Managing Partner of NewPoint Capital Partners Inc., an investment banking firm. From 1993 to 1997, Mr. Moore was a senior partner at Crosbie & Co., a Toronto mid-market investment banking firm. Prior to investment banking, he was a Vice-President at Barclays Bank where he was responsible for a number of leveraged acquisitions and restructurings. Mr. Moore holds a Chartered Financial Analyst designation. Additionally, he holds a Chartered Director certification from the Directors College (McMaster University). | Director of APUC since October 27, 2009  
Trustee of APCo from November 12, 1998 until November 10, 2010 |
<p>| Burlington, Ontario, Canada | Jeff Norman is the Chief Development Officer of APUC, serving in this role since 2008. He was appointed to the APUC executive team in 2015. Mr. Norman co-founded the Algonguin Power Venture Fund in 2003 and served as President until it was acquired by APCo in 2008. Mr. Norman holds a Bachelor of Arts (Chartered Accountancy) and a Masters of Accounting from the University of Waterloo. | Officer of APUC since May 25, 2015 |
| KIRSTEN OLSEN  | Kirsten Olsen joined APUC in November 2019 as Chief Human Resources Officer. Ms. Olsen has 20 years of international HR experience with expertise in supporting large-scale change, talent management and M&amp;A. Prior to joining APUC, Kirsten held progressive HR leadership roles over the course of 12 years with GE in the UK. Ms. Olsen holds a Master of Industrial Relations &amp; Human Resources from the University of Toronto and an Honours Bachelor of Arts with Distinction in Psychology from Huron College at the University of Western Ontario. | Officer of APUC since January 2, 2020 |
| Toronto, Ontario Canada   | Mary Ellen Paravalo is the Chief Compliance and Risk Officer of APUC. Ms. Paravalo has over 20 years of international experience in the energy industry across operating, strategy and regulation &amp; compliance areas. Prior to joining APUC, Ms. Paravalo was Vice President, ISO, Siting, and Compliance at Eversource Energy, and prior to that held a number of leadership roles at National Grid. Ms. Paravalo has served as a Director and President for the not-for-profit company New England Women in Energy and Environment. Ms. Paravalo holds a Masters degree in electric power engineering from Rensselaer Polytechnic Institute and a Bachelor’s degree in electrical engineering from Northeastern University. Ms Paravalo is a registered engineer in the state of Massachusetts. | Officer of APUC since October 9, 2018 |</p>
<table>
<thead>
<tr>
<th>Name and Place of Residence</th>
<th>Principal Occupation</th>
<th>Served as Director or Officer of APUC from</th>
</tr>
</thead>
</table>
| IAN E. ROBERTSON
Oakville, Ontario, Canada | Ian Robertson is the Chief Executive Officer of APUC. Mr. Robertson is a founder and principal of APCI, a private independent power developer formed in 1988 which was a predecessor organization to APUC. Mr. Robertson has almost 30 years of experience in the development of electric power generating projects and the operation of diversified regulated utilities. Mr. Robertson is an electrical engineer and holds a Professional Engineering designation through his Bachelor of Applied Science degree awarded by the University of Waterloo. Mr. Robertson earned a Master of Business Administration degree from York University and holds a Chartered Financial Analyst designation. Additionally, he holds a Chartered Director certification from the Directors College (McMaster University), as well as a Global Professional Master of Laws degree from the University of Toronto. Commencing in 2013, Mr. Robertson has served on the Board of Directors of the American Gas Association. | Director and Officer of APUC since October 27, 2009
Trustee of APCo since May 12, 2011
Officer of APCo since June 22, 2011 |
| MASHEED SAIDI
Dana Point, California, United States | Masheed Saidi has over 30 years of operational and business leadership experience in the electric utility industry. Between 2010 and 2017, Ms. Saidi was an Executive Consultant of Energy Initiatives Group, a specialized group of experienced professionals that provide technical, commercial and business consulting services to utilities, ISOs, government agencies and other organizations in the energy industry. Between 2005 and 2010, Ms. Saidi was the Chief Operating Officer and Executive Vice President of U.S. Transmission for National Grid USA, for which she was responsible for all aspects of the U.S. transmission business. Ms. Saidi previously served as Chairperson of the board of directors for the non-profit organization Mary’s Shelter, and also previously served on the board of directors of the Northeast Energy and Commerce Association. She earned her Bachelors in Power System Engineering from Northeastern University and her Masters of Electrical Engineering from the Massachusetts Institute of Technology. She is a Registered Professional Engineer in the state of Massachusetts. | Director of APUC since June 18, 2014 |
| DILEK SAMIL
Las Vegas, Nevada, United States | Dilek Samil has over 30 years of finance, operations and business experience in both the regulated energy utility sector as well as wholesale power production. Ms. Samil joined NV Energy as Chief Financial Officer and retired as Executive Vice President and Chief Operating Officer. While at NV Energy, Ms. Samil completed the financial transformation of the company, bringing its financial metrics in line with those of the industry. As Chief Operating Officer, Ms. Samil focused on enhancing the company’s safety and customer care culture. Prior to her role at NV Energy, Ms. Samil gained considerable experience in generation and system operations as President and Chief Operating Officer for CLECO Power. During her tenure at CLECO, the company completed construction of its largest generating unit and successfully completed its first rate case in over 10 years. Ms. Samil also served as CLECO’s Chief Financial Officer at a time when the industry and the company faced significant turmoil in the wholesale markets. She led the company’s efforts in the restructuring of its wholesale and power trading activities. Prior to NV Energy and CLECO, Ms. Samil spent about 20 years at NextEra where she held positions of increasing responsibility, primarily in the finance area. Ms. Samil holds a Bachelor of Science from the City College of New York and a Masters of Business Administration from the University of Florida. | Director of APUC since October 1, 2014 |
| MELISSA STAPLETON BARNES
Carmel, Indiana, United States | Melissa Stapleton Barnes has been Senior Vice President, Enterprise Risk Management, and Chief Ethics and Compliance Officer for Eli Lilly and Company since January 2013. In this role, she is an executive officer and serves as a member of the company’s executive committee. She previously held the role of Vice President, Deputy General Counsel from 2012 to 2013; and General Counsel, Lilly Diabetes and Lilly Oncology and Senior Director and Assistant General Counsel from 2010 - 2012. She holds a Bachelor of Science in Political Science & Government (highest distinction) from Purdue University and a Juris Doctorate from Harvard Law School. Ms. Barnes is a member of several professional organizations including the Ethics and Compliance Initiative, Ethisphere – Business Ethics Leadership Alliance; CEB, Corporate Ethics Leadership Council; Healthcare Businesswomen’s Association; and is a licensed attorney with the Indiana State Bar. Other board positions include The Center for the Performing Arts (Chair), The Great American Songbook Foundation and Ethics Resource Center. | Director of APUC since June 9, 2016 |
<table>
<thead>
<tr>
<th>Name and Place of Residence</th>
<th>Principal Occupation</th>
<th>Served as Director or Officer of APUC from</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GEORGE L. STEEVEs</strong>&lt;br&gt;Aurora, Ontario, Canada</td>
<td>George Steeves has been Senior Project Manager of True North Energy, an energy consulting firm specializing in the provision of technical and financial due diligence services for renewable energy projects, since July 2017. From April 2002 to July 2017, Mr. Steeves was principal of True North Energy. From January 2001 to April 2002, Mr. Steeves was a division manager of Earthtech Canada Inc. Prior to January 2001, he was the President of Cumming Cockburn Limited, an engineering firm, and has extensive financial expertise in acting as a chair, director and/or audit committee member of public and private companies, including the Corporation, and formerly Borealis Hydroelectric Holdings Inc. and KMS Power Income Fund. Mr. Steeves received a Bachelor and Masters of Engineering from Carleton University and holds a Professional Engineering designation in Ontario and British Columbia. Additionally, he holds a Chartered Director certification from the Directors College (McMaster University).</td>
<td>Director of APUC since October 27, 2009&lt;br&gt;Trustee of APCo from September 8, 1997 until May 12, 2011</td>
</tr>
<tr>
<td><strong>JENNIFER TINDALE</strong>&lt;br&gt;Cambridge, Ontario, Canada</td>
<td>Jennifer Tindale is the Chief Legal Officer of APUC. Ms. Tindale has over 20 years of experience advising public companies on acquisitions, dispositions, mergers, financings, corporate governance and disclosure matters. From July 2011 to February 2017, Ms. Tindale was the Executive Vice President, General Counsel &amp; Secretary at a cross-listed real estate investment trust. Prior to that, she was Vice President, Associate General Counsel &amp; Corporate Secretary at a public Canadian-based pharmaceutical company and before that she was a partner at a top tier Toronto law firm, practising corporate securities law. Ms. Tindale holds a Bachelor of Arts and a Bachelor of Laws from the University of Western Ontario.</td>
<td>Officer of APUC since February 7, 2017</td>
</tr>
<tr>
<td><strong>GEORGE TRISIC</strong>&lt;br&gt;Oakville, Ontario, Canada</td>
<td>George Trisic is the Chief Governance Officer and Corporate Secretary of APUC. He has broad experience managing in high growth, start up and expanding businesses across multiple sites and regions. In his role, Mr. Trisic is responsible for the governance, sustainability and corporate secretarial functions of the Corporation. His skill set includes leading multi-functional groups in finance, human resources, legal and information technology in a senior role. Mr. Trisic holds a Bachelor of Laws Degree from the University of Western Ontario. Additionally, he holds a Chartered Director certification from the Directors College (McMaster University).</td>
<td>Officer of APUC since November 4, 2013</td>
</tr>
</tbody>
</table>

Each director will serve as a director of APUC until the next annual meeting of shareholders or until his or her successor is elected in accordance with the by-laws of APUC.

To the knowledge of the Corporation, as at February 26, 2019, the directors and executive officers of APUC, as a group, beneficially owned, directly or indirectly, or exercised control or direction over 2,622,349 Common Shares, representing less than 1% of the total number of issued and outstanding Common Shares before giving effect to the exercise of options to purchase Common Shares held by such directors and executive officers.

### 8.2 Audit Committee

Under the by-laws of APUC, the directors may appoint from their number, committees to effect the administration of the director’s duties. The directors have established an Audit Committee currently comprised of five directors of APUC: Mr. Ball (Chair), Ms. Stapleton Barnes, Mr. Huskilson, Mr. Laney and Ms. Samil, all of whom are independent and financially literate for purposes of National Instrument 52-110 - Audit Committees. The Audit Committee is responsible for reviewing significant accounting, reporting and internal control matters, reviewing all published quarterly and annual financial statements and recommending their approval to the Directors and assessing the performance of APUC’s auditors.

#### 8.2.1 Audit Committee Charter

The Audit Committee mandate is attached as Schedule A to this AIF.

#### 8.2.2 Relevant Education and Experience

The following is a description of the education and experience, apart from their roles as directors of APUC, of each member of the Audit Committee that is relevant to the performance of their responsibilities as a member of the Audit Committee.

Mr. Ball’s financial experience includes over 30 years of domestic and international lending experience. He is Executive Vice-President of Corpfinance International Limited, a privately owned long-term debt and securitization financier. Mr. Ball was formerly a Vice-President at Standard Chartered Bank of Canada with responsibilities for the Canadian branch operation.
Prior to that, Mr. Ball held numerous positions with Canadian Imperial Bank of Commerce, including credit function responsibilities. Mr. Ball is the Chair of the Audit Committee.

Mr. Huskilson’s financial experience includes over 35 years in leadership and operational roles in the regulated utilities business in Canada, the United States and the Caribbean. Mr. Huskilson was President and Chief Executive Officer of Emera Inc., from 2004 to 2018. Prior to that Mr. Huskilson held a number of positions within Nova Scotia Power Inc. and its predecessor, Nova Scotia Power Corporation, since June 1980. Mr. Huskilson holds a Bachelor of Science in Engineering and a Master of Science in Engineering from the University of New Brunswick.

Mr. Laney’s financial experience includes a number of senior executive roles with Wal-Mart Stores, Inc. including roles as Vice President, Finance and Treasurer and as Vice President Finance, Benefits and Risk Management. Mr. Laney also served as a member of the Empire board of directors commencing in 2003 and acted as Chair of the Empire board from 2009 until APUC’s acquisition of Empire on January 1, 2017. Mr. Laney was also a member of the Audit Committee of Empire from May 2003 to April 2005.

Ms. Samil has extensive financial experience, with over 30 years of finance, operations and business experience in the regulated energy utility sector. During her career, Ms. Samil was the Executive Vice President and Chief Operating Officer of NV Energy and gained considerable experience in generation and system operations as President and Chief Operating Officer for CLECO Power LLC. Ms. Samil holds a Bachelor of Science from the City College of New York and a Masters of Business Administration from the University of Florida.

Ms. Stapleton Barnes’ financial experience includes a number of risk management and legal/regulatory senior executive roles in a public company. Ms. Stapleton Barnes is currently an executive officer and a member of the corporate executive committee of Eli-Lilly and Company. She has extensive experience in the areas of risk management, legal and regulatory and is a licensed attorney with the Indiana State Bar.

## 8.2.3 Pre-Approval Policies and Procedures

The Audit Committee has established a policy requiring pre-approval by the Audit Committee of all audit and permitted non-audit services provided to APUC by its external auditor. The Audit Committee may delegate pre-approval authority to a member of the Audit Committee; however, the decisions of any member of the Audit Committee to whom this authority has been delegated must be presented to the full Audit Committee at its next scheduled Audit Committee meeting.

<table>
<thead>
<tr>
<th>Services</th>
<th>2019 Fees (C$)</th>
<th>2018 Fees (C$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audit Fees(^1)</td>
<td>4,432,950</td>
<td>4,245,342</td>
</tr>
<tr>
<td>Audit-Related Fees(^2)</td>
<td>135,500</td>
<td>85,500</td>
</tr>
<tr>
<td>Tax Fees(^3)</td>
<td>815,455</td>
<td>494,448</td>
</tr>
<tr>
<td>All Other Fees(^4)</td>
<td>5,800</td>
<td>Nil</td>
</tr>
</tbody>
</table>

1. For professional services rendered for audit or review services in connection with statutory or regulatory filings or engagements.
2. For assurance and related services that are reasonably related to the performance of the audit or review of APUC’s financial statements and not reported under Audit Fees, including audit procedures related to regulatory commission filings.
3. For tax advisory, compliance and planning services.
4. For all other products and services provided by APUC’s external auditor.

## 8.3 Corporate Governance, Risk, and Human Resources and Compensation Committees

The Board has established a Corporate Governance Committee, currently comprised of four directors of APUC: Mr. Steeves (Chair), Mr. Moore, Ms. Saidi, and Mr. Jarratt.

The Board has established a Risk Committee to assist the Board in the oversight of the Corporation’s enterprise risk management approach. The committee is currently comprised of four directors of APUC: Ms. Saidi (Chair), Ms. Stapleton Barnes, Mr. Jarratt and Mr. Steeves.

The Board has also established a Human Resources and Compensation Committee, currently comprised of four directors of APUC: Ms. Samil (Chair), Mr. Huskilson, Mr. Ball and Mr. Laney.
8.4 Bankruptcies

Mr. Moore was a director of Telephoto Technologies Inc., a private sports and entertainment media company. Telephoto Technologies Inc. was placed into receivership in August 2010 by Venturelink Funds. Mr. Moore resigned from the board of directors of Telephoto Technologies Inc. in April 2010.

8.5 Conflicts of Interest

To the knowledge of the Corporation, there are no existing or potential material conflicts of interest between APUC or a subsidiary and any current director or officer of APUC or a subsidiary of APUC.

9. LEGAL PROCEEDINGS AND REGULATORY ACTIONS

9.1 Legal Proceedings

The Corporation is not, and was not during the financial year ended December 31, 2019, party to any legal proceedings that involve a claim for damages equal to 10% or more of the current consolidated assets of the Corporation, and the Corporation is not aware of any such legal proceedings that are contemplated.

9.2 Regulatory Actions

During the financial year ended December 31, 2019, there were:

a) no penalties or sanctions imposed against APUC by a court relating to securities legislation or by a securities regulatory authority;

b) no other penalties or sanctions imposed by a court or regulatory body against APUC that would likely be considered important to a reasonable investor in making an investment decision; and

c) no settlement agreements that APUC has entered into with a court relating to securities legislation or with a securities regulatory authority.

10. INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS

Other than as disclosed elsewhere in this AIF, no director, executive officer or 10% holder of voting securities, or any associate or affiliate of the foregoing has, or has had, any material interest in any transaction within the three most recently completed financial years or during the current financial year that has materially affected or will materially affect APUC or any of its affiliates.

11. TRANSFER AGENTS AND REGISTRARS

The transfer agent and registrar for the Common Shares, the Series A Shares and the Series D Shares listed on the TSX is AST Trust Company (Canada), at its offices in Toronto, Ontario.

The transfer agent and registrar for the Common Shares, 2018 Subordinated Notes and 2019 Subordinated Notes listed on the NYSE is AST American Stock Transfer & Trust Company, LLC, at its office in Brooklyn, New York.

12. MATERIAL CONTRACTS

The Corporation does not have any material contracts that were not entered into in the ordinary course of business of the Corporation.
13. **EXPERTS**

Ernst & Young LLP is the external auditor of the Corporation and has confirmed that it is independent with respect to the Corporation within the meaning of the relevant rules and related interpretations prescribed by the relevant professional bodies in Canada and any applicable legislation or regulation, and that it is an independent accountant with respect to the Corporation under all relevant U.S. professional and regulatory standards.

14. **ADDITIONAL INFORMATION**

Additional information relating to APUC may be found on SEDAR at www.sedar.com. Additional information, including directors’ and officers’ remuneration and indebtedness, principal holders of APUC’s securities and securities authorized for issuance under equity compensation plans is contained in APUC’s information circular for its most recent annual meeting. Additional financial information is provided in APUC’s financial statements and MD&A for the fiscal year ended December 31, 2019, which are available on SEDAR at www.sedar.com and on EDGAR at www.sec.gov/edgar.
SCHEDULE A

ALGONQUIN POWER & UTILITIES CORP.

MANDATE OF THE AUDIT COMMITTEE

By appropriate resolution of the board of directors (the “Board”) of Algonquin Power & Utilities Corp., the Audit Committee (the “Committee”) has been established as a standing committee of the Board with the terms of reference set forth below. Unless the context requires otherwise, the term “Corporation” refers to Algonquin Power & Utilities Corp. and its subsidiaries.

1. PURPOSE

1.1 The Committee’s purpose is to:

   a) assist the Board’s oversight of:

      (i) the integrity of the Corporation’s financial statements, Management’s Discussion and Analysis (“MD&A”) and other financial reporting;

      (ii) the Corporation’s compliance with legal and regulatory requirements;

      (iii) the external auditor’s qualifications, independence and performance;

      (iv) the performance of the Corporation’s internal audit function and internal auditor;

      (v) the communication among management of the Corporation and its subsidiary entities and the Corporation’s Chief Executive Officer and its Chief Financial Officer (collectively, “Management”), the external auditor, the internal auditor and the Board;

      (vi) the review and approval of any related party transactions; and

      (vii) any other matters as defined by the Board;

   b) prepare and/or approve any report that is required by law or regulation to be included in any of the Corporation’s public disclosure documents relating to the Committee.

2. COMMITTEE MEMBERSHIP

2.1 Number of Members – The Committee shall consist of not fewer than three members.

2.2 Independence of Members – Each member of the Committee shall:

   a) be a director of the Corporation;

   b) not be an officer or employee of the Corporation or any of the Corporation’s subsidiary entities or affiliates; and

   c) satisfy the independence requirements applicable to members of audit committees under each of the rules of National Instrument 52 110 – Audit Committees of the Canadian Securities Administrators (“NI 52 110”) and other applicable laws and regulations.

2.3 Financial Literacy – Each member of the Committee shall satisfy the financial literacy requirements applicable to members of audit committees under NI 52 110 and other applicable laws and regulations.

2.4 Chair – The Chair of the Committee shall be selected from among the members of the Committee.

2.5 Annual Appointment of Members – The Committee and its Chair shall be appointed annually by the Board and each member of the Committee shall serve at the pleasure of the Board until he or she resigns, is removed or ceases to be a director.

3. COMMITTEE MEETINGS

3.1 Time and Place of Meetings – The time and place of the meetings of the Committee and the calling of meetings and the procedure in all things at such meetings shall be determined by the Committee; provided, however, that the Committee shall meet at least quarterly and meetings of the Committee shall be convened whenever requested by the external auditors or any member of the Committee in accordance with the Canada Business Corporations Act. No business
may be transacted by the Committee at a meeting unless a quorum of a majority of the members of the Committee is present. The Committee shall maintain minutes or other records of its meetings and activities.

3.2 **In Camera Meetings** – As part of each meeting of the Committee at which it approves, or if applicable, recommends that the Board approve, the annual audited financial statements of the Corporation or at which the Committee reviews the interim financial statements of the Corporation, and at such other times as the Committee deems appropriate, the Committee shall hold *in camera* meetings, and shall also meet separately with each of the persons set forth below to discuss and review specific issues as appropriate:

a) representatives of Management;
b) the external auditor; and
c) the internal audit personnel.

3.3 **Attendance at Meetings** – The external auditors are entitled to receive notice of every Committee meeting and to be heard and attend thereat at the Corporation’s expense. In addition, the Committee may invite to a meeting any officers or employees of the Corporation, legal counsel, advisor and other persons whose attendance it considers necessary or desirable in order to carry out its responsibilities.

4. **COMMITTEE AUTHORITY AND RESOURCES**

4.1 **Direct Channels of Communication** – The Committee shall have direct channels of communication with the Corporation’s internal and external auditors to discuss and review specific issues as appropriate.

4.2 **Retaining and Compensating Advisors** – The Committee, or any member of the Committee with the approval of the Committee, may retain at the expense of the Corporation such outside legal, accounting (other than the external auditor) or other advisors on such terms as the Committee may consider appropriate and shall not be required to obtain any other approval in order to retain or compensate any such advisors.

4.3 **Funding** – The Corporation shall provide for appropriate funding, as determined by the Committee, for payment of compensation of the external auditor and any advisor retained by the Committee under Section 4.2 of this mandate.

4.4 **Investigations** – The Committee shall have unrestricted access to the personnel and documents of the Corporation and the Corporation’s subsidiary entities and shall be provided with the resources necessary to carry out its responsibilities.

5. **REMUNERATION OF COMMITTEE MEMBERS**

5.1 **Director Fees Only** – No member of the Committee may accept, directly or indirectly, fees from the Corporation or any of its subsidiary entities other than remuneration for acting as a director or member of the Committee or any other committee of the Board.

5.2 **Other Payments** – For greater certainty, no member of the Committee shall accept any consulting, advisory or other compensatory fee from the Corporation. For purposes of Section 5.1, the indirect acceptance by a member of the Committee of any fee includes acceptance of a fee by an immediate family member or a partner, member or executive officer of, or a person who occupies a similar position with, an entity that provides accounting, consulting, legal, investment banking or financial advisory services to the Corporation or any of its subsidiaries, other than limited partners, non-managing members and those occupying similar positions who, in each case, have no active role in providing services to the entity.

6. **DUTIES AND RESPONSIBILITIES OF THE COMMITTEE**

6.1 **Overview** – The Committee’s principal responsibility is one of oversight. Management is responsible for preparing the Corporation’s financial statements and the external auditor is responsible for auditing those financial statements.

6.2 The Committee’s specific duties and responsibilities are as follows:

a) **Financial and Related Information**

   (i) **Annual Financial Statements** – The Committee shall review and discuss with Management and the external auditor the Corporation’s annual financial statements and related MD&A and if applicable, report thereon to the Board as a whole before they approve such statements and MD&A.

   (ii) **Interim Financial Statements** – The Committee shall review and discuss with Management and the external auditor the Corporation’s interim financial statements and related MD&A and if
applicable, report thereon to the Board as a whole before they approve such statements and MD&A.

(iii) **Prospectuses and Other Documents** – The Committee shall review and discuss with Management and the external auditor the financial information, financial statements and related MD&A appearing in any prospectus, annual report, annual information form, management information circular or any other public disclosure document prior to its public release or filing and if applicable, report thereon to the Board as a whole.

(iv) **Accounting Treatment** – Prior to the completion of the annual external audit, and at any other time deemed advisable by the Committee, the Committee shall review and discuss with Management and the external auditor (and shall arrange for the documentation of such discussions in a manner it deems appropriate) the quality and not just the acceptability of the Corporation’s accounting principles and financial statement presentation, including, without limitation, the following:

A) all critical accounting policies and practices to be used, including, without limitation, the reasons why certain estimates or policies are or are not considered critical and how current and anticipated future events impact those determinations and an assessment of Management’s disclosures along with any significant proposed modifications by the auditors that were not included;

B) all alternative treatments within generally accepted accounting principles for policies and practices related to material items that have been discussed with Management, including, without limitation, ramification of the use of such alternative disclosure and treatments, and the treatment preferred by the external auditor, which discussion should address recognition, measurement and disclosure consideration related to the accounting for specific transactions as well as general accounting policies. Communications regarding specific transactions should identify the underlying facts, financial statement accounts impacted and applicability of existing corporate accounting policies to the transaction. Communications regarding general accounting policies should focus on the initial selection of, and changes in, significant accounting policies, the impact of the Management’s judgments and accounting estimates and the external auditor’s judgments about the quality of the Corporation’s accounting principles. Communications regarding specific transactions and general accounting policies should include the range of alternatives available under generally accepted accounting principles discussed by Management and the auditors and the reasons for selecting the chosen treatment or policy. If the external auditor’s preferred accounting treatment or accounting policy is not selected, the reasons therefore should also be reported to the Committee;

C) other material written communications between the external auditor and Management, such as any management letter, schedule of unadjusted differences, listing of adjustments and reclassifications not recorded, management representation letter, report on observations and recommendations on internal controls, engagement letter and independence letter;

D) major issues regarding financial statement presentations;

E) any significant changes in the Corporation’s selection or application of accounting principles;

F) the effect of regulatory and accounting initiatives, as well as off balance sheet structures, on the financial statements of the Corporation; and

G) the adequacy of the Corporation’s internal controls and any special audit steps adopted in light of control deficiencies.
(v) **Disclosure of Other Financial Information** – The Committee shall:

A) review earnings releases, and review and discuss generally with Management, the type and presentation of information to be included in, all public disclosure by the Corporation containing audited, unaudited or forward-looking financial information in advance of its public release by the Corporation, including, without limitation, earnings guidance and financial information based on unreleased financial statements;

B) discuss generally with Management the type and presentation of information to be included in earnings and any other financial information given to analysts and rating agencies, if any; and

C) satisfy itself that adequate procedures are in place for the review of the Corporation’s disclosure of financial information extracted or derived from the Corporation’s financial statements, other than the Corporation’s financial statements, MD&A and earnings press releases, and shall periodically assess the adequacy of those procedures.

b) **External Auditor**

(i) **Authority with Respect to External Auditor** – As a representative of the Corporation’s shareholders and as a committee of the Board, the Committee shall be directly responsible for the appointment, compensation, retention, termination and oversight of the work of the external auditor (including, without limitation, resolution of disagreements between Management and the auditor regarding financial reporting) for the purpose of preparing or issuing an audit report or performing other audit, review or attest services for the Corporation. In this capacity, the Committee shall have sole authority for recommending the person to be proposed to the Corporation’s shareholders for appointment as external auditor, for determining whether at any time the incumbent external auditor should be removed from office, and for determining the compensation of the external auditor. The Committee shall require the external auditor to confirm in an engagement letter to the Committee each year that the external auditor is accountable to the Board and the Committee as representatives of shareholders and that it will report directly to the Committee.

(ii) **Approval of Audit Plan** – The Committee shall approve, prior to the external auditor’s audit, the external auditor’s audit plan (including, without limitation, staffing), the scope of the external auditor’s review and all related fees.

(iii) **Independence** – The Committee shall satisfy itself as to the independence of the external auditor. As part of this process:

A) The Committee shall require the external auditor to submit on a periodic basis to the Committee a formal written statement confirming its independence under applicable laws and regulations and delineating all relationships between the auditor and the Corporation and the Committee shall actively engage in a dialogue with the external auditor with respect to any disclosed relationships or services that may impact the objectivity and independence of the external auditor and take, or, if applicable, recommend that the Board take, any action the Committee considers appropriate in response to such report to satisfy itself of the external auditor’s independence.

B) In accordance with applicable laws and regulations, the Committee shall pre-approve any non-audit services (including, without limitation, fees therefor) provided to the Corporation or its subsidiaries by the external auditor or any auditor of any such subsidiary and shall consider whether these services are compatible with the external auditor’s independence, including, without limitation, the nature and scope of the specific non-audit services to be performed and whether the audit process would require the external auditor to review any advice rendered by the external auditor in connection with the provision of non-audit services. The Committee may delegate to one or more designated members of the Committee, such designated members not
being members of management, the authority to approve additional non-audit services that arise between Committee meetings, provided that such designated members report any such approvals to the Committee at the next scheduled meeting.

C) The Committee shall establish a policy setting out the restrictions on the Corporation’s subsidiary entities hiring partners, employees, former partners and former employees of the Corporation’s external auditor or former external auditor.

(iv) **Rotating of Auditor Partner** – The Committee shall evaluate the performance of the external auditor and whether it is appropriate to adopt a policy of rotating lead or responsible partners of the external auditors.

(v) **Review of Audit Problems and Internal Audit** – The Committee shall review with the external auditor:

A) any problems or difficulties the external auditor may have encountered, including, without limitation, any restrictions on the scope of activities or access to required information, and any disagreements with Management and any management letter provided by the auditor and the Corporation’s response to that letter;

B) any changes required in the planned scope of the internal audit; and

C) the internal audit department’s responsibilities, budget and staffing.

(vi) **Review of Proposed Audit and Accounting Changes** – The Committee shall review major changes to the Corporation’s auditing and accounting principles and practices suggested by the external auditor.

(vii) **Regulatory Matters** – The Committee shall discuss with the external auditor the matters required to be discussed by Section 5741 of the CICA Handbook – Assurance relating to the conduct of the audit.

c) **Internal Audit Function** – Controls

(i) **Regular Reporting** – Internal audit personnel shall report regularly to the Committee.

(ii) **Oversight of Internal Controls** – The Committee shall oversee Management’s design and implementation of and reporting on the Corporation’s internal controls and review the adequacy and effectiveness of Management’s financial information systems and internal controls. The Committee shall periodically review and approve the mandate, plan, budget and staffing of internal audit personnel. The Committee shall direct Management to make any changes it deems advisable in respect of the internal audit function.

(iii) **Review of Audit Problems** – The Committee shall review with the internal audit personnel: any problem or difficulties the internal audit personnel may have encountered, including, without limitation, any restrictions on the scope of activities or access to required information, and any significant reports to Management prepared by the internal audit personnel and Management’s responses thereto.

(iv) **Review of Internal Audit Personnel** – The Committee shall review the appointment, performance and replacement of the senior internal auditing personnel and the activities, organization structure and qualifications of the persons responsible for the internal audit function.

d) **Risk Assessment and Risk Management**

(i) **Risk Exposure** – The Committee shall discuss with the external auditor, internal audit personnel and Management periodically the Corporation’s major financial risk exposures and the steps Management has taken to monitor and control such exposures.

(ii) **Investment Practices** – The Committee shall review Management’s plans and strategies around investment practices, banking performance and treasury risk management.

(iii) **Compliance with Covenants** – The Committee shall review Management’s procedures to assess compliance by the Corporation with its loan covenants and restrictions, if any.
e) **Legal Compliance**

(i) On at least a quarterly basis, the Committee shall review with the Corporation's legal counsel, external auditor and Management any legal matters (including, without limitation, litigation, regulatory investigations and inquiries, changes to applicable laws and regulations, complaints or published reports) that could have a significant impact on the Corporation's financial position, operating results or financial statements and the Corporation’s compliance with applicable laws and regulations.

(ii) The Committee shall review and, if applicable, advise the Board with respect to the Corporation’s policies and procedures regarding compliance with applicable laws and regulations and shall notify Management and, if applicable, the Board, promptly after becoming aware of any material non-compliance by the Corporation with applicable laws and regulations.

f) **Whistle Blowing** – The Committee shall establish procedures for:

(i) the receipt, retention and treatment of complaints received by the Corporation regarding accounting, internal accounting controls or auditing matters; and

(ii) the confidential, anonymous submission by employees of the Corporation’s subsidiary entities of concerns regarding questionable accounting or auditing matters.

g) **Review of the Management’s Certifications and Reports** – The Committee shall review and discuss with Management all certifications of financial information, management reports on internal controls and all other management certifications and reports relating to the Corporation’s financial position or operations required to be filed or released under applicable laws and regulations prior to the filing or release of such certifications or reports.

h) **Liaison** – The Committee shall assess whether appropriate liaison and co-operation exist between the external auditor and internal audit personnel and provide a direct channel of communication between external and internal auditors and the Committee.

i) **Public Reports** – The Committee shall prepare and/or approve any report that is required by law or regulation to be included in any of the Corporation’s public disclosure documents relating to the Committee.

j) **Other Matters** – The Committee may, in addition to the foregoing, perform such other functions as may be necessary or appropriate for the performance of its oversight function.

7. **REPORTING TO THE BOARD**

7.1 **Regular Reporting** – If applicable, the Committee shall report to the Board following each meeting of the Committee and at such other times as the Committee may determine to be appropriate.

8. **EVALUATION OF COMMITTEE PERFORMANCE**

8.1 **Performance Review** – The Committee shall periodically assess its performance.

8.2 **Amendments to Mandate**

a) **Review by Committee** – The Committee shall periodically review and discuss the adequacy of this mandate and, if applicable, recommend any proposed changes to the Board.

b) **Review by Board** – The Board will review and reassess the adequacy of the mandate periodically, as it considers appropriate.

9. **LEGISLATIVE AND REGULATORY CHANGES**

9.1 **Compliance** – It is the Board’s intention that this mandate shall reflect at all times all legislative and regulatory requirements applicable to the Committee. Accordingly, this mandate shall be deemed to have been updated to reflect any amendments to such legislative and regulatory requirements and shall be formally amended at least every fourteen months to reflect such amendments.

10. **CURRENCY OF MANDATE**

10.1 **Currency of Mandate** – This mandate was approved by the Board of Directors of Algonquin Power & Utilities Corp. effective March 31, 2010. Last updated on March 1, 2018.
SCHEDULE B

GLOSSARY OF TERMS

In this AIF, the following terms have the meanings set forth below, unless otherwise indicated:

“2018 Notes Interest Reset Date” has the meaning ascribed thereto under “Description of Capital Structure – Subordinated Notes”.

“2018 Subordinated Notes” has the meaning ascribed thereto under “General Development of the Business – Three Year History and Significant Acquisitions – Fiscal 2018 – Corporate”.

“2019 Notes Interest Reset Date” has the meaning ascribed thereto under “Description of Capital Structure – Subordinated Notes”.

“2019 Novel Coronavirus” has the meaning given to it in Caution Concerning Forward-looking Statements and Forward-looking Information.

“2019 Subordinated Notes” has the meaning ascribed thereto under “General Development of the Business – Three Year History and Significant Acquisitions – Fiscal 2019 – Corporate”.

“AAGES” means Abengoa-Algonquin Global Energy Solutions, a joint venture with Abengoa.

“AAGES Secured Credit Facility” has the meaning ascribed thereto under “General Development of the Business – Three Year History and Significant Acquisitions – Fiscal 2018 – Corporate”.

“Abengoa” means Abengoa S.A.

“Additional Atlantica Investment” has the meaning ascribed thereto under “General Development of the Business – Three Year History and Significant Acquisitions – Fiscal 2018 – Corporate”.

“AIF” means this annual information form.

“Amended and Restated Rights Plan” has the meaning ascribed thereto under “Description of Capital Structure – Shareholders’ Rights Plan”.

“American Water” has the meaning ascribed thereto under “General Development of the Business – Three Year History and Significant Acquisitions – Fiscal 2019 – Regulated Services Group”.

“Amherst Island Wind Facility” has the meaning ascribed thereto under “Description of the Business – Renewable Energy Group – Wind Power Generating Facilities – Selected Facilities”.

“APCI” means Algonquin Power Corporation Inc.

“APCo” has the meaning ascribed thereto under “Corporate Structure – Name, Address and Incorporation”.

“APSC” means Arkansas Public Services Commission.

“APUC” has the meaning ascribed thereto under “Corporate Structure – Name, Address and Incorporation”.

“Ascendant” has the meaning ascribed thereto under “General Development of the Business – Three Year History and Significant Acquisitions – Fiscal 2019 – Corporate”.

“Atlantica” has the meaning ascribed thereto under “General Development of the Business – Renewable Energy Group”.

“AY Holdings” has the meaning ascribed thereto under “Corporate Structure – Intercorporate Relationships”.

“Bakersfield I Solar Facility” means the 20 MW Bakersfield solar generating facility in California.

“BELCO” has the meaning ascribed thereto under “General Development of the Business – Three Year History and Significant Acquisitions – Fiscal 2019 – Corporate”.

“Board” means the Algonquin Power & Utilities Corp. board of directors.

“BRRBA” means base revenue requirement balancing account.

“CalPeco Electric System” means an electricity distribution utility in the Lake Tahoe basin and surrounding areas.
“CC&N” has the meaning ascribed thereto under “Corporate Development Activities – Development of Regulated Services Assets – Mid-West Wind Development Project”.

“Collateral Reset Level” has the meaning ascribed thereto under “Enterprise Risk Factors - Risk Factors Relating to Strategic Planning and Execution”.

“Common Shares” means the common shares of Algonquin Power & Utilities Corp.

“Corporation” has the meaning ascribed thereto under “Corporate Structure – Name, Address and Incorporation”.

“Corporation Credit Facility” has the meaning ascribed thereto under “General Development of the Business – Three Year History and Significant Acquisitions – Fiscal 2018 – Corporate”.

“CPUC” means California Public Utilities Commission.

“DBRS” means the credit rating agency Dominion Bond Rating Service Limited.

“Deerfield Wind Facility” means the Deerfield wind energy facility in Michigan.

“EDG” has the meaning ascribed thereto under “Corporate Structure – Intercorporate Relationships”.

“EGNB” has the meaning ascribed thereto under “General Development of the Business – Three Year History and Significant Acquisitions – Fiscal 2018 – Regulated Services Group”.

“EGNB Acquisition” has the meaning ascribed thereto under “General Development of the Business – Three Year History and Significant Acquisitions – Fiscal 2018 – Regulated Services Group”.

“Empire” has the meaning ascribed thereto under “Corporate Structure – Intercorporate Relationships”.

“Empire District Electric System” means an electricity distribution utility in Missouri, Kansas, Oklahoma and Arkansas.

“Energy Service” has the meaning ascribed thereto under “Description of the Business – Regulated Services Group – Electric Distribution Systems – Selected Facilities”.


“EPC” means engineering, procurement and construction.

“ERCOT” means Electric Reliability Council of Texas.

“ERM” means enterprise risk management.

“FERC” means the Federal Energy Regulatory Commission.

“FIT” means feed-in tariff.

“Fitch” means Fitch Ratings, Inc.

“GAAP” means Generally Accepted Accounting Principles.

“GAF” has the meaning ascribed thereto under “Description of the Business – Regulated Services Group – Description of Operations – Natural Gas Distribution Systems – Selected Facilities”.

“Granite State Electric System” means an electricity distribution utility in New Hampshire.

“Great Bay Solar Facility” means the 75 MW Great Bay solar facility in Somerset County, Maryland.

“Greening the Fleet” has the meaning ascribed thereto under “Corporate Development Activities – Development of Regulated Services Assets”.

“GW” means gigawatt.

“IESO” means Independent Electricity System Operator for Ontario.

“Initial Atlantica Investment” has the meaning ascribed thereto under “General Development of the Business – Three Year History and Significant Acquisitions – Fiscal 2017 – Corporate”.

“ISO” means independent system operator.


“KCC” means State Corporation Commission of the State of Kansas.

“KV” means kilovolt.

“Liberty Park Water” has the meaning ascribed thereto under “Description of the Business Regulated Services Group – Description of Operations – Water Distribution and Wastewater Collection Systems”.

"Liberty Park Water System" has the meaning ascribed thereto under “Description of the Business Regulated Services Group – Description of Operations – Water Distribution and Wastewater Collection Systems”.

“Liberty Power Bilateral Facility” has the meaning ascribed thereto under “General Development of the Business – Three Year History and Significant Acquisitions – Fiscal 2017 – Renewable Energy Group”.

“Liberty Utilities Canada” has the meaning ascribed thereto under “Corporate Structure – Intercorporate Relationships”.

“LIBOR” has the meaning ascribed thereto in the first supplemental indenture dated as of October 17, 2018 between APUC, American Stock Transfer & Trust Company, LLC and AST Trust Company (Canada) providing for the issue of the 2018 Subordinated Notes and in the second supplemental indenture dated as of May 23, 2019 between APUC, American Stock Transfer & Trust Company, LLC and AST Trust Company (Canada) providing for the issue of the 2019 Subordinated Notes.

“LPSCo System” means the Litchfield Park water and wastewater system in Arizona.

“Luning Solar Facility” has the meaning ascribed thereto under “General Development of the Business – Three Year History and Significant Acquisitions – Fiscal 2017 – Regulated Services Group”.

“Manitoba Hydro” means the Manitoba Hydro-Electric Board.

“MD&A” has the meaning ascribed thereto under “Non-GAAP Financial Measures”.

“MDPU” means The Massachusetts Department of Public Utilities.

“Midstates Gas Systems” means natural gas distribution utility assets in Missouri, Iowa and Illinois.

“Minonk Wind Facility” means the Minonk wind energy facility in Illinois.

“MISO” means Midcontinent Independent System Operator, Inc.

“Moody’s” means Moody’s Investors Services, Inc.

“MPSC” means Missouri Public Services Commission.

“MW” means megawatt.

“NB Energy Board” means the New Brunswick Energy and Utilities Board.

“New Brunswick Gas System” means the natural gas distribution utility assets in New Brunswick.

“NERC” means the North American Electric Reliability Corporation.

“Net Energy Sales” has the meaning ascribed thereto under “Non-GAAP Financial Measures”.

“Net Utility Sales” has the meaning ascribed thereto under “Non-GAAP Financial Measures”.

“New England Gas System” means natural gas distribution utility assets in Massachusetts.

“New York American Water” has the meaning ascribed thereto under “General Development of the Business – Three Year History and Significant Acquisitions – Fiscal 2019 – Regulated Services Group”.

“NHPUC” means the New Hampshire Public Utilities Commission.

“NV Energy” means NV Energy, Inc.

“NYSE” means New York Stock Exchange.

“OATT” means open access transmission tariff.

“OCC” means Corporation Commission of Oklahoma.
“Odell Wind Facility” means the 200 MW Odell wind facility in Cottonwood, Jackson, Martina and Watonwan counties in Minnesota.

“OPEB” has the meaning ascribed thereto under “Enterprise Risk Factors – Risk Factors Relating to Financing and Financial Reporting”.

“Peach State Gas System” means natural gas distribution utility assets in Georgia.

“PGA” means purchased gas adjustment.

“PJM” means PJM Interconnection.

“PPA” means power purchase agreement.


“PTC” means production tax credit.

“Reinvestment Plan” has the meaning ascribed thereto under “Dividends – Dividend Reinvestment Plan”.

“RPS” means renewable portfolio standards.

“S&P” means Standard & Poor’s Financial Services LLC.

“Sandy Ridge Wind Facility” means the Sandy Ridge wind energy facility in Texas.

“SEC” means U.S. Securities and Exchange Commission

“Senate Wind Facility” means the Senate wind energy facility in Texas.

“Series A Shares” has the meaning ascribed thereto under “Dividends – Preferred Shares”.

“Series A Shares Redemption Right” has the meaning ascribed thereto under “Description of Capital Structure – Preferred Shares”.

“Series B Shares” has the meaning ascribed thereto under “Description of Capital Structure – Preferred Shares”.

“Series C Shares” has the meaning ascribed thereto under “Dividends – Preferred Shares”.

“Series D Shares” has the meaning ascribed thereto under “Dividends – Preferred Shares”.

“Series D Shares Redemption Right” has the meaning ascribed thereto under “Description of Capital Structure – Preferred Shares”.

“Series E Shares” has the meaning ascribed thereto under “Description of Capital Structure – Preferred Shares”.

“Series F Shares” has the meaning ascribed thereto under “General Development of the Business – Three Year History and Significant Acquisitions – Fiscal 2018 – Corporate”.

“Series G Shares” has the meaning ascribed thereto under “General Development of the Business – Three Year History and Significant Acquisitions – Fiscal 2019 – Corporate”.

“Shady Oaks Wind Facility” means the Shady Oaks wind energy facility in Illinois.

“SLG” has the meaning ascribed thereto under “General Development of the Business – Three Year History and Significant Acquisitions – Fiscal 2017 – Regulated Services Group”.

“SPP” means Southwest Power Pool.

“St. Lawrence Gas System” means natural gas distribution utility assets in northern New York State.

“St. Leon LP” has the meaning ascribed thereto under “Corporate Structure – Intercorporate Relationships”.

“St. Leon Wind Facility” means the 104 MW wind facility located at St. Leon, Manitoba.

“Tinker Hydro Facility” means the electric generating facility and transmission assets in New Brunswick.

“Turquoise Solar Facility” means the 10 MW solar generating facility located in Washoe County, Nevada.

“TSX” means the Toronto Stock Exchange.

“Wataynikaneyap Power Transmission Project” has the meaning ascribed thereto under “Corporate Development Activities – Development of Regulated Services Assets – Wataynikaneyap Power Transmission Project”.