

# Setting new sights with our clean energy

Annual Report 2019



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AND DISTRIBUTION FACILITIES

### COVER

The storm that began on November 1, 2019, with wind gusts of over 120 km/h, brought down an impressive number of trees and branches, causing outages in several regions of Québec. At the height of the storm, more than 4,000 outages were reported, leaving close to one million customers without electricity. The coordinated efforts of some 1,500 employees—line workers, control center experts and customer relations staff, not to mention the social media, community relations and media relations teams—helped restore power to 95% of affected customers within 70 hours.

## HYDRO-QUÉBEC IN FIGURES

**\$2,923 million**

Net income in 2019

**208.3 TWh**

Net electricity sales,  
including 33.7 TWh in exports

**7.30¢/kWh**

Residential rate,  
the lowest in North America

**94%**

Public satisfaction index

**\$2,192 million**

Dividend for 2019

**\$7.01 million**

Total donations raised for Centraide

in the 2019 Hydro-Québec employees' and pensioners' fundraising campaign, an amount that has grown steadily over the past five years

A CLEAR ADVANTAGE

# Québec residential rates are the lowest in North America.

Thanks to hydropower from our 62 run-of-river and reservoir generating stations, Québec enjoys North America's lowest residential rates. Electricity prices are nearly twice as high in Toronto and four times higher in New York and Boston. Furthermore, our hydroelectricity means that our customers, both in Québec and beyond our borders, are supplied with energy that is more than 99% clean and renewable. That's a clear advantage in the fight against climate change.

## MESSAGE FROM THE CHAIR OF THE BOARD

The 75th anniversary of a power utility the size of Hydro-Québec provides a unique opportunity to highlight not only its many technical triumphs throughout its history but also its strong contribution to Québec's prosperity. In fact, thanks to the excellent financial results achieved again in 2019, the company will pay the shareholder a dividend of \$2,192 million.

While the challenges that Hydro-Québec has met since inception make it unique in more ways than one, it also bears mentioning that the company still works hard to be worthy of Quebecers' continued respect and pride.



Jacynthe Côté  
Chair of the Board

Hydro-Québec's firm intention to remain at the leading edge is evident in its strategic decisions: for instance, exploring other sources of renewable energy like wind, solar and green hydrogen, continuing to adopt new digital technologies, developing intelligent microgrids, and establishing Hilo, a new subsidiary that will offer personalized products and services for smart homes starting in 2020. These are all examples of the company's commitment to making the most of each electron, from the generating station to the home.

Today, climate change is an urgent problem for the whole planet, and Hydro-Québec, with its clean and renewable energy, is part of the solution, both here and well beyond our borders. It's a concern that lies at the very heart of the organization's strategic planning for the short, medium and long term. For example, because climate change clearly increases the risk to operations, Hydro-Québec's teams are already changing their ways of doing things in order to increase the grid's resilience during extreme weather events. The challenge is enormous, but one they are determined to overcome.

Maintaining respectful relations with Hydro-Québec's customers and key partners is essential. Over the years, the company has built its success with the contribution of its stakeholders, who have both supported and challenged it, driving it to new heights of excellence throughout its growth. And for this, we are deeply grateful.

Throughout its rich history, Hydro-Québec has been able to count on the hard work of all the women and men who have continued to write the epic tale that began in 1944. On behalf of my colleagues on the Board, I extend sincere thanks to those who have helped build a company that is a source of pride for all Quebecers, and I salute all Hydro-Québec employees for their ongoing commitment.

## MESSAGE FROM THE PRESIDENT AND CHIEF EXECUTIVE OFFICER

Throughout its history, Hydro-Québec has been a major force in Québec's development. We intend to continue in this role—one the company has played since its very beginnings—and to aim ever higher in all our endeavors.

The company maintained a high level of profitability in 2019, with net income of \$2,923 million, enabling it to pay its shareholder a dividend of \$2,192 million. The dividend is an annual contribution that benefits all Quebecers.

It's also noteworthy that Hydro-Québec contributed \$20.4 billion to provincial GDP, which makes us one of the largest economic drivers of Québec's collective wealth. Our target for 2024 is \$23.4 billion.

Our *Strategic Plan 2020–2024*, which builds on the previous plan published in 2016, attests to the ambition that has always characterized the company. It lays out our objectives for the coming years regarding customer relations, business development, financial performance, health and safety, technological innovation and organizational efficiency.

While hydropower has, up to now, provided an incomparable energy option whose green, renewable attributes have been a source of pride, we must now shift some of our focus to other renewables, especially wind, solar and green hydrogen power.

In this regard, the alliance with Innergex that we announced in early February ties in with our growth strategy and fits perfectly with our vision of leveraging our skills and investing in companies or projects that offer high potential for synergy with our business. This alliance, and the related investment targeting sectors in which we excel, will allow our know-how and our innovations to shine on a global scale.

We have the further objective of decarbonizing Québec by increasing the share of electricity in the energy mix, where it currently accounts for only 35%. Achieving this goal would lessen dependence on fossil fuels, trim the province's trade deficit, increase our revenue and make a sustainable



Éric Martel  
President and Chief Executive Officer

contribution to improving quality of life for all Quebecers while also reducing GHG emissions throughout the territory we serve.

Climate change is upon us, and the weather events we recently experienced have prompted us to take steps to reduce climate-related risks to our assets. More specifically, we have adjusted some of our work methods and developed other initiatives to decrease the vulnerability of our infrastructure.

From a business perspective, we're maintaining our customer-centric approach, as illustrated this year by our overall public satisfaction index, with 94% of respondents saying they were very satisfied or somewhat satisfied.

Again with our customers firmly in view, last October we launched Hilo, a bold, innovative and dynamic subsidiary very much in tune with the times. Through it, we become full participants in the energy transition, promoting our clean energy by offering products and services that have emerged from the rapid advancement of smart technologies designed to simplify management of Québec homes and businesses.

We will step up our initiatives to increase electricity exports to all markets in northeastern North America. In 2019, we posted a strong volume of net exports, which allowed our neighbors to obtain, at competitive prices, a large quantity of green energy that they could use to offset the intermittent nature of their renewables, such as solar and wind power.

Recently, Maine's Land Use Planning Commission approved the New England Clean Energy Connect (NECEC), a project aimed at supplying Massachusetts with electricity for 20 years. NECEC stems from the signing of the largest long-term sales contract in Hydro-Québec's history, for a total of 9.45 TWh. It has already been approved by the U.S. Federal Energy Regulatory Commission and the Maine Public Utilities Commission.

In addition, we began talks with New York City with a view to reaching an agreement to deliver around 8 TWh to its grid. Our green energy would replace an equivalent volume of fossil fuels and reduce GHG emissions in New York by about 5%. The enthusiasm shown to date by the city's administration for energy such as ours is evidence of the renewable nature of Québec hydropower.

More than ever, we are focusing our corporate culture on health and safety in order to offer the safest possible working environment to all employees—our own and those of our partners on the jobsites. We're proud to have won Silver in the Innovation category at the 14th Québec occupational health and safety awards gala, for the soundproof booth designed by a team at our Shawinigan machine shop.

The year brought Hydro-Québec several other laurels as well, including top prize in the Best Analytics Project Category (Large Utility class) at the CS Week Expanding Excellence Awards, for our work on energy theft detection, and a Canada Award for Excellence – Gold level, acknowledging our remarkable commitment to continual improvement.

We are also delighted that Montréal was named Data Centre Location of the Year at the Datacloud Global Awards, rewarding our extensive efforts in this area.

Lastly, at the end of January 2020, Hydro-Québec ranked **second** in *Forbes* magazine's list of **Canada's Best Employers 2020**—a tribute that reflects the engagement and pride of all our employees.

As Hydro-Québec celebrates its 75th anniversary, we're hard at work to meet the many challenges that lie ahead. In the coming years, we will strive to further improve the company's performance by making customers the focus of all our concerns, decisions and actions, so that the great success story that began in 1944 can continue to unfold.

## OUR MANAGEMENT TEAM



From left to right: **Réal Laporte**, President, Hydro-Québec Innovation, équipement et services partagés and President and Chief Executive Officer, Société d'énergie de la Baie James; **Élise Proulx**, Vice President – Communications, Government Affairs and Indigenous Relations; **Éric Filion**, President, Hydro-Québec Distribution; **Éric Martel**, President and Chief Executive Officer; **Simon Richard**, Vice President – Corporate Strategy and Business Development; **David Murray**, Chief Operating Officer, Hydro-Québec and President, Hydro-Québec Production; **Nathalie Dubois**, Vice President – Human Resources; **Marc Boucher**, President, Hydro-Québec TransÉnergie; **Pierre Gagnon**, Executive Vice President – Corporate and Legal Affairs and Chief Governance Officer; **Jean-Hugues Lafleur**, Executive Vice President and Chief Financial and Risk Officer.



## HYDRO-QUÉBEC'S 75<sup>TH</sup> ANNIVERSARY

# A daring, innovative journey

Since 1944, Hydro-Québec has consistently contributed to Québec's growth and development. In the Côte-Nord region, construction of Bersimis-1 and Bersimis-2 generating stations in the 1950s brought about a feat of engineering unprecedented in North America: the use of 315-kV lines to connect generating facilities to a grid. A few years later, the development of the Manicouagan and Outardes rivers gave rise to the world's first 735-kV line, as well as the world's largest multiple-arch-and-buttress dam, Daniel-Johnson.

In 1970, we inaugurated the Institut de recherche d'Hydro-Québec (IREQ), a state-of-the-art research institute whose innovations are recognized internationally. One year later, Québec mobilized for the launch of the "project of the century": development of the Grande Rivière. Still today, the eight facilities in this megaproject supply close to 50% of the electricity produced by Hydro-Québec.

Since then, the company has become a world benchmark in the generation of clean, renewable energy. We also play a key role in the development of battery materials for electric vehicles, as well as in the electric powertrain market, in particular through our equity interest in Dana TM4. We are firmly committed to being a world leader in the energy transition.

The commissioning of the Chamouchouane-Bout-de-l'Île facilities, completion of the Romaine complex, steady growth of exports to the U.S. Northeast and measures focused on meeting customer needs are only a few of the initiatives taken by Hydro-Québec, a jewel of the Québec economy that gives us all reason to be proud.

A TRUE PARTNER

# A customer-driven culture

Hydro-Québec sustains its market growth by constantly adapting to customer needs. Teams throughout the company support these efforts through initiatives that place the customer front and center in all their concerns, decisions and actions. Again this year, during our Customer Experience Week, we organized several activities designed to rally employees around this fundamental corporate value.

We are striving to grow each of our customer segments. In the past few months, we implemented various improvements to facilitate exchanges with customers, in particular consumer groups and associations representing engineers, architects or other partners.

For example, to better meet the needs of real estate developers, we set up a single point of contact through which they can reach an advisor who will handle all their projects. Another point of contact puts them in touch with experts—engineers and technicians—who can guide them in their energy and technology choices. More and more, Hydro-Québec is expanding its role from electricity supplier to business partner.

In the area of technology, we're working tirelessly to refine our remote monitoring systems and extend their application to an ever-increasing number of grid assets, leading to daily performance improvements. The information flow from these systems is used by our operation support units, allowing them to make the right decisions at the right time and to prevent major equipment failures or service interruptions that could disrupt our customers' activities. Technological innovation also enables us to conduct more of our maintenance operations from a distance.



*Beginning in the month of May there was a substantial reduction in the operation of two major war industries in the Beauharnois area, which resulted in a decrease in the demand for power. For two years prior to this time the generating plant and equipment had been operating at or above its rated capacity, on practically a continuous basis. The reduction in load brought about by decreased war demand permitted the progressive overhaul of several of the generating units throughout the summer months.*

From our Annual Report

1944

We rely on state-of-the-art remote monitoring systems for real-time assessment of equipment condition. For example, the data from sensors linked to our power transformers is processed by algorithms that can detect anomalies at very early stages.

### A simplified bill

In June, we introduced a simplified bill for our business customers, similar to the one our residential customers have been receiving since January 2018. Our goal is to make billing information easier to understand, while ensuring that it meets the needs and reflects the realities of businesses.

In addition, thanks to communicating meters, which provide synchronized metering of electricity use, some of our customers can now receive a single monthly bill with the consumption data from each of their meters shown separately.

### A newsletter for business customers

Business customers have quick and convenient access to all the latest Hydro-Québec news of interest to them. Our business newsletter, which was already sent out several times a year to medium- and large-power customers, is now being sent to our Rate G business customers as well. It covers a variety of topics, including energy-saving tips, efficient account management through the Customer Space, and new rate offerings.

### Online Billing

More than 47% of our customers are currently signed up for Online Billing, compared to 41% at the end of 2018. The information provided by our service representatives played a key role in the success of our promotional campaign. Between May and August 2019, we donated \$3 to Centraide for each customer who joined Online Billing, for a total of \$400,000.

### Customer Space

Customers no longer have to memorize a code to access their Customer Space on our website; they can simply use their email address and a password. We set up a self-service option to help customers make this transition. In addition, customers with more than one Customer Space can now access all of them through a single email address/password combination, which provides more convenience while still preserving the security of each Customer Space.

USE OF OUR DIGITAL PLATFORMS		
PLATFORM	END OF 2018	END OF 2019
Facebook (followers)	116,882	187,259 +60%
Twitter (followers)	51,687	67,788 +31%
Instagram (followers)	4,870	10,156 +109%
LinkedIn (followers)	53,854	76,549 +42%
YouTube (views)	3,975,657	5,926,826 +49%
Website (Customer Space visits)	19,754,981	22,475,780 +14%
Mobile app (visits)	5,029,094	12,891,268 +156%

More and more customers are choosing to contact us through social media (Facebook and Twitter) and our online chat service. In 2019, we processed 165,615 conversations, a 51% increase over 2018.

Public satisfaction index	Average call wait time	Call service level
In 2019, 94% of survey respondents said they were very satisfied or somewhat satisfied with Hydro-Québec, compared to 92% in 2017 and 93% in 2018. To continue to improve public satisfaction, we are honing in on the perceptions customers have about rates and on the support we offer during outages.	The average call wait time at our customer relations centers was 104 seconds in 2019, compared to 87 seconds in 2018. After reducing our average call wait time in recent years, we have now found a balance between call wait time and customer satisfaction.	The proportion of calls answered in less than 180 seconds was 82% in 2019, exceeding the target of 80% set at the start of the year. This target enables us to strike a balance between call service level and customer satisfaction.

*Under authority of 10, George VI, Chapter 8, adopted by the Legislative Assembly on March 5, 1946, Hydro-Québec specialists conducted 27 practical courses for students in civil and electrical Engineering. The students received supernumerary salaries while employed by the Commission during their summer vacation.*

*The courses were given at the Montreal Polytechnical School from June 12 to September 11 inclusive. Some were in French, others in English, to permit students of both ethnic groups the opportunity of becoming familiar with both languages. It was left to the discretion of the students to use the language they wished for the written resumes of courses required of them to assure their complete attention.*

From our Annual Report

**1946**

We plan to ramp up our vegetation control efforts by making greater use of mechanical tree-felling. In this connection, three pilot projects were undertaken during the year: one in Mont-Laurier, another in Manawan, and the third in Oujé-Bougoumou.

### Dynamic pricing

In December, Hydro-Québec introduced two new rate offerings for Rate D residential and farm customers and Rate G business customers:

- The Winter Credit Option, which gives customers a credit if they reduce their electricity use during peak demand events
- Flex rates, where the winter price is lower than the base rate during off-peak hours, and higher during peak demand events (maximum 100 hours)

Dynamic pricing is being rolled out gradually, starting with about 20,000 customers during winter 2019–2020 to ensure optimal customer support. Customers are selected randomly among Customer Space holders who have a communicating meter and have provided a valid email address. Those selected are free to sign up for one or the other of them if they so choose.

Under the new rate offerings, customers can save money by reducing their consumption during winter peak hours, from 6 a.m. to 9 a.m. and 4 p.m. to 8 p.m. Dynamic pricing is mutually beneficial—it’s our way of thanking customers for helping us reduce electricity demand during peak periods.

A number of measures have been implemented to encourage customers to choose these rate offerings, including a telephone support line and tools to help them estimate and track their savings.

### An integrated approach

Hydro-Québec is continuing its efforts to promote energy efficiency. Our integrated approach uses a combination of awareness-raising and support to encourage customers to make lasting changes in their habits. We also stay abreast of opportunities created by technological advances and new products and services. Our energy efficiency programs are based on available savings potential, the needs of our power system and the potential contribution of various partners. For example, we run campaigns to educate residential customers about environmentally responsible habits to adopt in winter, particularly during peak hours.

### Efficient solutions

In October we began promoting our energy efficiency support program, Efficient Solutions, through an ad campaign. The program is designed to help Québec businesses and institutions accelerate their renovation, modernization and construction projects. It provides financial support to organizations that implement sustainable technological solutions to improve the energy performance of buildings and reduce energy costs.



Complaints	Simple service connections	Work completed by the date first given to the customer
The number of complaints continued to decline in 2019, dropping to 2,231 from 2,740 in 2018. This decrease reflects our proactive communications and the improvements we've made in our dealings with customers.	This indicator measures the percentage of simple service connections completed within 10 business days. Despite the significant weather events we faced in 2019, which forced us to extend the connection lead time in some cases, we still achieved a rate of 89%, a slight improvement compared to 2018's rate of 88%.	The percentage of cases where technical services were completed by the date first given to the customer continues to increase, moving up from 88% in 2018 to 90% in 2019.

PROUDLY MEETING  
CHALLENGES FOR

75  
YEARS

*Approximately 13,000 new electricity customers were added to the system during the year. It is interesting to note that the average consumption per domestic service customer is now in excess of 1200 Kw-hrs per year as compared to 1080 Kw-hrs in the year 1947 and 682 Kw-hrs in the year 1941*

From our Annual Report

1948



We strive to educate customers operating commercial and institutional buildings about the way their energy choices impact the environment and about the many benefits of our energy, which is more than 99% renewable.

### Electrifying distinctions

Hydro-Québec is thrilled that Montréal was voted Data Centre Location of the Year in the Datacloud Global Awards. The accolade highlights Montréal's unique advantages as a location offering renewable energy, affordable, stable rates and a highly reliable power system. It also confirms the success of the work we did, in close collaboration with Montréal International and Investissement Québec, to attract data centers to the greater Montréal region, a world-class tech hub.

On April 10, as part of the CS Week Expanding Excellence Awards, Hydro-Québec received the Best Analytics Project prize (Large Utility class) for its work on energy theft detection. This distinction is granted to a utility that successfully completed a pilot project or large-scale implementation making use of analytics to improve customer service. The awards ceremony took place during an annual conference for professionals from electrical, gas, water and wastewater management utilities in North America and around the world. Nominated projects were evaluated on numerous criteria, including complexity, innovation and improvement to customer service.

On August 5, our program promoting WaterSense® water- and energy-saving products won a Silver award in the Program Marketing category of Chartwell's Best Practices Awards. Chartwell's awards competition runs yearly to recognize initiatives, projects and programs undertaken by North American utilities to improve customer experience, communications and public awareness.

### Our commitment to the community

To maximize the impact of our contributions, we introduced a new directive on social responsibility. From now on, we'll be focusing our efforts on specific, measurable, desired social change that meets a real need, whether in the environment, the economy or the community. The three issues we prioritize are reducing GHG emissions, supporting the economic vitality of Québec's regions and fighting poverty.

We are proud to support organizations in all regions of the province. In 2019, more than 575 organizations received a total of \$19 million in donations and sponsorships. More information is available at [www.hydroquebec.com/donations-sponsorships](http://www.hydroquebec.com/donations-sponsorships).



Organized by Excellence Canada, the Canada Awards for Excellence recognize exceptional achievements by organizations in the private, public and non-profit sectors across the country. On November 5, Hydro-Québec Distribution received the Gold prize in the Excellence, Innovation and Wellness® category. This award acknowledges our outstanding commitment to continual improvement and our steadfast pursuit of excellence. Excellence Canada is the national authority in the areas of quality and workplace wellness. It recognizes and certifies organizations that are customer-centric, competitive, profitable, and socially and environmentally responsible.

PROUDLY MEETING  
CHALLENGES FOR



*Net extensions to the transmission and distribution system during the year, if laid end to end, would cover 11.2 miles. These mains were laid to maintain and improve service in the territory served and to extend it to new districts.*

*Operations have been carried out without major incident. Plants and equipment have been maintained in satisfactory condition.*

From our Annual Report

# 1951

The light spectrum in our new corporate signature—created from the colors of Hydro-Québec's logo—is the graphic element at the center of our communications platform. Inspired by the effect produced when light and water meet, this spectrum is an elegant depiction of Hydro-Québec's energy and international renown.

## Complaints procedure

The Régie de l'énergie approved our request to modify the complaints procedure. In particular, the time allowed for our complaints office to deliver a decision has been reduced from 60 days to 30. To meet customer expectations, the Régie also approved the updating and streamlining of the procedure so that it can be made known to as many customers as possible. These changes went into effect in April.

## Blockchain

A decision issued by the Régie de l'énergie in April allowed Hydro-Québec to move forward with the selection of new customers to benefit from a 300-MW block of capacity allocated to the blockchain industry. A subsequent Régie decision, handed down in September, excluded the customers of municipal distributors from this selection process. The 300 MW is in addition to the 158 MW already allocated for existing customers approved by Hydro-Québec, as well as 210 MW for existing customers approved by municipal distributors. By setting aside a reserved block and requiring curtailment of electricity use upon request during peak hours for up to 300 hours a year, we're able to provide power to these new customers without any negative impact on our capacity balance, while also protecting the low rates offered to the Québec population.



## Modernizing our power system

Built in the 1950s and 1960s, Hydro-Québec's transmission system on the island of Montréal needs to be upgraded to meet the rapid growth in demand. To this end, we began implementing an architecture development plan in 2009. This plan involves upgrading the transmission lines and substations from 120 kV to 315 kV, as well as upgrading numerous distribution lines and business customer installations from 12 kV to 25 kV. Converting the entire island of Montréal distribution system to 25 kV requires work in a wide range of areas such as engineering, power system planning, scheduling, power system operation, customer services, metering and vegetation control. This colossal project will continue until 2030.



A billboard with our new colors in a Montréal subway station announces the deployment of Electric Circuit EV charging stations throughout the province.

In March we launched a new advertising platform to harmonize the company's communications and offer a more consistent, modern and inspiring brand image. It was an opportunity for us to reaffirm the undeniable importance of our energy in a time of major concern about climate change. By showcasing our various areas of expertise, we're firmly positioning Hydro-Québec as a world leader in clean energy. This leadership is expressed in our new signature, which captures both the benefits of hydropower and Québec's enviable position in North America: **Clean energy to power us all.**

PROUDLY MEETING  
CHALLENGES FOR



*It is interesting to note that the consumption of electricity by domestic customers has increased in the past seven years – from an average of 980 kilowatthours per year in 1946 to 2,085 kilowatthours per year in 1952. This growth is due to a substantial degree to the use of appliances such as large water heaters and space heaters, which create extensive short-term demands and result in increased costs.*

*To keep pace with this growth, it has been necessary to lay stress on the construction of power plants, transmission lines, substations, distribution circuits – in short, all plant and equipment necessary to generate and deliver to customers the electric power and energy required to meet their demands.*

From our Annual Report

# 1952

This year, our public awareness campaign on safety near power lines focused on electric shocks, emphasizing their impact on the victim—whether injury or death—and the emotional distress experienced by loved ones.

### An increasingly personalized experience

In response to greater customer expectations and the arrival of new service providers on the market, Hydro-Québec offers its customers an increasingly personalized experience based on their needs and consumption profiles. Our technological solutions can support—and even anticipate—changes in customers' lifestyles. Examples include two-way capability allowing customers to inject power they have generated or stored into Hydro-Québec's system; or our Hilo smart home service, which helps customers manage their electricity use.

### Buying local

Hydro-Québec Distribution has signed an agreement—submitted for approval to the Régie de l'énergie—to purchase power generated by a 7.25-MW run-of-river hydroelectric station in Inukjuak, which will supply the Inuit community's off-grid system. This arrangement will be cheaper for the company than diesel-fueled generation, while significantly reducing GHG emissions. It's also an economic development opportunity for the community of Inukjuak.

### Setting a benchmark

In line with our goal to make Hydro-Québec the benchmark in operating efficiency, in February we launched a pilot project that includes:

- implementing a culture built on customer proximity and improving the customer experience
- eliminating waste
- accelerating decision-making at all levels

This unifying project is an integral part of our management system and will bring about lasting changes to our ways of doing things.

### The Romaine complex welcomes visitors

Joining 14 other Hydro-Québec facilities, the Romaine-1 hydropower development is now open to the public. Over the summer, 2,919 visitors dropped by to explore the Romaine complex and learn why it was built and what measures were taken to preserve the surrounding natural habitats and human land use areas.



On February 25, we sent out 50 crews to the U.S. to lend a hand to PPL Electric Utilities in the aftermath of a storm. The next day, as our trucks were on their way to Pennsylvania, we received a request from National Grid to help them restore power to their customers in Massachusetts. Since most of our crews were in New York State, we redirected 39 of them to the neighboring state while the remaining 11 continued on to Pennsylvania. Hydro-Québec, too, benefits from such emergency aid missions from time to time, as a member of the North Atlantic Mutual Assistance Group.

A COMMON GOAL

# Combating climate change

Global warming and extreme weather conditions pose a real and growing threat to all our activities. Unless steps are taken to adapt, our infrastructure and operations will be increasingly vulnerable to climate-related uncertainties.

The effects of these changes on Hydro-Québec's operations and assets are already being felt. Higher temperatures, freezing rain, forest fires and variations in precipitation can damage equipment and facilities, disrupting system operations and causing power outages. A simple GHG reduction strategy will not be enough, as it is already too late to avoid substantial global warming caused by past emissions. Nor will a strategy of adaptation alone suffice, as most such measures will become more expensive and less effective as climate impacts worsen.

We must take action at the investment planning stage to reduce the vulnerability of our infrastructure. Adaptation also means adjusting our asset operation and maintenance practices, as well as our emergency response measures. That's the only way to ensure that our company will be able to fulfill its core mission, namely to supply customers with clean, affordable, reliable energy and high-quality services.

Cognizant of the risks posed to its assets and operations, Hydro-Québec has launched a number of initiatives to better understand the impacts of climate change and adjust its activities accordingly. In 2019, close to a dozen projects involving Ouranos, IREQ and other Hydro-Québec teams were under way, with the common goal of better anticipating these changes and determining the best adaptation measures to apply.

PROUDLY MEETING  
CHALLENGES FOR

75  
YEARS

*The Beauharnois power plant realized a peak output—1,076,200 kilowatts or 1,442,500 horsepower—last November. It is presently the most powerful generating plant in the country. Its production, in kilowatthours, reached 6,493,136,000, representing about 10% of Canada's hydro-electric output.*

From our Annual Report

1954

**Global warming and extreme weather conditions pose a real and growing threat to all our activities. Our infrastructure and operations will be increasingly vulnerable to climate-related uncertainties unless adaptation measures are implemented.**

### Adapting to climate change

At the end of 2018, we added climate change to our consolidated portfolio of residual business risks. In 2019, we went a step further with the formation of the Climate Change Adaptation Committee, which brings together all of the units concerned in a collaborative undertaking to develop an initial adaptation plan by the end of 2021.

Our goal is to better understand both the vulnerabilities and the most easily achievable adaptation measures, in order to target the efforts and investments that will be most effective in reducing climate risk.

In its first year of activity, the Committee worked to define the climate variables that will affect the company's operations and collected relevant data on its assets. In 2020, it will inventory the vulnerabilities of all Hydro-Québec facilities and operations. Then, in 2021, it will determine which adaptation measures should be implemented and describe them in the company's first adaptation plan. In subsequent years, the measures will be applied and continuously validated in cooperation with external stakeholders.

In addition, Hydro-Québec is working closely with Ouranos and Nergica on the WEC 2100 project, which deals with the impacts of climate change on wind potential. This study focuses on long-term changes in wind regimes, as well as on icing events, which result in sizable generating losses for Québec wind farms. Its aims are to address issues related to energy supply—a particularly sensitive

matter for us, at time when wind power purchase agreements are expiring—and provide a greater understanding of icing phenomena and their impacts on wind generation in northern regions.

### Outstanding mobilization by our crews

In March, a low-pressure system from Cape Cod rolled over southern and eastern Québec, causing numerous outages as a result of the large quantities of wet snow combined with wind. At the height of the event, 37,513 customers were without electricity. The rapid action and tireless efforts of our line crews enabled us to restore power to 95% of affected customers within 24 hours, despite the extent of the damage. In April, freezing rain in the Laurentides, Laval, Lanaudière, Montréal and Montérégie regions weighed down tree branches and brought them into contact with power lines. Strong winds also caused outages and damage to the grid.

Again in April, the Laurentides and Lanaudière regions received around 15 cm of snow, leading to further outages. As many as 316,000 customers were without power at the same time across the province. Some 550 repair crews quickly swung into action. The teams on the ground and in our offices were on the job until service was restored.



During the year, IREQ organized the company's first in-house symposium on climate change impacts and adaptation at Hydro-Québec, with the collaboration of Ouranos, our research partner for the past 15 years. The goal of this annual event is to promote research in this area, provide basic knowledge about climate science and raise the visibility of projects that will help us adapt our operations and infrastructure to the changing climate. Another benefit of the symposium is that it makes employees more mindful of the tangible effects of such changes on our business. The need to establish adaptation strategies is very real and will call for heightened awareness throughout the company.



PROUDLY MEETING  
CHALLENGES FOR



*The plant realized a peak output of 1,469,200 horsepower during 1955, with a production of 7,106,126,000 kilowatthours. This means an average of nearly 20,000,000 kilowatthours daily. In fact, the maximum one-day output reached 23,867,000 kilowatthours. If a steam plant were to produce this power, it would require an uninterrupted daily supply of 200 coal cars containing 50 tons apiece.*

From our Annual Report

# 1955

The past year saw a series of weather events that sometimes had significant impacts on our grid as well as our customers. Line workers, customer relations staff and members of our social media and media relations teams all worked tirelessly.

These coordinated efforts enabled us to restore power to 95% of affected customers within 61 hours, despite the thousand or so outages to be dealt with and often difficult access to the equipment needing repair. Our social media team managed more than 5,000 interactions with the public, our customer relations centers fielded 75,000 calls and our media relations team gave about a hundred interviews.

Also in April, floods affected a number of cities and towns in Québec, mainly as a result of the rapid rise in temperature and heavy precipitation, combined with thick snow cover in the watersheds. Our teams held meetings with local stakeholders and provided coordination, informed the public, managed flows and reservoirs, and monitored the rate of snowmelt. These teams had been preparing since mid-December 2018 and overlooked nothing. On the ground, civil security and emergency services personnel accompanied the line workers doing the repairs. Together, these actions facilitated safe, rapid service restoration for more than 2,400 customers.

Post-tropical storm Dorian hit the Îles-de-la-Madeleine in September. Winds gusting up to 130 km/h caused major voltage fluctuations for our customers and around twenty outages. At the height of the disturbance, more than 4,000 Îles-de-la-Madeleine customers were without electricity. Our crews had arrived even before the storm struck, in order to take preventive measures to secure the grid and to restore service more rapidly in the wake of the damage. Our employees—line workers, mechanics, and advisers in health and safety, community relations, environment and communications—all demonstrated a remarkable sense of teamwork.

The storm also cut power to 672 customers in five villages in the Basse-Côte-Nord region. Service was restored remotely for most customers in Pakua Shipi and Saint-Augustin. In the Chevery, Tête-à-la-Baleine and Harrington Harbour areas, the damage was assessed via helicopter flyover and a number of trees were seen to be touching lines. Our line workers performed the repairs in spite of often difficult access conditions, which sometimes meant equipment had to be carried in.



The storm that began on November 1, 2019, with wind gusts of over 120 km/h, brought down an impressive number of trees and branches, causing numerous outages in several regions of Québec. At the height of the storm, over 4,000 outages were reported, leaving close to one million customers without electricity—the biggest power failure since the 1998 ice storm. Our crews were quickly mobilized to the regions most affected, namely Montérégie, Capitale-Nationale, Laurentides, Montréal and Gaspésie. In addition, DET Energy (Detroit), Hydro Ottawa, Hydro-Joliette and power distributors in Connecticut, the Maritime provinces and other parts of Ontario sent crews to assist us. The rapid response by some 1,500 employees meant that service was restored to 95% of the affected customers within 70 hours. This enormous undertaking was widely praised by Quebecers on social media. Our social media team managed more than 6,000 interactions, while representatives at our customer relations centers fielded 56,500 telephone calls.

SHAPING THE FUTURE

# A key player in the energy transition

The energy industry is in the midst of a profound metamorphosis brought on by the search for sustainable solutions to climate change. This disruption brings its share of challenges, calling for changes to the way energy is managed. In response, we've taken action on multiple fronts with an eye to improving our methods and offering our customers more personalized services. The digital shift—which will propel advances in automation, electric mobility and big data management—is one of those fronts.

Another advance is the decentralization of power generation, made possible by the development and commercial availability of technological innovations. Through our subsidiary Stockage d'énergie HQ, we're working on power storage systems that use Hydro-Québec's patented LFP battery technologies, which offer heightened safety among other advantages. We installed one such system at our Blainville building as part of a pilot project using innovative solutions to manage energy in commercial buildings. This energy storage system joins those already in use at Hemmingford substation and in the Quaqtaq off-grid system, and one will also be installed in the upcoming Lac-Mégantic microgrid.

Efficient self-generation technologies will open the door to new players proposing different ways of generating, consuming and selling electricity. We will remain on the lookout for such new developments.

Hydro-Québec is no stranger to change: throughout our 75-year history, we've had to adapt time and again. The energy transition provides yet another opportunity to leverage our skills as power system builders and operators with a view to carving ourselves an enviable niche in emerging markets.

PROUDLY MEETING  
CHALLENGES FOR



*A new turbine was installed as replacement for one which developed fissures at Rapid VII. A third unit of 60 cycle-per-second frequency was put into operation in the Rapid II Power House on October 29, 1956. This third unit permitted us to increase temporarily our sales of surplus power to the Hydro-Electric Power Commission of Ontario.*

From our Annual Report

# 1956

**Clean hydrogen is an economic growth opportunity for Québec. Besides having access to vast water resources to generate green, renewable hydropower at competitive prices, Hydro-Québec has everything it needs to support the development of this new energy source.**

## E-mobility gains ground

The Electric Circuit is doing its utmost to minimize the cost of installing fast-charge stations for electric vehicles. To this end, it systematically participates in the various federal programs available.

In 2019, nearly \$17 million in funding was obtained from Natural Resources Canada under the Electric Vehicle and Alternative Fuel Infrastructure Deployment Initiative and the Electric Vehicle Infrastructure Demonstration Program. These funds will enable the Electric Circuit to densify and expand the fast-charging network; as well, a test bench for next-generation chargers will be set up in 2020. It will be used to test high-power charging technology in real conditions, in order to anticipate market needs while ensuring grid reliability.

The transportation electrification market is burgeoning, with growing numbers of private-sector companies seeking to convert their vehicle fleets to electricity. To support them, the Electric Circuit launched a pilot project on power demand management for EV fleet recharging. The software being tested uses an algorithm to track

different parameters and minimize the impact on the customer's electricity bill.

Aware of the importance of keeping its members informed and ensuring the best possible customer experience, the Electric Circuit gave its EV drivers' toolkit a complete overhaul during the year, and a new mobile app, free to download, is slated for release in the second quarter of 2020. The app will improve customer service, with more features to be rolled out in the coming months.

The Electric Circuit also launched its Facebook page, where it shares articles on transport electrification and announces the addition of charging stations and other news.

Access to recharging facilities remains a key issue for Hydro-Québec. To help consumers and support the energy transition in transportation, the Electric Circuit released a new charging station installation guide for contractors, electricians, condo associations and apartment building owners.

## Powered by hydrogen

Because the Electric Circuit is part of a Québec government pilot project on the use of hydrogen as a fuel, Hydro-Québec will be adding three Toyota Mirai fuel cell vehicles to its fleet. For this model, "filling up" with hydrogen, which takes less than five minutes, yields a range of 500 km. A multifuel filling station opened recently in the city of Québec and will help power the 50 or so Mirais targeted by the project.



In October we launched a project using innovative technologies to manage building energy consumption. This pilot project—aimed at assessing the potential gains from peak shaving and management by tapping into auxiliary power sources in the grid—involves our energy storage system, installed in a Hydro-Québec building in Blainville, and the batteries of our hybrid vehicles, charged at bidirectional stations in the parking lot (photo). The equipment has been up and running since December.

PROUDLY MEETING  
CHALLENGES FOR



*With a view to concentrating our energy on power developments exclusively, we have disposed of our gas facilities on attractive terms. In future, the Montreal area will be supplied with natural gas from another province, distributed by a country-wide system.*

From our Annual Report

# 1957

The advent of digital technologies opens up new horizons, giving us the opportunity to enhance our service offerings and improve the customer experience.

## Moving toward renewables

With support from the Société d'habitation du Québec and Transition énergétique Québec, Hydro-Québec initiated a pilot project on renewables and energy storage in the Nunavik village of Quaqtaq. We installed 24-kW solar panels on the rooftops of four houses and electrochemical storage systems in their service rooms, and will use them to optimize energy consumption and reduce diesel combustion at the Quaqtaq power plant. A specific aim of the project is to assess the performance and cost-effectiveness of such solutions for off-grid systems.

In August the Canadian government announced funding for a new clean energy project in 13 northern Québec Indigenous communities not connected to the main Hydro-Québec grid. Some of the funds will go toward installing energy storage devices, which will cut diesel GHG emissions by tens of thousands of tonnes—benefiting not just the targeted communities, but also Québec as a whole.



A call for proposals to supply and install a unique, innovative microgrid in Lac-Mégantic was launched in March. The microgrid will serve to showcase the latest technologies—solar panels, batteries, smart-home systems and EV charging stations—and assess how they could be offered as new services to help reduce electricity consumption. The equipment will be installed in some 30 residential and commercial buildings, and the microgrid is due for startup in December 2020.

More than a year after partnering with the city, Hydro-Québec received \$3.4 million from Natural Resources Canada's Smart Grid Program. The subsidy will allow us to bring this innovative project to term and thus continue to make strides in the energy and technology transition. Lac-Mégantic will thus have the distinction of being the first Québec municipality to have a microgrid. Under Hydro-Québec's management, the Smart Grid funds will be used to improve the power system in Lac-Mégantic and enhance its environmental performance.

TOMORROW'S WORLD

# Innovating to accelerate the energy transition

The energy transition is in full swing. Guided by our Technological Vision 2035, our research teams design their innovation efforts in line with this context of transformation marked by rapid, and sometimes radical, change. Through their work, we're active in areas as varied as distributed energy resources (DERs), smart homes and hydrogen. And we don't neglect weak signals, that is, emerging trends that could shape tomorrow's world. To ensure the broadest enrichment of knowledge, our teams collaborate with the main players in the innovation ecosystem—universities, research centers, government organizations and industrial companies.

Partnering with leaders in various fields complements our know-how, gives us access to cutting-edge expertise, shortens our project lead times and makes it easier to roll out the resulting technologies on the grid or the market. For example, through our partnership with Mila – Quebec Artificial Intelligence Institute, we're improving our proficiency in artificial intelligence, which we can now use in energy-related applications.

In collaboration with our partners and with experts from all Hydro-Québec's divisions, our researchers carry out innovation projects related to the three pillars of our Technological Vision 2035: our customers, our assets and tomorrow's power grid.

PROUDLY MEETING  
CHALLENGES FOR

75  
YEARS

*With the aid of recognized equipment and through intensive personnel training, the Commission seeks to reduce the number of at-work accidents to a minimum. The success achieved during the year may be judged from the fact that the crews of no less than 213 foremen did not experience one lost-time accident.*

*Further, the Commission maintains a vigorous program to eliminate road accidents and one result has been that its drivers are becoming more and more safety conscious and courteous behind the wheel. Prizes and other coveted awards are offered and present indications are that, before long, more than 100 drivers will surpass the 100,000-mile mark without chargeable accident.*

From our Annual Report

1958



The impact of every innovation project conducted by IREQ is measured in avoided costs, additional electricity sales, productivity gains or deferred investments.

### A new phase of electrification

An important focus of our research projects is to reduce GHG emissions and offer our customers new carbon-neutral products and services catered to their needs and lifestyle. Our teams are exploring various avenues for decarbonizing Québec by using our electricity to its full potential. They evaluate and recommend a variety of efficient electrification options for different customer segments, including the use of heat pumps and thermal storage systems for the residential, commercial and institutional markets, as well as the production of clean hydrogen through electrolysis to be used in transportation, industry and carbon-neutral fuels.

### Optimizing asset operation and management

After conducting a study on hydraulic turbines as used in our power system, we developed tools and methods for factoring their progressive degradation into our generation planning and operations. We can now tailor our supply and maintenance specifications to each turbine. These tools are being incorporated into the digital twin project for generating units. Digital twinning facilitates predictive maintenance and optimal infrastructure use.

Artificial intelligence (AI) is becoming an increasingly significant part of our tech portfolio. One example is a project combining AI and visual systems to improve vegetation management. We are also examining the use of AI in the efficient analysis and processing of thermographic images for equipment inspection.

### Powerful technologies for a brighter future

The grid of the future will combine AI, connectivity and advanced functions with renewable and carbon-neutral distributed energy resources (DERs). It will be flexible, integrated and intelligent. To fully understand and master these important changes and their impacts, we're working on state-of-the-art tools such as our grid development laboratory—a simulation and decision-making program that assesses how photovoltaic solar panels, electric vehicles and storage technologies will impact the grid and its load profile. We're also designing a next-generation simulation infrastructure to help us integrate DERs and engineer tomorrow's grid technologies.



Our LineRanger robot comes equipped with an onboard video camera and measuring instruments for inspecting power line conductor bundles. It's fast, simple to control, and very agile, crossing over any obstacle it encounters. It can inspect up to 20 km of live line in one day. To assess its performance on a slightly twisted bundle and determine its power consumption, we tested the LineRanger under actual operating conditions on a live 735-kV circuit, where it demonstrated its capabilities.

PROUDLY MEETING  
CHALLENGES FOR

75  
YEARS

*Even though such glamorous projects as massive dams, huge powerhouses and lengthy transmission lines are afforded headline publicity, sight has not been lost of the more modest problems of distribution. Our ensemble of substations, our distribution system are the most up to date in the world, thanks to the sustained efforts of our engineers to keep abreast of the latest advances in technique. Suffice it to say that the electrical system in Montreal's Metropolitan area has multiplied fourfold during the past dozen years.*

From our Annual Report

1959

IREQ's scientific breakthroughs, inventions and research work have earned it a solid reputation both nationally and internationally.

### Artificial intelligence serving the energy industry

Hydro-Québec is among the many industrial partners of Mila – Quebec Artificial Intelligence Institute. Headquartered in Montréal's Mile-Ex neighborhood, Mila is the fruit of a collaboration between Université de Montréal and McGill University, with the support of HEC Montréal and Polytechnique Montréal. Combining the strengths of these institutions, Mila conducts cutting-edge fundamental research in AI. Our partnership with Mila gives us access to the best talent in digital science, resulting in more rapid and better-focused implementation of AI solutions in the energy sector. Since spring 2019, five master's-level interns from Mila have been working on innovation projects with our teams of researchers.

### Smart grid research

Tomorrow's customers will be increasingly connected and will be able to generate, store and sell electricity, turning from simple consumers into "prosumers." Anticipating these changes, Hydro-Québec has partnered with the Université du Québec à Trois-Rivières (UQTR) to create a new research chair on transactive management of residential power and energy usage. The chair will explore new approaches that use smart devices and appliances to ensure local smart load control, benefiting both electricity providers and customers.

### Better knowledge of watersheds

The HSAMI hydrological model simulates the flow at the mouths of 92 watersheds. Our newest model, HSAMI+, models the entire water cycle of each watershed. It has two new modules that factor in wetlands and ice build-up on reservoirs. Using new physical data and improved equations, HSAMI+ recreates watershed flows with greater precision.

### Integrating distributed energy resources

We're continuing our efforts to deepen our understanding of DER integration, in particular through a demonstration project in Quaqtaq and the installation of a microgrid in Lac-Mégantic. In addition, home automation tests are being conducted on the microgrid and on a smart home near our energy technologies laboratory, the Laboratoire des technologies de l'énergie (LTE) in Shawinigan. Finally, we're developing a smart, connected technology that will help our customers manage their energy consumption, to be offered through our new subsidiary, Hilo.



In October, Karim Zaghbi, General Director of Hydro-Québec's Center of Excellence in Transportation Electrification and Energy Storage (CETEES), received the Lionel-Boulet award, the highest distinction bestowed by the Québec government in industrial R&D. The award highlights Dr. Zaghbi's contribution to battery materials research over the past 30 years, which has brought international acclaim to both Hydro-Québec and the entire province. Dr. Zaghbi also made the Clarivate Analytics list of The World's Most Influential Scientific Minds (now known as the Highly Cited Researchers list) in 2015, 2016 and 2017. This honor is awarded to scientists who have had an exceptional impact in their field, as shown by the number of times they've been cited by other researchers. Dr. Zaghbi is associated with over 550 patents and 60 licenses and has contributed to 22 monographs and more than 420 articles.

PROUDLY MEETING  
CHALLENGES FOR



*During the year, the important sum of \$92,000,000 was distributed between purchases and accounts paid to contractors and consulting engineers. Of the payments made, 62.2% were to Québec companies; 33% were to Canadian Companies with branches or factories in Québec; about 4% were to other Canadian companies and less than 1% to foreign industries.*

From our Annual Report

1960

We continue to look for opportunities to leverage our innovations, for example by researching battery materials and developing energy storage solutions.

### New generation of batteries

In the 1990s, we developed a first-generation solid-state battery based on lithium iron phosphate (LFP) technology. This was a breakthrough in terms of battery safety compared to lithium ion. The new generation of batteries developed by CETEES is considered the future of electric vehicle batteries and will make electric driving more widely accessible.



### An offer for small and medium-sized industrial companies

In two case studies on small and medium-sized industrial companies, a team at the LTE sought to determine the potential content of a service offering for productivity and energy efficiency improvement. The resulting package will be made available to similar companies and will make use of electricity consumption data from their main systems and equipment.

### System maintenance tool

To manage our grid infrastructure and assets, we need to know their current condition and conduct risk assessments to determine when repairs or replacements are needed. This is no small task given the huge number of assets in the power system. That's why a team at our research center developed a maintenance decision support tool, called ODEMA, for the distribution system. ODEMA is a suite of software programs that compile equipment data from various systems, extract and analyze data on asset condition and performance, and determine risk levels so that managers can proceed with either conditional maintenance or replacement. An integral part of our operating activities, ODEMA contributes to significant recurrent savings by revising equipment life expectancies and facilitating informed decision-making about asset replacement.



In December, we announced the construction of two photovoltaic solar generating stations, to come on stream in fall 2020. One will be located in La Prairie, with a surface area of some 150,000 m<sup>2</sup> and an installed capacity of 8 MW. The other will be built on the site of our research center in Varennes. Covering about 56,000 m<sup>2</sup> and with an installed capacity of 1.5 MW, it will be equipped with several different solar technologies. We will take advantage of the research teams nearby to improve our understanding of photovoltaic technologies and to determine whether solar power is a good match for our generating fleet, our transmission grid and the Québec climate.

THE WILL TO SUCCEED

# Strategies to secure our growth

By marketing the benefits of our clean, renewable energy to domestic companies still using fossil fuels, we help improve Québec's carbon footprint. We're also seeking to diversify our revenue streams and attract new investors to the province by targeting data centers and computing centers, which in particular benefit from an indisputable economic advantage by making hydroelectricity their primary energy source.

The New England Clean Energy Connect project, aimed at delivering Québec hydropower to Massachusetts starting in 2022, is a prime example of our growth strategy outside Québec. It stems from a decision to use our hydroelectricity to cut CO<sub>2</sub> emissions in the U.S. Northeast.

We are pursuing initiatives with a view to acquiring assets or equity stakes while maintaining a disciplined approach. Beyond our borders, we're targeting companies, assets or projects that will leverage our expertise in hydropower and high-voltage transmission. In Québec, we're looking for assets or equity stakes that show strong potential for synergy with our businesses.

Leveraging our technologies is another avenue that contributes to the attainment of our growth targets. One good example is our partnership with Dana, which has led to the expansion of our Boucherville-based center of excellence in electric powertrains.

PROUDLY MEETING  
CHALLENGES FOR



*In co-operation with the Quebec Electrical League, the Commission advocated better wiring in homes by actively promoting the “Housepower” programme for the rewiring of existing houses and the “Medallion Home” standards for electrical installations in new homes.*

From our Annual Report

# 1961

**Our energy is a tremendous asset in reducing GHG emissions, not just in Québec but beyond our borders. Electrification is also a powerful driver of economic development that benefits Québec as a whole.**

### Leading-edge sectors

To market our energy surpluses and revitalize our industrial customer base, we’re taking steps abroad to attract energy-intensive businesses like data centers to Québec. In this, we have a powerful selling point: renewable energy at highly competitive rates.

We’re also looking into developing the clean hydrogen industry in Québec. Hydrogen produced through water electrolysis may well go on to play a major role in preserving the environment—for example, by helping to decarbonize heavy transport and certain industrial processes.

### Growth in our target markets

We made two acquisitions in 2019 through Dana TM4, which we own jointly with Dana Incorporated. First, Dana TM4 purchased the other 50% of Chinese firm Prestolite E-Propulsion Systems, in which it already held a 50% interest. Rechristened Dana Electric Motor Co., this company manufactures and markets electric powertrain systems, particularly for buses and trucks. The transaction will enable Dana TM4 to optimize and expand its operations in China, the fastest-growing market in transportation electrification. Dana TM4 also acquired SME, an Italian company that develops and markets a line of electric motors and controls for off-highway electric vehicles. SME low-voltage systems are the perfect complement to the Dana TM4 high-voltage product line.

### Expanding the Cedars Rapids transmission intertie with New York

Hydro-Québec plans to uprate the Cedars Rapids intertie, which connects the Québec and New York grids, by 80 MW. In October we signed construction agreements with National Grid, Alcoa and the New York Independent System Operator (NYISO), marking the end of a development and negotiation phase that spanned over a decade.



The energy transition is shaking up traditional business models. To stay relevant in new markets, we launched Hilo, a new subsidiary that offers smart power solutions to our residential and business customers. Hilo has four main objectives:

- Promote responsible, efficient electricity use
- Reinforce ties with our customers
- Make a vital contribution to the Québec energy technology ecosystem
- Diversify our revenue streams

Besides simplifying life for Quebecers, smart energy solutions of this kind have an environmental component that transcends borders. Decarbonizing Québec and decarbonizing nearby markets are one and the same aim for Hydro-Québec. Hilo, with its smart energy products and services, will benefit not just individual consumers, but society as a whole.

PROUDLY MEETING  
CHALLENGES FOR



*A relatively small quantity of power is as yet consumed by household electrical appliances; there are therefore great possibilities for more or less long-term expansion of this market. With this in view, Hydro-Québec's team of home economics counsellors arranged free demonstrations in various places. Some of these dealt with lighting, electric ranges, freezers, small electrical appliances, refrigeration and electric wiring. The others, which were much more elaborate, were organized under the heading "Fun with Fare" and dealt with cookery and dietetics. More than 9,000 people attended these demonstrations. The home economics counsellors also took part in various commercial exhibitions.*

From our Annual Report

# 1962



Our *Strategic Plan 2020–2024* is rooted in the global energy transition, which is bringing about rapid, far-reaching change in the energy sector. Our green electricity is the envy of the world. The time has come to harness its full potential to decarbonize Québec and northeastern North America and to drive Québec's economic development.

## Exports to Massachusetts

In 2018, Hydro-Québec won the Massachusetts request for proposals for the long-term supply of 9.45 TWh of clean energy per year. The historic contract entails building a new 1,200-MW interconnection in Québec and Maine to deliver the power. The project's Maine component, known as the New England Clean Energy Connect (NECEC), is led by Central Maine Power.

The 20-year contract will meet 17% of Massachusetts' electricity needs while cutting its GHG emissions by more than 36 million tonnes of CO<sub>2</sub> equivalent—roughly comparable to taking 413,000 cars off the road.

In May the project was given the green light by the Maine Public Utilities Commission (PUC). Then, in June, the Massachusetts Department of Public Utilities approved the power purchase agreements signed with the state's power distributors. Such progress is encouraging; however, a number of approval stages remain to be completed.

The deliveries will help reduce dependency on costly and emissions-generating fuels like oil and natural gas. Overall, the contract will benefit not just Québec and Massachusetts, but Maine and all of New England as well.



## A resource with multiple benefits

Thanks to the operating flexibility of large hydropower, Hydro-Québec can meet Québec's electricity demand while selling its surpluses on wholesale markets outside the province. The huge storage capacity of our reservoir generating stations and the fact that they can be started up in a matter of minutes means that we can adjust their output, not just to domestic demand, but also to conditions on outside markets.

On these markets, sales of our green, renewable power make a sizeable contribution to our bottom line: in 2019, they accounted for net income of \$631 million. Beyond our borders, our vast reserves of hydroelectricity are proving a powerful tool for reducing GHG emissions in northeastern North America. The 33.7 TWh delivered this year to our export markets, including New England, New York State, Ontario and New Brunswick, are a striking illustration of this.

In January 2020, we announced the signing of three agreements with NB Power. Under the first agreement, Hydro-Québec will export a total of 47 TWh of electricity to New Brunswick between now and 2040. The second provides for technical collaboration in the refurbishment of Mactaquac generating station, with a view to extending the facility's useful life until at least 2068. The third agreement calls for the start of talks on the construction of additional interconnections between Québec and New Brunswick to increase electricity exports to Atlantic Canada and the U.S.

ENERGY TO GROW

# Hydropower: A driver of Québec's economic development

Hydro-Québec began building hydroelectric generating stations in the 1950s to respond to steadily rising electricity demand. From the start, it chose to develop the hydropower potential of rivers far from the major load centers. These large construction projects soon grew to epic scale. Manicouagan and Outardes, formerly obscure river names, came to symbolize Québec ingenuity and know-how. Historic achievements emerging from this adventure include Daniel-Johnson dam, the world's largest multiple-arch-and-buttress dam, and power transmission at a voltage of 735 kV, a world first.

Québec was growing, electricity consumption was reaching unprecedented levels, and the generating fleet had to be expanded. The "project of the century" saw eight power stations built over two decades on the Grande Rivière; today, their installed capacity meets nearly 50% of Quebecers' needs.

The power generated by these facilities and the developments that followed was barely enough to keep up with growth in demand. In 2009, Hydro-Québec consequently embarked on construction of the Romaine complex, whose four generating stations will add about 1,550 MW to its capacity.

At the same time, one of North America's most extensive transmission systems was progressively deployed to carry green, renewable energy to major load centers in Québec and to neighboring systems.

PROUDLY MEETING  
CHALLENGES FOR

75  
YEARS

*Again the rental of water heaters played an important part in the development of new residential load. Nearly 17,000 water heaters were installed in homes under the terms of the rental plan, while 2,032 customers purchased water heaters with assistance from the Hydro-Québec financial plan. Medallion symbols were awarded to 3,443 new homes constructed in accordance with the standards set by the Quebec Electrical League and, of especial interest, is the fact that almost 9% of the new homes built in the Province during 1965 were equipped with electric space heating installations.*

From our Annual Report

1965



Photo PC/J. Boissinot

**We must decide on future projects to meet demand and fill long-term needs for clean electricity, taking into account the different renewable generating options, such as hydro, wind and solar power.**

### 10th anniversary of groundbreaking on the Romaine complex

Since work got under way in 2009, this project has employed some 1,100 workers every year. The Côte-Nord region accounts for 48% of this workforce, and one worker in ten comes from an Indigenous community. Once it is complete, construction of the complex will have generated \$3.5 billion in economic spinoffs for Québec, including \$1.3 billion for the region. The results of the many follow-up studies on the natural and human environments affected by the project are made public annually. Some of these studies will continue until 2040.

The past year featured intensive activity at the Romaine-4 site. Construction of the dam, nearly complete, will be followed by reservoir impoundment in 2020. Work is proceeding on the generating station, which is slated to come on stream in 2021.

The effort to improve workplace health and safety, begun in 2017, is ongoing and takes on even more importance in a project the size of the Romaine complex. All stakeholders are working together to establish stringent safety standards and carry out joint initiatives consistent with the priorities adopted.

### Maintaining the vitality of our generating facilities

During the year, we had several refurbishment projects on the go at our hydropower facilities. For example:

- At Robert-Bourassa generating station, unit 15 was overhauled and put back into service in time for the winter peak.
- The head gates on units 55 and 56 at Manic-5 were replaced and the units returned to service; all of the head gates at Manic-5 have now been replaced.
- Dike refurbishment got under way at Les Cèdres and will continue until 2022.

### Rejuvenating Rapide-Blanc generating station

Hydro-Québec is continuing to refurbish and modernize its facilities in order to ensure their long-term operability, optimize their efficiency and prevent outages due to infrastructure aging. At Rapide-Blanc, a major project valued at more than \$610 million got under way in summer 2019. It will include replacement of all six generating units starting in 2020, enabling the plant to help meet Québec's energy needs for the next 50 years. This case is one illustration of the many advantages of hydropower, a reliable, sustainable and lasting generating option.



In tribute to Bernard Landry, Eastmain-1 dam and Eastmain-1-A generating station now bear the name of the former Québec premier. Eastmain 1 reservoir became Paix des Braves reservoir, commemorating the historic agreement reached in 2002 between the Cree Nation, represented by Cree Grand Chief Ted Moses (right), and the Québec government, then headed by Bernard Landry (left).

*The microwave system is now used to transmit to all supply requirements from north shore construction sites to Head Office, a procedure which greatly accelerates approval of requisitions. The Manicouagan 2 central store has already been connected to the Head Office, the first in a series of stores to be linked to Montreal in order to improve stock management. Lastly, in December 1966, installation of a closed circuit television system was completed. This link will transmit live pictures of Manicouagan 5 to Expo 67.*

From our Annual Report

1966



We have many options at our disposal to meet the demand for clean power over the long term. Some of the variables that will influence our choices are capacity and energy requirements, home automation, distributed generation, energy efficiency measures, and the impact of climate change.

### Chamouchouane–Bout-de-l'Île project

In July, we inaugurated the facilities built in the largest north-south 735-kV transmission project of the last 25 years. This project had a number of components:

- Deployment of some 400 km of 735-kV lines between Chamouchouane substation in the Saguenay–Lac-Saint-Jean region and the Montréal metropolitan loop
- Construction of Judith-Jasmin substation (735/120/25 kV) in Terrebonne
- Rerouting of a 19-km segment of an existing 735-kV line

The new facilities enhance the reliability of the main transmission system, reinforce supply to the Montréal region, and enable us to meet demand growth in the city's north shore suburbs.

The project has generated over \$1.1 billion in economic spinoffs in Québec through the procurement of goods and specialized services. Its construction resulted in over 2,500,000 hours worked by more than 1,250 people, and 5,040 km of conductors installed on some 1,000 towers totaling 33,000 tonnes of steel.

### Grand-Brûlé–Saint-Sauveur line

The 120-kV Grand-Brûlé–Saint-Sauveur line, which went into operation in May, serves the population of part of the Laurentides region. To reach Saint-Sauveur and Doc-Grignon substations, we had to build the line in rugged terrain while striving to keep its visual impact on the landscape to a minimum.

### Appalaches–Maine interconnection

To tie in with NECEC, we're planning to build a 320-kV direct-current line running some 100 km between Appalaches substation, near Thetford Mines, and a connection point on the Québec–Maine border. The environmental impact statement was filed with the provincial authorities in August, and a permit application was filed the following month with the Canada Energy Regulator. The permitting processes are progressing at both levels of government.



In the coming years, modernizing the grid will call for major capital investments. We'll need to upgrade or replace some of our current grid control systems and certain assets that are reaching the end of their service life. Using appropriate digital technologies, we will continue to focus our efforts on predictive maintenance, an approach that takes actual equipment condition into account in order to plan targeted repairs and achieve efficiency gains.

PROUDLY MEETING  
CHALLENGES FOR



*Owing to previous delays, new generating capacity installed during the year was not sufficient to completely cover the increase in peak demand. However, with the help of contributions from neighboring systems, the co-operation of Quebec companies producing electricity for their own use, and the absence of breakdowns, we were able, without too much difficulty, to meet the winter peak-load that occurred in the last two weeks of December.*

From our Annual Report

# 1968

To step up our exports and help decarbonize northeastern North America, we need to build transmission infrastructure and promote the load balancing capability of our hydroelectric generating fleet as a means of supporting the growth of intermittent renewables such as wind and solar power.

## Reducing service interruptions in Matagami

Since 2017, Hydro-Québec has been making major repairs on the transmission system to enhance the quality of service in Matagami. Previously, the work was divided into separate tasks executed one after the other—an approach that entails certain drawbacks. To better coordinate our activities, we set up a multidisciplinary working committee bringing together representatives of Hydro-Québec's different divisions and the town of Matagami. This cooperative approach enabled us to group the tasks and considerably reduce their impact on customers.

## The grid control system of the future

Work to modernize the transmission and distribution grid control systems continued. During the year, we signed a contract with automation solutions provider Open Systems International, completed the draft design after reviewing more than 4,000 technical requirements, and commenced preparations.

## Practices adapted to technological change

We continued work on our system convergence project, which involves modernizing our special protection systems (SPSs) as well as our substation protections and controls through solutions that are based on IEC 61850-compliant digital technologies and take advantage of technology convergence. During the year, we issued a call for tenders for implementation at satellite substations that are at the end of their service lives. As well, a demonstration project got under way at a source substation, which is a more complex type of facility. We also began selecting equipment for one of the grid's most critical and extensive SPSs, namely, the generation rejection and remote load-shedding system.

## Micoua-Saguenay line

In July, the Régie de l'énergie approved the project for a 735-kV line between Micoua substation in the Côte-Nord region and Saguenay substation in Saguenay-Lac-Saint-Jean. Not only will this 250-km line boost transmission capacity in the Manic-Québec corridor that delivers power to the major load centers, but it will also improve grid reliability. The project involves adding equipment to the two substations and expanding Saguenay substation, which will facilitate grid operation and reduce electrical losses.



Established in 1985, our Integrated Enhancement Program (IEP) provides municipalities that host new transmission infrastructure with funding equivalent to an amount per kilometre of new transmission line, as well as an amount based on surface area in the case of a new substation. This funding is earmarked for local or regional initiatives that enhance the environment, improve municipal, community or recreational infrastructure, or contribute to community development. In 2019, the IEP granted funding for 15 local or regional initiatives, for a total of \$1.08 million invested directly in communities. Hydro-Québec sees this program as an opportunity to contribute to the development of host communities and is proud to participate in initiatives that help improve their residents' quality of life.

## SHARED VALUES

# A critical factor in our development

Hydro-Québec is pursuing the shift undertaken to improve its performance and transform the corporate culture. In the area of occupational health and safety (OHS), the sharing of responsibility by teams on the ground is key to bringing about change. We've therefore launched regional transformation initiatives to ensure that all employees feel invested and involved in the shift.

Action plans focused on high-risk activities have been implemented in 30 departments. The result has been a new synergy between working groups in every division, who have teamed up to reduce incident frequency and severity.

As we amp up our OHS initiatives, we're also working to foster an engaging corporate culture founded on certain core principles essential to solid, disciplined performance: specifically, instilling shared values, acknowledging desirable behaviors, and developing skills and talents. It is our hope that in doing so, we can help our employees achieve their full potential so that they, in turn, will be better equipped to help us meet our objectives in our new business context.

PROUDLY MEETING  
CHALLENGES FOR



*To enlist the aid of all organizations concerned with the industrial expansion of the province, the newly created Industrial Development service spent the latter part of 1969 establishing contacts. At the year-end, negotiations were under way with several major developers to interest them in the installation of large-scale plants in the province.*

From our Annual Report

# 1969

In OHS we paid special attention to risk management. For instance, we set a target to encourage employees to report potentially serious incidents (PSIs). We also implemented a method and tools for assessing risks and hazards.

### A growing safety culture

Our employees are working in concert with Senior Management and Hydro-Québec partners to make OHS an ongoing concern. Together, we can:

- ensure the adoption of sound risk management practices to prevent incident recurrence
- focus on protecting health, particularly by seeking to prevent psychological harm and fostering a culture of caring
- rally local teams through regional deployment of our health and safety transformation

We're integrating OHS management practices into all of our activities, staying attentive to performance and ensuring the means provided to our teams are adapted to their tasks. Special attention is paid to PSIs, which translate into three major risks for the company: musculoskeletal disorders (MSDs), moving vehicles and live equipment. All of these aspects are covered by the current action plan.

Various indicators—frequency of temporary assignments with time loss, number of PSIs, number of safety observations—continued to be closely monitored in dashboards and performance reviews. Although some indicators plateaued, the many measures adopted in 2019 will make our programs more robust and help bring about the targeted results.

### An in-depth transformation

Our health and safety transformation consists in ensuring safe work habits are adopted and applied at all times. Raising our performance criteria calls for decisive action and strong leadership that fosters synergy among employees, partners and suppliers.

To this end, we're making use of key moments in the workday, particularly toolbox meetings, field observations and safety "time outs." Accident investigation and analysis reports examine incidents in greater depth, leading to the correction of worrisome or dangerous situations. We also rely on sharing knowledge and best practices as well as inter-team collaboration to find lasting solutions to problems.

### Promoting OHS in specific units

Managers from the 30 Hydro-Québec departments where 90% of accidents occur met to discuss leadership and their commitment to employee health and safety. These leaders and their collaborators underscored the importance of consistency in risk management as well as the necessity of taking action whenever a situation presents a safety hazard. The health and safety of those around us is everyone's business.



The Shawinigan machine shop was honored at the 14th occupational health and safety awards gala of Québec. The team took the Silver award in the Innovation category for its design of a soundproof booth that surrounds the area where a SCOMPI robot is performing grinding operations on a wicket gate. This improves the workshop environment by reducing noise and minimizing dust.

*A small network serving 539 customers in three communities in northern Vermont (Derby Line, North Derby and Beebe) and operated by Hydro-Quebec since 1963, was sold on June 10 to the Vermont Electric Cooperative Inc. Originally owned by International Electric Company, this network belonged to Southern Canada Power when the latter became a subsidiary of Hydro-Quebec in 1963. Hydro-Quebec has agreed to continue supplying energy until the end of 1972.*

From our Annual Report

1970

We began testing Enablon, a software solution supporting health and safety performance, with a view to rollout in early 2020.

### Promoting OHS within the organization

Since mental health is also a vital component of our safety culture shift, we provided our employees with awareness and prevention tools designed to open a dialogue and promote understanding. For instance, we launched a mental health training program and signed on to the Canadian Mental Health Association awareness campaign "Not Myself Today." The campaign aims to prompt meaningful discussion around mental health, fight stigmatization and promote a supportive, unifying workplace.

### Health and safety on the jobsite

The move to create a strong OHS culture was also ongoing at our generating and transmission facility construction and refurbishment jobsites. In particular, we reduced critical hazards and implemented effective control measures, as well as thoroughly investigating all PSIs to prevent recurrence.



**Ensemble, travaillons à maîtriser les trois risques critiques en posant les bonnes questions.**



**Source d'énergie**

- Ai-je vérifié l'absence de tension ?
- Ai-je installé les mises à la terre ?
- Est-ce que j'utilise des équipements et outils isolants lorsque je travaille dans un environnement sous tension ?



**Trouble musculo-squelettique**

- Est-ce que j'utilise la bonne méthode ou le bon outil pour réduire l'effort ?
- Est-ce que je maintiens le dos droit en soulevant une charge manuellement ?



**Véhicule en mouvement**

- Est-ce que je respecte la limite de vitesse et j'adapte ma conduite aux conditions climatiques ?
- Est-ce que j'évite les distractions lorsque je conduis (utiliser le cellulaire, boire, manger, etc.) ?

A jobsite safety checklist covering the three critical risk areas: when working with live equipment, do a zero-voltage check, install grounds and use insulating tools; to prevent MSDs, use the right methods and equipment, and keep your back straight when lifting; at the wheel, stay within the speed limit, adapt your driving to weather conditions and avoid distractions.



Launched in late summer 2019, Hydro-Québec's Académie de l'amélioration continue [continuous improvement academy] is a place of learning, co-creation and innovation that supports the company-wide application of continuous improvement principles. These principles include an across-the-board commitment to optimizing work methods and management practices using tried-and-tested, internationally standardized tools and methods.

PROUDLY MEETING  
CHALLENGES FOR



*The Marketing Directorate and the Institute of Research continued their close interest and participation in studies and research aimed at developing a practical and economically viable electric vehicle. During the year, four models of electric tractors appeared on the market, accompanied by claims that they are competitive with similar tractors powered by internal combustion engines. The batteries of these electric tractors can be recharged at any ordinary 120-volt outlet.*

From our Annual Report

# 1971



In the spring, we began implementing an anti-bribery management system and reinforced our preventive measures to meet the requirements of ISO 37001, an international standard for which we aim to achieve certification by 2020.

## Optimizing our flexibility

The management system we introduced in 2016 has heightened our ability to adapt to change. This efficiency gain has been made possible through a multitude of day-to-day measures—holding brief meetings to harmonize efforts, taking a collaborative approach to problem-solving, optimizing processes—as well as by creating winning conditions such as greater management proximity and clarified indicators, targets and priorities. Each day, we hold continuous improvement scrums where employees are invited to describe what's working and what isn't. These scrums focus on six priority areas: health, safety and the environment, customers, employees, productivity, financial results, and stakeholders. In short, our management system enables each and every employee to become integral to a corporate culture focused on people and results.

## Workforce profile

At the end of 2019, Hydro-Québec had 19,477 permanent and temporary employees, the smallest workforce since 1976. During the year, 909 permanent employees retired, while 263 permanent and 1,202 temporary employees were hired. To ensure succession, millennials (people born between 1980 and 2000) make up 31% of our workforce. In terms of skills development, Hydro-Québec dedicated 2.8% of its total payroll to developing its human resources during the year.

## Participation on the rise

Employee participation in our employee engagement survey has risen from 77% in 2017 to 82% in 2019. These results place Hydro-Québec among the firms with the highest participation rates in North America. Our managers can access their results online and invite their team members to discuss possible ways to improve the level of engagement.

## A harmonious climate

For many years now, we've emphasized partnership and cooperation in our relations with employee unions. Ongoing, open and direct communication was a vital factor in the 2018 renewal of seven collective agreements that went into effect in 2019. In this context, Management's expectations with regard to team flexibility and schedules have improved attendance and even lengthened the working week in certain regions.



Around the world, rapid advances in technology are hurtling the energy industry into the future. Grids are going digital, in a disruption that affects our company at every level. And while the disruption presents dazzling new prospects, it also comes with its share of technological and human challenges. Whatever and wherever the task, the digital shift will impact productivity and redefine how we communicate and cooperate. Digital tools are revolutionizing how we do things: some support cross-functional teams while others, inspired by the Agile method, improve information flow and promote interactions between stakeholders—for example, between personnel on the ground and support teams, suppliers and partners.

## MANAGEMENT'S DISCUSSION AND ANALYSIS

This Management's Discussion and Analysis should be read in conjunction with the consolidated financial statements of Hydro-Québec and the notes thereto. The financial information and tabular amounts presented herein are expressed in Canadian dollars, unless otherwise indicated. The consolidated financial statements take into account the decisions handed down by the Régie de l'énergie with respect to the transmission and distribution of electricity. They also reflect the provisions of the *Act to simplify the process for establishing electricity distribution rates* (S.Q. 2019, c. 27), passed by the National Assembly of Québec and enacted on December 8, 2019.

This analysis, and especially the Outlook section, contains statements based on estimates and assumptions concerning future results and the course of events. Given the risks and uncertainties inherent in any forward-looking statements, Hydro-Québec's actual future results could differ from those anticipated. Finally, the information contained herein takes into account any significant event that occurred on or before February 14, 2020, the date of approval of this Annual Report by Hydro-Québec's Board of Directors.

## Financial Review

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# 2019 at a Glance

In 2019, Hydro-Québec posted net income of \$2,923 million, compared to \$3,192 million in 2018. This variance is due in part to the fact that, in 2018, the company recorded a non-recurring gain of \$277 million on the sale of an equity interest in its subsidiary TM4. In the second quarter of 2019, it also recognized a \$46-million charge resulting from the write-off of certain costs related to the Northern Pass Transmission (NPT) project. Excluding these two elements, net income for 2019 was \$54 million higher than in 2018.

Hydro-Québec will therefore be able to pay a dividend of \$2,192 million to the Québec government, its sole shareholder. This amount will bring total dividends paid for the past five years to more than \$11 billion.

## Record sales on the Québec market

Electricity sales in Québec reached an unprecedented 174.6 TWh, an increase of 1.8 TWh over 2018. This growth is attributable to higher baseload demand in all market segments as well as the impact of temperatures, which were colder in winter 2019 than the previous winter. Because of the Québec market's substantial requirements, electricity supplies provided by Hydro-Québec Production to Hydro-Québec Distribution rose by \$106 million compared to 2018.

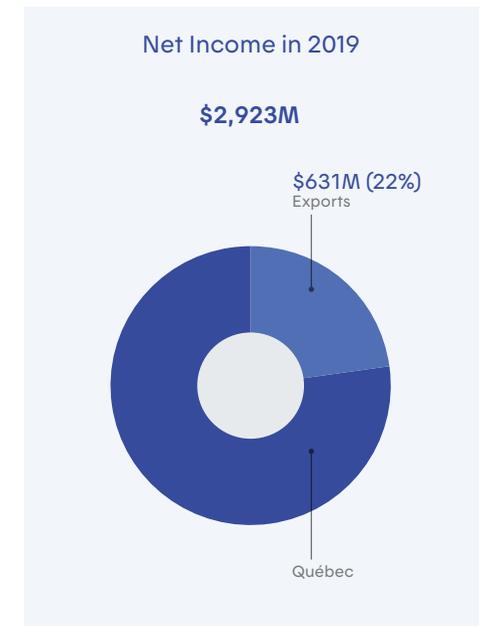
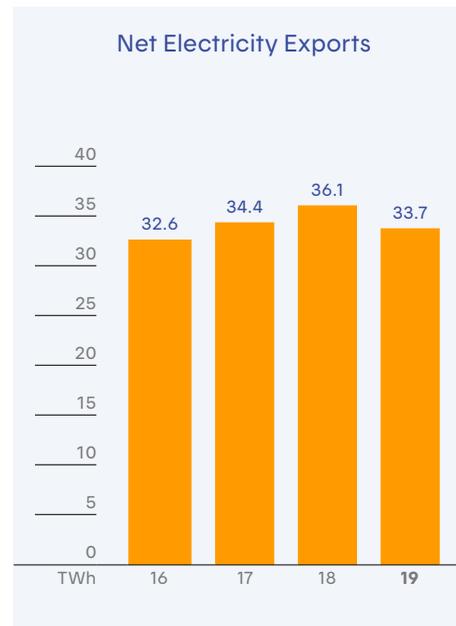
## Strong volume of net exports

On markets outside Québec, the volume of net electricity exports remained high, exceeding the 30-TWh mark for the fourth consecutive year. Net exports totaled 33.7 TWh, contributing \$631 million to the company's net income.

## Net electricity sales close to the 2018 high

Driven by increased sales on the Québec market, Hydro-Québec's net sales volume was 208.3 TWh, close to the record of 208.9 TWh set in 2018. Thanks to the smooth operation of its generating, transmission and distribution facilities, the company was able to meet the needs of its domestic market while also continuing to export large quantities of electricity to neighboring markets to support the decarbonization of northeastern North America.

**In 2019, net exports accounted for 16% of sales volume and generated 22% of the company's net income.**



### Completion of a milestone project

The facilities built as part of the 735-kV Chamouchouane–Bout-de-l'Île project were inaugurated in July 2019. This marked the end of the largest 735-kV transmission construction project undertaken in Québec's north-south axis in 25 years. The \$1.3-billion project involved the deployment of some 400 km of 735-kV lines between Chamouchouane substation, in the Saguenay–Lac-Saint-Jean region, and the Montréal metropolitan loop; construction of 735/120/25-kV Judith-Jasmin substation in Terrebonne, in the Lanaudière region; and the rerouting of an existing 19-km segment of 735-kV line to Bout-de-l'Île substation, in Montréal.

The Chamouchouane–Bout-de-l'Île project enhanced the reliability of the main transmission system, reinforced energy supply to the Montréal region and helped meet demand growth in the city's north shore suburbs.

### Hilo, a new subsidiary

In October, Hydro-Québec announced the creation of Services Hilo inc. (Hilo), a subsidiary tasked with the mission of helping customers harness the power of new technologies to make more efficient use of electricity. Hilo will launch smart home products and services in 2020, and will gradually expand its offering to energy management in non-residential buildings, electric mobility solutions, smart storage and solar self-generation.

### Simplifying the process for establishing distribution rates

In December, the *Act to simplify the process for establishing electricity distribution rates* was passed by the National Assembly of Québec and came into force. In particular, this Act specifies that electricity distribution rates are to be set or modified by the Régie de l'énergie every five years as of April 1, 2025, and that they will be indexed annually in the interim. It also provides for a freeze on distribution rates for the rate year beginning April 1, 2020, followed by their annual indexation for the next four years, as well as a refund to customers of an amount equivalent to the unamortized balances of the variance and deferral accounts of Hydro-Québec Distribution as at December 31, 2019.

An amount of \$535 million was therefore reclassified to the balance sheet line item Accounts payable and accrued liabilities, for distribution among eligible customers before April 1, 2020.

### Major capital investments

Hydro-Québec's investments totaled \$3,614 million in 2019. Most of this amount was allocated to large-scale development projects in the generation and transmission segments, as well as to projects to maintain and improve the quality of the company's assets.

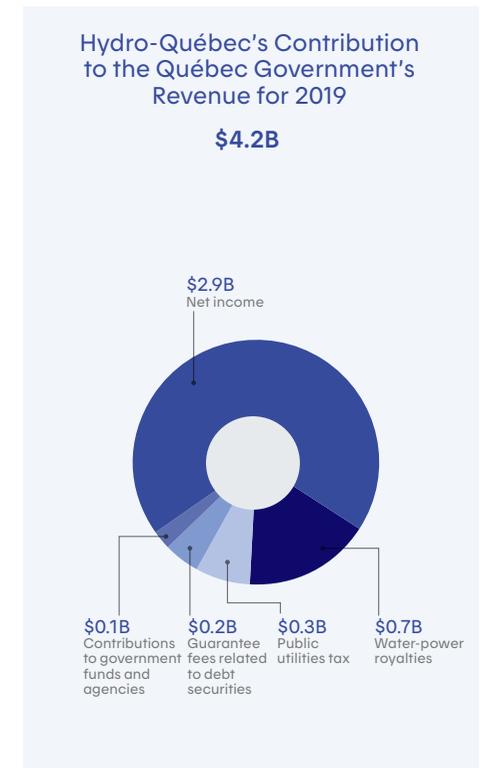
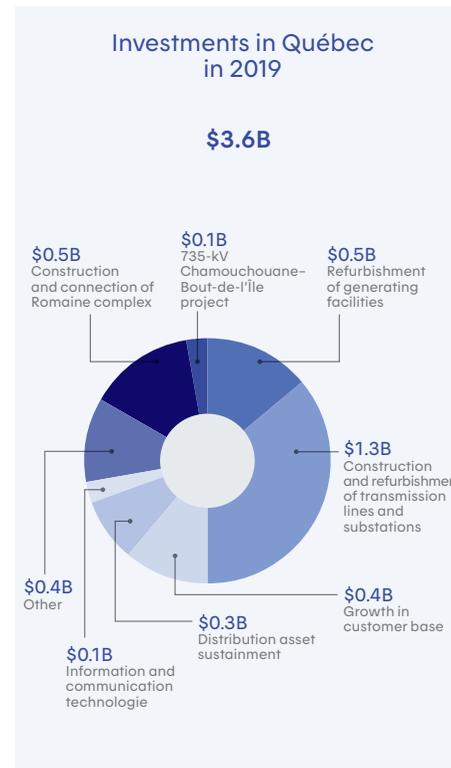
The main projects under way include the construction and connection of the Romaine hydroelectric complex (1,550 MW) in the Côte-Nord region. Three of the four reservoir generating stations in this complex, with 1,305 MW of total installed capacity, are already in operation. On the last jobsite, Romaine-4 (245 MW), construction advanced in 2019 on the dam, powerhouse and switchyard, with a view to impoundment of the reservoir

in 2020 and commissioning of the generating station in 2021.

The company also carried out several projects in all its business segments to ensure the long-term operability of its facilities and optimize their performance.

### A vital contribution to the Québec government's revenue

For a seventh consecutive year, Hydro-Québec's contribution to the Québec government's revenue exceeded \$4 billion, totaling \$4.2 billion. This substantial contribution, which includes the company's net income, water-power royalties, the public utilities tax, and guarantee fees related to debt securities, benefits all Quebecers, as do the economic spinoffs of Hydro-Québec's operations throughout the province.



# Consolidated Results

## Net income

Hydro-Québec recorded net income of \$2,923 million in 2019, compared to \$3,192 million in 2018. Excluding the non-recurring gain of \$277 million recognized in 2018 on the sale of an equity interest in subsidiary TM4 and the \$46-million depreciation expense resulting from the write-off of certain costs related to the NPT project in 2019, net income increased by \$54 million over the previous year.

On the Québec market, electricity supplies provided by Hydro-Québec Production to Hydro-Québec Distribution rose by \$106 million, in particular because of higher baseload demand and temperature variances. This growth was also driven by new capacity and energy agreements, which went into effect at the end of 2018. On markets outside Québec, net export volume reached 33.7 TWh, one of the strongest performances in this area in Hydro-Québec's history. However, net exports decreased by \$134 million compared to the previous year under the combined effect of reduced demand on export markets resulting from temperature variances in the second quarter, and lower market prices, whose impact was mitigated by the company's sales and risk management strategies. Finally, operational expenditure decreased by \$24 million thanks to careful management, which enabled the company to absorb the impacts of inflation, salary indexing and growth in its operations.

## Revenue

Revenue totaled \$14,021 million, compared to \$14,370 million the previous year. Revenue from ordinary activities reached \$14,076 million, a slight increase over \$14,063 million in 2018. Electricity sales were \$13,939 million,

or \$74 million more than the \$13,865 million recorded a year earlier. This growth is mainly attributable to a \$295-million rise in electricity sales in Québec, which was partially offset by a \$221-million decrease in electricity sales on markets outside Québec. Revenue from other activities decreased by \$362 million.

In Québec, electricity sales rose by 1.8 TWh to a historic high of 174.6 TWh. This growth, which translated into a \$295-million increase in revenue, is due to four main factors. First, temperatures had an impact of 0.4 TWh or \$57 million. First-quarter temperatures were colder in 2019 than in 2018, resulting in a 2.3-TWh or \$187-million increase, but fourth-quarter temperatures were close to climate normals in October and December 2019, whereas they had been colder in 2018, resulting in a 1.3-TWh or \$96-million decrease. Second, baseload demand grew across all market segments, for an increase of 1.4 TWh or \$66 million, on account of a rise in housing starts, the strength of the Québec economy, and the company's market development initiatives. It would have been even stronger had it not been for a labor conflict which began in January 2018 at a large aluminum smelter in the Centre-du-Québec region and lasted until summer 2019, when operations gradually resumed. Third, the combined effect of aluminum price fluctuations, which affect revenue from special contracts with certain large industrial customers, and the risk management strategy implemented by the company to counter the related impacts, led to a \$100-million increase in revenue from electricity sales. Fourth, the April 1, 2018 and 2019 rate adjustments generated additional revenue of \$74 million.

Revenue from electricity sales on markets outside Québec totaled \$1,510 million, compared to \$1,731 million in 2018.

This decrease is due to reduced demand on export markets resulting from temperature variances in the second quarter, and lower market prices, whose impact was mitigated by the company's sales and risk management strategies.

The \$362-million decrease in revenue from other activities is mainly attributable to the impact of the recognition, in 2018, of the \$277-million non-recurring gain on the partial sale of TM4. In addition, there was a \$186-million decrease, compared to 2018, in the net amounts recognized as earnings variances or as variances between actual revenue and costs for certain items and the forecasts in the rate filings of Hydro-Québec Distribution. This decrease chiefly relates to the variance accounts for pension costs and

native-load transmission service. The negative impact of these two factors was mitigated by the \$92-million favorable impact of certain hedging operations carried out as part of the risk management strategy related to electricity exports.

## Expenditure

Total expenditure was \$8,403 million in 2019, compared to \$8,466 million in 2018.

Operational expenditure totaled \$2,835 million, a \$24-million decrease compared to the \$2,859 million recognized the previous year. This change is due to a combination of factors. On the one hand, careful management made it possible to absorb the higher costs resulting from inflation, salary indexing and growth in the



company's operations. In this connection, Hydro-Québec had 19,477 employees as at December 31, 2019—427 fewer than at the end of the previous year, and the lowest headcount since 1976. The pension plan's current service cost also decreased, mainly because of an increase, at the end of 2018, in long-term interest rates on capital markets, which determine the discount rates.

On the other hand, the many weather events that occurred during the year had a negative impact on operational expenditure. For instance, the storm that struck Québec in early November gave rise to costs on the order of \$30 million. At the height of the storm, wind gusts of over 120 km/h were recorded, causing outages that left close to one million customers without power. This was the biggest outage since the 1998 ice storm.

In the line item Other components of employee future benefit cost, a credit amount of \$557 million was recognized in 2019, compared to \$340 million in 2018. This positive change is attributable in particular to the increase in long-term interest rates on capital markets at the end of 2018 and the gradual recognition of prior-year returns on pension plan assets.

Electricity and fuel purchases totaled \$2,210 million in 2019, compared to \$2,151 million in 2018. This \$59-million increase is primarily due to a \$50-million rise in Hydro-Québec Distribution's electricity purchases from third parties. More specifically, the division's wind power supplies increased by 0.5 TWh or \$68 million on account of higher output from the facilities under contract.

Depreciation and amortization expense amounted to \$2,782 million, a \$97-million increase over the \$2,685 million recorded the previous year. The commissioning of several facilities, including the final components of the 735-kV Chamouchouane-Bout-de-l'Île project in summer 2019, contributed to a \$45-million increase in depreciation of property, plant and equipment. In addition, Hydro-Québec recognized a \$46-million charge resulting from the write-off of certain costs related to the NPT project, which was permanently shelved by the company's U.S. partner in 2019. This project involved the proposed construction of a transmission line in New Hampshire to export electricity to Massachusetts.

Taxes were \$1,133 million, compared to \$1,111 million in 2018. The increase is primarily attributable to a \$15-million increase in water-power royalties on account of the indexing of the applicable rate.

Financial expenses totaled \$2,695 million in 2019, which is comparable to the \$2,712 million recorded a year earlier.

	2019	2018
<b>OPERATIONS AND DIVIDEND (\$M)</b>		
Revenue	14,021	14,370
Income before financial expenses	5,618	5,904
Net income	2,923	3,192
Dividend	2,192	2,394
<b>BALANCE SHEETS (\$M)</b>		
Total assets	78,563	76,989
Property, plant and equipment	65,992	64,966
Long-term debt, including current portion and perpetual debt	45,767	46,335
Equity	21,448	21,209
<b>FINANCIAL RATIOS</b>		
Return on equity (%) <sup>a</sup>	12.4	14.0
Capitalization (%) <sup>b</sup>	32.3	31.8
Profit margin (%) <sup>c</sup>	20.8	22.2
Interest coverage <sup>d</sup>	2.07	2.18
Self-financing (%) <sup>e</sup>	48.6	63.9

- a) Net income divided by average equity for the year less average accumulated other comprehensive income for the year. The decrease in this ratio compared to 2018 is mainly due to lower net income.
- b) Equity divided by the sum of equity, long-term debt, current portion of long-term debt, perpetual debt, borrowings and derivative instrument liabilities, less derivative instrument assets and sinking fund.
- c) Net income divided by revenue.
- d) Sum of income before financial expenses and net investment income divided by interest on debt securities.
- e) Cash flows from operating activities less dividend paid, divided by the sum of cash flows from investing activities, excluding net change in short-term investments and sinking fund, and repayment of long-term debt. The decrease in this ratio compared to 2018 results from a \$2.0-billion increase in repayment of long-term debt during the year.

# Cash and Capital Management

## Operating activities

Cash flows from operating activities totaled \$6.0 billion in 2019, compared to \$5.3 billion in 2018. These funds were used to pay the dividend for 2018 and to finance a large portion of the investment program, among other things.

## Investing activities

In 2019, Hydro-Québec invested \$3.6 billion in property, plant and equipment and intangible assets, compared to \$3.4 billion the previous year. Of the total, \$1.4 billion was allocated to development projects and \$2.2 billion to maintaining or improving the quality of assets.

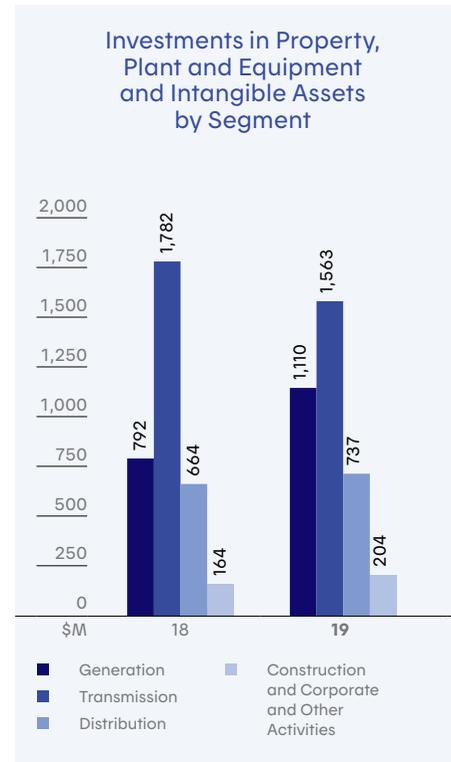
Hydro-Québec Production's investments totaled \$1,110 million, of which \$584 million went to development activities, mainly the ongoing construction of the Romaine hydroelectric complex, and \$526 million to asset maintenance and improvement, including the refurbishment projects under way at Robert-Bourassa, Rapide-Blanc and Beauharnois generating stations.

Capital spending at Hydro-Québec TransÉnergie totaled \$1,563 million. Of this amount, \$419 million was used to connect new generating facilities to the grid and increase transmission capacity. Examples include the completion and commissioning of the final components of the Chamouchouane-Bout-de-l'Île project, which accounted for \$105 million in 2019, as well as the ongoing grid connection of the Romaine complex and construction of Patriotes substation, which accounted for \$42 million and \$60 million, respectively. Another \$1,144 million was allocated

to transmission asset sustainment and reliability projects, especially equipment replacement and facility modernization.

Hydro-Québec Distribution invested \$737 million, mainly to handle its growing customer base and ensure the long-term operability of the distribution system.

The engineering, construction and refurbishment projects of Hydro-Québec Production and Hydro-Québec TransÉnergie are executed by Hydro-Québec Innovation, équipement et services partagés and Société d'énergie de la Baie James.



### Financing activities

In 2019, Hydro-Québec made five fixed-rate bond issues on the Canadian capital market, at an average cost of 2.58%. The bonds will mature in 2055.

These issues raised a total of \$3.3 billion. The proceeds were used to support part of the investment program and to repay maturing debt.

### Sources of Financing

Type of financing	Amount authorized by the Board of Directors	Market	Outstanding as at December 31, 2019
Operating credit lines	C\$ or US\$1,000 million <sup>a</sup>		C\$2.1 million
Credit facility <sup>b</sup>	US\$2,000 million <sup>c</sup>		-
Commercial paper <sup>b</sup>	US\$3,500 million or equivalent in C\$	United States or Canada	C\$40 million
Medium-term notes <sup>b</sup>	US\$3,000 million or equivalent in other currencies C\$20,000 million or equivalent in US\$	United States Canada	US\$340 million <sup>d</sup> C\$10,051 million <sup>d</sup>

- a) Of this amount, available balances of US\$200 million and \$264 million in Canadian or U.S. dollars are covered by operating credit line agreements with the financial institutions concerned.
- b) Guaranteed by the Québec government.
- c) Includes a US\$750-million swing loan.
- d) Corresponds to net proceeds from the issuance of medium-term notes.

### Credit Ratings

	2019			2018		
	Commercial paper	Long-term debt	Outlook/Trend	Commercial paper	Long-term debt	Outlook/Trend
U.S. agencies						
Moody's	P-1	Aa2	Stable	P-1	Aa2	Stable
S&P Global Ratings	A-1+	AA-	N/A <sup>a</sup>	A-1+	AA-	N/A <sup>a</sup>
Fitch Ratings	F1+	AA-	Stable	F1+	AA-	Stable
Canadian agency						
DBRS	R-1 (middle)	AA (low)	Stable	R-1 (middle)	A (high)	Stable

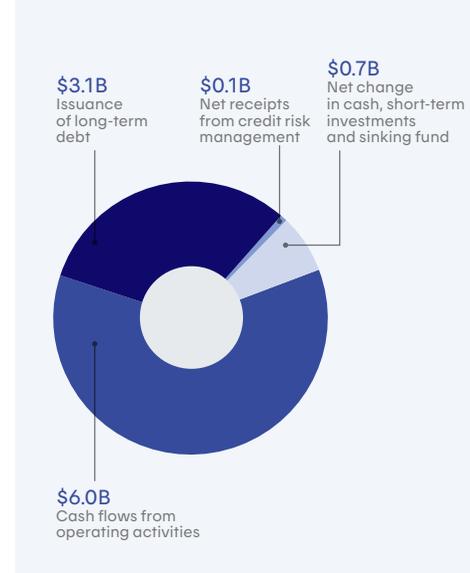
- a) S&P Global Ratings does not provide an outlook for Hydro-Québec's credit rating.

### Dividend and capitalization

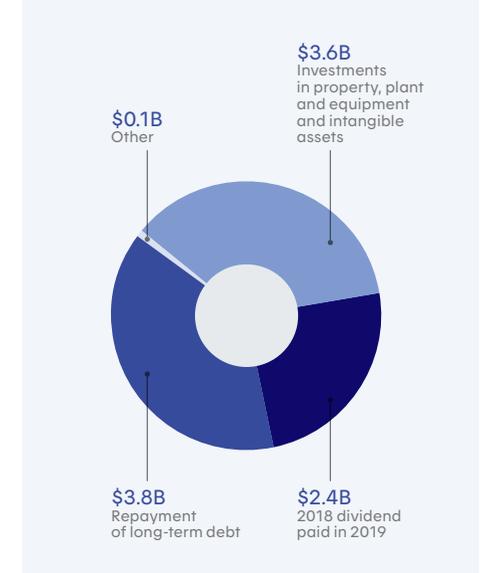
The dividend payable to the Québec government for 2019 is \$2,192 million. Once this dividend is factored in, the capitalization rate was 32.3% as at December 31, 2019.

Under the *Hydro-Québec Act* (CQLR, c. H-5), the dividend cannot exceed 75% of net income. Moreover, the Québec government may not declare, in respect of a given year, a dividend in an amount that would have the effect of reducing the capitalization rate to less than 25% at the end of the year.

### Sources of Funds in 2019



### Uses of Funds in 2019

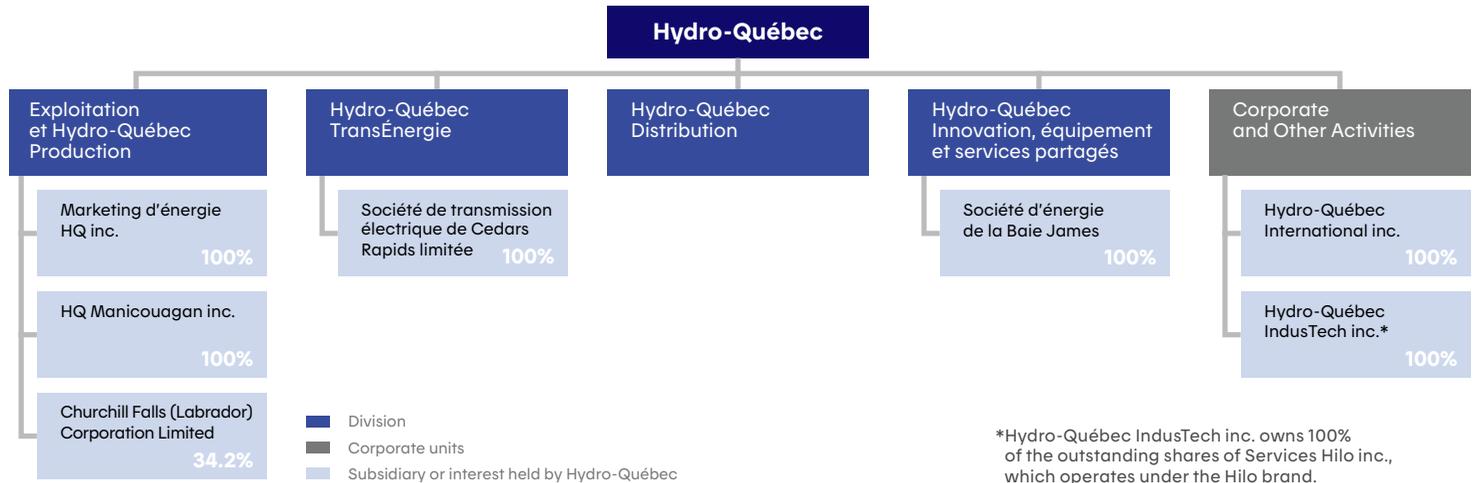


# Segmented Results

## Operating segments

Hydro-Québec's business activities are divided into four operating segments, namely Generation, Transmission, Distribution and Construction, as well as activities grouped under Corporate and Other Activities.

The organization chart on the right presents the company's four divisions and its principal first-tier interests:



### Generation

Hydro-Québec Production operates and develops Hydro-Québec's generating facilities. It generates electricity for the Québec market and exports power to wholesale markets in northeastern North America.

### Transmission

Hydro-Québec TransÉnergie operates and develops Hydro-Québec's power transmission system. It markets system capacity and manages power flows throughout Québec.

### Distribution

Hydro-Québec Distribution operates and develops Hydro-Québec's distribution system and ensures the supply of electricity to the Québec market. It also carries on activities related to electricity sales in Québec, provides customer services and promotes energy efficiency.

### Construction

Hydro-Québec Innovation, équipement et services partagés and Société d'énergie de la Baie James (SEBJ) design and build construction projects and refurbish generating and transmission facilities, mainly for Hydro-Québec Production and Hydro-Québec TransÉnergie.

The following tables present information on segment results and assets:

	2019					
Segmented financial information (\$M)	Generation	Transmission	Distribution	Construction	Corporate and Other Activities <sup>a</sup>	Hydro-Québec
Revenue <sup>b</sup>	6,692	3,493	12,245	2,248	(10,657)	14,021
Net income (loss)	2,042	569	323	1	(12)	2,923
Total assets	33,534	23,773	14,079	40	7,137	78,563

	2018					
Segmented financial information (\$M)	Generation	Transmission	Distribution	Construction	Corporate and Other Activities <sup>a</sup>	Hydro-Québec
Revenue <sup>b</sup>	6,706	3,517	12,209	2,141	(10,203)	14,370
Net income	1,999	554	368	-	271	3,192
Total assets	32,994	23,288	13,976	44	6,687	76,989

a) Corporate and Other Activities includes intersegment eliminations and adjustments.

b) Segment data include revenue from both external and intersegment customers as presented in Note 20 to the consolidated financial statements.

Note: Some of the prior year's data have been reclassified to conform to the presentation adopted in the current year.

# Generation

2019 AT A GLANCE	
Revenue	<b>\$6.7B</b>
Net income	<b>\$2,042M</b>
Contribution of net exports to net income	<b>\$631M</b>
Customers (% of revenue from electricity sales)	
Hydro-Québec Distribution	<b>77%</b>
Other	<b>23%</b>
Sales volume	
Hydro-Québec Distribution	<b>161.1 TWh</b>
Other	<b>34.8 TWh</b>
Property, plant and equipment as at December 31 (including work in progress)	<b>\$31.4B</b>
Investments in property, plant and equipment and intangible assets	<b>\$1,110M</b>

Under the *Act respecting the Régie de l'énergie* (CQLR, c. R-6.01), Hydro-Québec Production<sup>1</sup> is required to provide Hydro-Québec Distribution with a base volume of up to 165 TWh of heritage pool electricity annually and may also compete for contracts under Hydro-Québec Distribution's open tendering process. It sells electricity on wholesale markets as well.

Its generating fleet includes 62 power plants, 28 large reservoirs with a combined storage capacity of 176.8 TWh, 681 dams and 97 control structures.

## Operating results

Hydro-Québec Production recorded net income of \$2,042 million in 2019, a \$43-million increase compared to 2018. Net electricity sales to Hydro-Québec Distribution amounted to \$5,116 million, a \$106-million increase due in particular to the substantial requirements of the Québec market and the start of new power purchase agreements. Net electricity exports totaled \$1,441 million, or \$134 million less than the previous year under the combined effect of temperatures and lower market prices, whose impact was mitigated by the company's sales and risk management strategies. Net export volume exceeded 30 TWh for a fourth consecutive year. Electricity and fuel purchases, excluding short-term electricity purchases for export purposes, decreased by \$21 million, primarily because of a reduction in purchases from independent hydropower producers. Finally, amounts recognized under Other components of employee future benefit cost decreased by \$79 million, whereas depreciation and amortization increased by \$48 million.

## Electricity sales in Québec

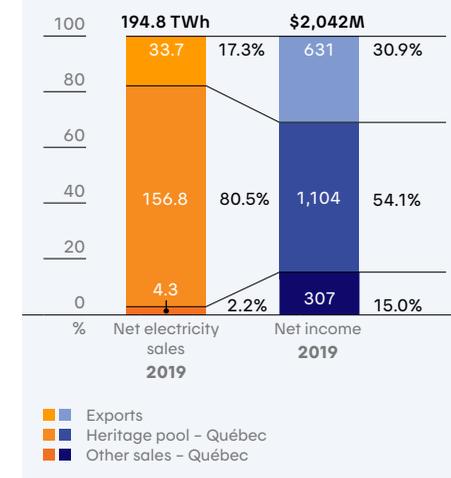
### Sales to Hydro-Québec Distribution

Electricity sales to Hydro-Québec Distribution generated \$5,116 million, a \$106-million increase compared to the \$5,010 million recorded a year earlier, essentially as a result of three factors: increased requirements on the Québec market due to higher baseload demand and the impact of temperatures, which were colder in winter 2019 than the previous winter; the start of new capacity and energy agreements at the end of 2018; and the indexing of the price of heritage pool electricity, in accordance with the *Act respecting the Régie de l'énergie*.

### Net electricity exports

Net electricity exports totaled \$1,441 million in 2019, or \$134 million less than in the previous year. Their volume reached 33.7 TWh. Although this represents a 2.4-TWh decrease compared to the record set in 2018, it nonetheless ranks among one of the company's best performances in this regard. The reduced volume is chiefly due to lower demand on export markets resulting from temperature variances in the second quarter. Its impact was compounded by lower market prices, whose effect was partially offset by the company's sales and risk management strategies.

Net Electricity Sales and Net Income of Hydro-Québec Production, by Market



1. Hydro-Québec Production is part of the Exploitation et Hydro-Québec Production division.

**Other components of employee future benefit cost**

In the line item Other components of employee future benefit cost, a credit amount of \$203 million was recognized in 2019, compared to \$124 million in 2018. This positive change primarily results from the increase in long-term interest rates on capital markets at the end of 2018 and the gradual recognition of prior-year returns on pension plan assets.

**Depreciation and amortization**

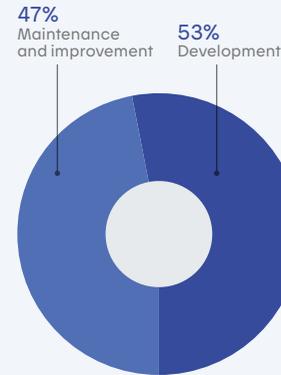
Depreciation and amortization expense stood at \$867 million in 2019, a \$48-million increase compared to \$819 million the previous year. The increase is due to the recognition of a \$46-million charge resulting from the write-off of certain costs related to the NPT project. This project, which involved the proposed construction of a transmission line in New Hampshire to export electricity to Massachusetts, was permanently shelved by the company's U.S. partner in 2019.

**Investing activities**

In 2019, Hydro-Québec Production invested \$1,110 million in property, plant and equipment and intangible assets. Of this amount, \$584 million went to development activities, mainly the ongoing construction of the Romaine hydroelectric complex.

The remaining \$526 million was allocated to asset sustainment and optimization, including refurbishment projects at Robert-Bourassa, Rapide-Blanc and Beauharnois generating stations.

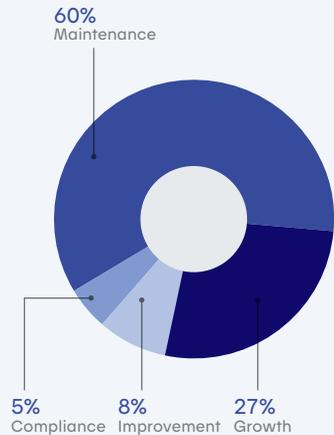
**Breakdown of 2019 Investments by Hydro-Québec Production**



# Transmission

2019 AT A GLANCE	
Revenue	<b>\$3.5B</b>
Net income	<b>\$569M</b>
Customers (% of revenue)	
<i>Hydro-Québec Distribution</i> <i>(native-load transmission service)</i>	<b>86%</b>
<i>Hydro-Québec Production and other North American wholesalers</i> <i>(point-to-point transmission services)</i>	<b>12%</b>
<i>Other</i>	<b>2%</b>
Property, plant and equipment as at December 31 <i>(including work in progress)</i>	<b>\$23.5B</b>
Investments in property, plant and equipment and intangible assets	<b>\$1,563M</b>

Breakdown of 2019 Investments by Hydro-Québec TransÉnergie



Hydro-Québec TransÉnergie operates and develops Hydro-Québec's power transmission system, one of the most extensive in North America. It markets system capacity and manages power flows throughout Québec, offering non-discriminatory access to its system to all market players in compliance with applicable regulatory requirements.

The division's operations are regulated by the Régie de l'énergie. Since January 1, 2019, transmission rates have been subject to performance-based regulation (PBR), which will apply for a four-year period. Under PBR, rates for the 2019 rate year were set using the cost-of-service method, while those for the three following years will be determined using a parametric formula. This formula provides that, for a given year, service costs related to unforeseeable events will continue to be based on the cost-of-service method, while the other cost components will be calculated using an indexation formula. Previously, transmission rates were based solely on the cost-of-service method.

## Rate cases

For 2019, the revenue authorized by the Régie de l'énergie for transmission rate-setting purposes totaled \$3,415 million: \$3,010 million for native-load transmission and \$405 million for short- and long-term point-to-point transmission services. These amounts represent increases of \$70 million and \$4 million, respectively, compared to 2018.

For 2020, Hydro-Québec TransÉnergie filed an application with the Régie de l'énergie requesting revenue of \$3,488 million: \$3,069 million for native-load transmission and \$419 million for short- and long-term point-to-point transmission services. The Régie's decision is expected in the first quarter of 2020.

## Operating results

Hydro-Québec TransÉnergie's net income was \$569 million in 2019, similar to the \$554 million posted in 2018. The increase in revenue from native-load transmission service was offset by an increase in depreciation and amortization, due in particular to the commissioning of property, plant and equipment.

## Investing activities

In 2019, Hydro-Québec TransÉnergie invested \$1,563 million in property, plant and equipment and intangible assets: \$419 million for growth projects and \$1,144 million for asset sustainment and reliability projects. The purpose of growth projects is to connect new generating facilities to the grid and add transmission capacity in response to increased load or new transmission service requests. Asset sustainment and reliability projects involve keeping facilities in good operating condition, maintaining and improving service quality and complying with the legal and regulatory requirements for operating a power transmission system.

In the growth category, Hydro-Québec TransÉnergie invested \$105 million in 2019 to complete the Chamouchouane-Bout-de-l'Île project: \$81 million for the deployment of 735-kV lines extending approximately 400 km between Chamouchouane substation, in the Saguenay-Lac-Saint-Jean region, and the Montréal metropolitan loop, as well as the rerouting of a 19-km segment of 735-kV line to Bout-de-l'Île substation, in Montréal; and \$24 million for the construction of 735/120/25-kV Judith-Jasmin substation in the Lanaudière region. The final components of this \$1.3-billion project were commissioned during the summer.

The division allocated a further \$42 million to the ongoing grid connection of the Romaine complex, which mainly involved the construction of Romaine-4 substation, as part of the Minganie region transmission system expansion. Finally, it continued building 315/25-kV Patriotes substation, in the Laurentides region, for an investment of \$60 million.

In the asset sustainment and reliability category, Hydro-Québec TransÉnergie allocated part of its investments to various activities stemming from the architecture development plan for the 315-kV system on the island of Montréal. It also invested in projects to replace the grid control and special protection systems.

# Distribution

2019 AT A GLANCE	
Revenue	<b>\$12.2B</b>
Net income	<b>\$323M</b>
Market segments (% of revenue from electricity sales)	
<i>Residential</i>	<b>46%</b>
<i>Commercial, institutional and small industrial</i>	<b>33%</b>
<i>Large industrial</i>	<b>18%</b>
<i>Other</i>	<b>3%</b>
Property, plant and equipment as at December 31 (including work in progress)	<b>\$10.4B</b>
Investments in property, plant and equipment and intangible assets	<b>\$737M</b>
Rate increase effective April 1, 2019 (excluding Rate L)	<b>0.9%</b>

Hydro-Québec Distribution provides electricity to the Québec market and delivers reliable power and quality services to its customers with a view to efficiency and sustainable development. In this context, it also promotes energy efficiency among its customers.

The division's activities are regulated by the Régie de l'énergie, which has exclusive jurisdiction to set electricity rates. Until recently, Hydro-Québec Distribution therefore submitted a rate filing each year to the Régie, which established the distribution rates in such a way as to permit service cost recovery and a reasonable return on the rate base. These rates were subject to an earnings-sharing mechanism and, since January 1, 2018, to performance-based regulation (PBR). Under PBR, the rates for the 2019–2020 rate year were determined using a parametric formula with two components: application of the cost-of-service method for costs related to unforeseeable events and use of an indexation formula for the other cost components.

## Rate case

In March 2019, the Régie de l'énergie authorized an average increase of 0.9% in all distribution rates except the large-power industrial rate (Rate L), for which the increase was set at 0.3%. In accordance with the *Act respecting the Régie de l'énergie*, the indexing of the price of heritage pool electricity does not apply to Rate L customers, which explains the smaller increase. The new rates went into effect on April 1, 2019.

## Changes to the process for establishing distribution rates

In December 2019, the *Act to simplify the process for establishing electricity*

*distribution rates* was passed by the National Assembly of Québec and came into effect. The Act amends certain provisions of the *Act respecting the Régie de l'énergie* and the *Hydro-Québec Act*. In particular, it specifies that electricity distribution rates are to be set or modified by the Régie every five years as of April 1, 2025, and that they will be indexed annually in the interim, based on the annual change in the average Québec Consumer Price Index. It also provides for a freeze on distribution rates for the rate year beginning April 1, 2020, followed by their annual indexation for the next four years. However, it authorizes the division to ask the Régie to modify its rates before the scheduled date if they do not allow for recovery of the cost of service.

Finally, the Act provides for a refund to customers of an amount equivalent to the unamortized balances of the variance and deferral accounts of Hydro-Québec Distribution as at December 31, 2019. An amount of \$535 million was therefore reclassified to the balance sheet line item Accounts payable and accrued liabilities, for distribution before April 1, 2020, among all eligible customers having received at least one electricity bill in 2018 or 2019, of a sum equal to 2.4857% of the cost of the electricity they used during that period.

## Supplying the Québec market

Hydro-Québec Distribution depends on various sources to supply the Québec market, mainly the heritage pool of 165 TWh, which it purchases from Hydro-Québec Production. It also issues short- and long-term calls for tenders.

For requirements of less than three months, the division may also buy electricity directly on the market, without tendering, under

an authorization granted by the Régie de l'énergie. For unforeseen needs that could not be met otherwise, the division relied on a framework agreement with Hydro-Québec Production that extended from January 1, 2017, to December 31, 2019. In July 2019, it filed an application with the Régie for approval of a new framework agreement, for the period from January 1, 2020, to December 31, 2022. This agreement was approved in December 2019.

In November 2019, Hydro-Québec Distribution filed the Electricity Supply Plan 2020–2029 with the Régie de l'énergie. The plan forecasts demand growth of 12.5 TWh over the period. According to the forecasts, the division's available and future supplies will be sufficient to meet energy needs until 2026 and capacity needs until 2025.

Finally, Hydro-Québec Distribution is continuing its efforts to promote energy efficiency. Among other things, it has developed an integrated offer based on raising customer awareness and helping them make lasting changes in how they use electricity. In addition, it constantly adjusts its programs according to market needs and the company's requirements, ensures that its initiatives are in line with those of its various partners and remains on the lookout for potential energy savings from new technologies. In this connection, Hydro-Québec created a subsidiary in 2019 called Hilo, which will launch smart home products and services as of 2020 and will gradually expand its offering to energy management in non-residential buildings, electric mobility solutions, smart storage and solar self-generation. These services will contribute to better management of energy use.

### Operating results

Hydro-Québec Distribution posted net income of \$323 million in 2019, or \$45 million less than the \$368 million recorded in 2018. Revenue from electricity sales increased by \$295 million on account of four main factors: higher baseload demand across all market segments; the impact of cold temperatures in first quarter 2019; the rate adjustments of April 1, 2018 and 2019; and the combined effect of aluminum price fluctuations and the risk management strategy implemented by the company to mitigate their impacts. However, the change in the net amounts recognized as earnings variances or as variances between actual revenue and costs for certain items and the forecasts in the rate filings had a negative impact of \$186 million on revenue from other activities. Electricity purchases and the related transmission costs were \$225 million higher because of an increase in supplies purchased from Hydro-Québec Production and from third parties, as well as a rise in transmission costs incurred with Hydro-Québec TransÉnergie. Depreciation and amortization expense decreased by \$91 million.

### Electricity sales in Québec

Revenue from electricity sales totaled \$12,429 million, a \$295-million increase compared to 2018. This increase is essentially the result of higher baseload demand across all market segments; the impact of cold temperatures in first quarter 2019; the rate adjustments of April 1, 2018 and 2019; and the combined effect of aluminum price fluctuations and the related risk management strategy.

Sales volume reached a record 174.6 TWh compared to 172.8 TWh the previous year, a 1.8-TWh increase. Baseload demand grew

by 1.4 TWh overall because of a rise in housing starts, the strength of the Québec economy, and the company's market development initiatives. Baseload demand growth would have been even stronger had it not been for a labor conflict which began in January 2018 at a large aluminum smelter in the Centre-du-Québec region and lasted until summer 2019, when operations gradually resumed. In addition, temperature variances led to a 0.4-TWh increase in electricity sales. Their effect was most pronounced in winter 2019, when temperatures were on average 2°C below climate normals, whereas they

had been close to the normals in 2018, giving rise to additional sales of 2.3 TWh or \$187 million compared to the previous year. However, fourth-quarter temperatures were milder in 2019 than in 2018, leading to a 1.3-TWh, or \$96-million, decrease in sales.

### Revenue from other activities

With regard to revenue from other activities, there was a \$186-million change compared to 2018 in the net amounts recognized as earnings variances or variances between actual revenue and costs for certain items and the forecasts in the rate filings. The decrease chiefly relates to the variance

accounts for pension costs and native-load transmission service, which resulted in negative variances of \$84 million and \$61 million, respectively. However, the impact of these factors was mitigated by a decrease in the regulatory liability recorded for the earnings-sharing mechanism, which was \$84 million in 2019, compared to \$106 million in 2018.

### Electricity purchases and transmission costs

Electricity purchases and the related transmission costs increased by \$225 million compared to 2018. Supplies purchased from Hydro-Québec Production increased

### Electricity Sales in Québec by Segment

Market segment	Sales volume			Sales revenue		
	2019	2019-2018 change		2019	2019-2018 change	
	TWh	TWh	%	\$M	\$M	%
Residential	70.7	1.2	1.7	5,752	161	2.9
Commercial, institutional and small industrial	47.9	0.2	0.4	4,056	40	1.0
Large industrial	50.4	0.1	0.2	2,279	83	3.8
Other	5.6	0.3	5.7	342	11	3.3
<b>Total</b>	<b>174.6</b>	<b>1.8</b>	<b>1.0</b>	<b>12,429</b>	<b>295</b>	<b>2.4</b>

### Factors Underlying the 2019-2018 Change in Sales by Segment

Market segment	Volume effects					Price effects			Total
	Baseload demand		Temperatures		Total	Rate adjustments	Other	Total	
	TWh	\$M	TWh	\$M	\$M	\$M	\$M	\$M	
Residential	0.7	55	0.5	52	107	37	17	54	161
Commercial, institutional and small industrial	0.3	12	(0.1)	3	15	29	(4)	25	40
Large industrial	0.1	(15)	-	-	(15)	4	94	98	83
Other	0.3	14	-	2	16	4	(9)	(5)	11
<b>Total</b>	<b>1.4</b>	<b>66</b>	<b>0.4</b>	<b>57</b>	<b>123</b>	<b>74</b>	<b>98</b>	<b>172</b>	<b>295</b>

by \$106 million, partly because of the start of new power purchase agreements at the end of 2018 and the indexing of the price of heritage pool electricity, in accordance with the provisions of the *Act respecting the Régie de l'énergie*. Supplies from third parties rose by \$50 million as a result of a \$68-million, or 0.5-TWh, increase in wind power purchases, mainly on account of higher output from the facilities under contract. In addition, costs incurred for native-load transmission provided by Hydro-Québec TransÉnergie increased by \$70 million.

**Depreciation and amortization**

Depreciation and amortization expense totaled \$606 million, compared to \$697 million the previous year. This \$91-million reduction is mostly due to the positive impact of the revision of the useful life of certain types of distribution equipment and, to a lesser extent, to a decrease in the amortization of costs related to energy efficiency initiatives.

**Investing activities**

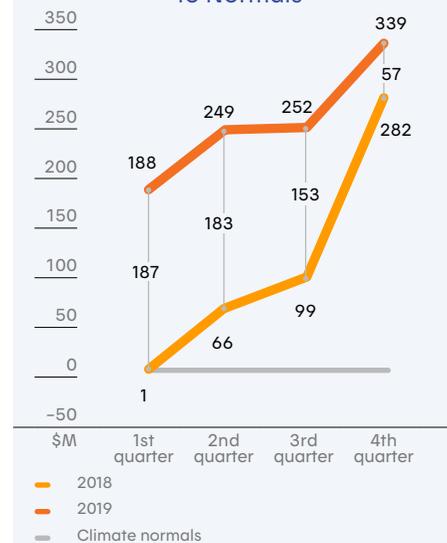
In 2019, Hydro-Québec Distribution's investments in property, plant and equipment and intangible assets totaled \$737 million.

Of this amount, \$399 million was allocated to handling growth in the Québec customer base, including \$246 million for customer connections. The division also invested \$258 million in asset sustainment.

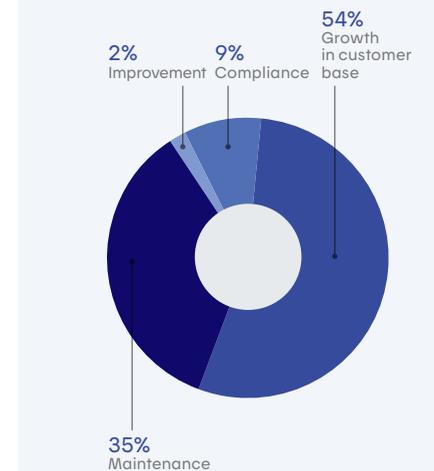
Variations from Climate Normals - Montréal and Québec



Cumulative Impact on Electricity Sales in Québec of Temperatures Compared to Normals



Breakdown of 2019 Investments by Hydro-Québec Distribution



# Construction

2019 AT A GLANCE	
Volume of activity	<b>\$2.2B</b>
Main customers	
Hydro-Québec Production	<b>37%</b>
Hydro-Québec TransÉnergie	<b>57%</b>

The Construction segment consists of activities related to projects carried out by Hydro-Québec Innovation, équipement et services partagés<sup>1</sup> and by Société d'énergie de la Baie James (SEBJ).

Hydro-Québec Innovation, équipement et services partagés is responsible for construction and refurbishment projects throughout Québec, except in the territory governed by the *James Bay and Northern Québec Agreement* (JBNQA). SEBJ builds generating facilities in the territory governed by the JBNQA (north of the 49th parallel) and may also carry out certain projects elsewhere in Québec and outside the province.

As engineering, construction and environmental specialists, Hydro-Québec Innovation, équipement et services partagés and SEBJ offer Hydro-Québec Production and Hydro-Québec TransÉnergie a variety of services needed for draft-design studies, impact assessments and other undertakings in the context of energy-related projects. These services include technical and scientific surveys, planning, cost estimates and cost control, design, architecture, geomatics and quality control.

## Volume of activity

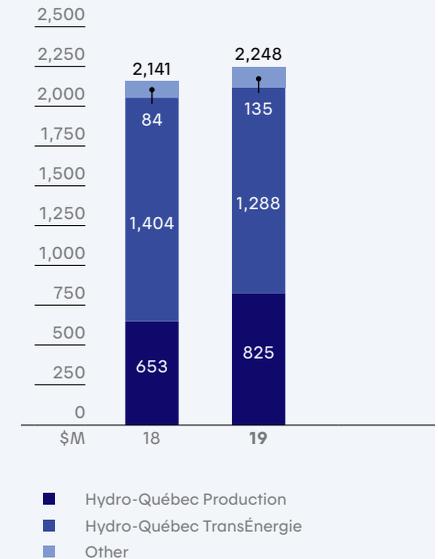
Hydro-Québec Innovation, équipement et services partagés and SEBJ carried out projects worth a total of \$2,248 million in 2019, compared to \$2,141 million the previous year. The high volume is attributable to several large-scale projects. Work done for Hydro-Québec Production totaled \$825 million, compared to \$653 million in 2018, while work done for Hydro-Québec TransÉnergie totaled \$1,288 million, compared to \$1,404 million in 2018.

## Main projects

In the area of power generation, Hydro-Québec Innovation, équipement et services partagés continued building the Romaine hydroelectric complex, as well as upgrading the auxiliary systems at Carillon generating station and overhauling the units at Robert-Bourassa and Beauharnois. The division also finished replacing all the head gates at Manic-5 and began refurbishment work on Rapide-Blanc generating station and the dike at Les Cèdres, after obtaining the required government approvals. In the area of transmission, connection of the Romaine complex progressed. In addition, the division finished construction of the 735-kV lines between Chamouchouane substation and the Montréal metropolitan loop and commissioned them during the summer, marking the end of the huge Chamouchouane-Bout-de-l'Île project. It also continued rebuilding the 120-kV line between Vignan and Templeton substations, in Gatineau, while carrying out a number of replacement programs throughout Québec. At the same time,

the division worked on upgrading various facilities on the main transmission system and pursued other projects to increase transmission capacity.

Breakdown of Construction Segment Activities



1. The activities of the Direction principale – Centre de services partagés, Direction principale – Approvisionnement stratégique and Direction principale – Centre de recherche d'Hydro-Québec, as well as of the Center of Excellence in Transportation Electrification and Energy Storage, are included under Corporate and Other Activities.

# Corporate and Other Activities

The Corporate and Other Activities heading includes all corporate activities, which are handled by the Groupe – Direction financière et du risque, Groupe – Affaires corporatives et juridiques et gouvernance, Vice-présidence – Communications, affaires gouvernementales et relations avec les autochtones, Vice-présidence – Ressources humaines and Direction principale – Santé, sécurité et environnement. It also encompasses the activities of the Vice-présidence – Technologies de l'information et des communications, Vice-présidence – Stratégies d'entreprise et développement des affaires, Vice-présidence – Transformation d'entreprise, Direction principale – Centre de services partagés, Direction principale – Approvisionnement stratégique, Direction principale – Centre de recherche d'Hydro-Québec, Direction principale – Filiales d'Hydro-Québec and the Center of Excellence in Transportation Electrification and Energy Storage, as well as intersegment eliminations and adjustments.

## Results

The net result for Corporate and Other Activities decreased by \$283 million compared to the \$271 million recorded in 2018, essentially because of the recognition, in 2018, of the \$277-million non-recurring gain on the sale of an equity interest in TM4.

## Corporate activities

The Groupe – Direction financière et du risque is responsible for all of the company's financial functions, in particular accounting, control, treasury, budget planning, financing and relations with Hydro-Québec bondholders and rating agencies, taxation, risk management, preparation of financial statements and reports, as well as pension plan and

pension fund management. As at December 31, 2018, the date of the most recent actuarial valuation, the pension plan showed a funding surplus of \$6.1 billion, which means that the assets held on that date were sufficient to cover future pension costs as well as the stabilization provision established under the requirements of the *Supplemental Pension Plans Act* (CQLR, c. R-15.1). The pension plan's funding ratio was 132.4% at that time.

The Groupe – Affaires corporatives et juridiques et gouvernance provides administrative support to the company's Board of Directors and the boards of Hydro-Québec subsidiaries, as well as legal services, advice and opinions to the entire company. It negotiates, drafts and reviews the contracts and agreements required in the course of the company's operations and protects its interests in business matters and disputes, including court cases and matters involving regulators such as the Régie de l'énergie. It also develops strategies and guidelines and provides advisory services in the areas of corporate affairs, governance and ethics, access to documents and protection of personal information, information management, and sustainable development. At the request of the Management or Board of Directors of Hydro-Québec, it also conducts analyses and verifications aimed at evaluating the company's governance, performance and compliance in different areas such as anti-bribery policies, the environment and worker health and safety.

The Vice-présidence – Communications, affaires gouvernementales et relations avec les autochtones develops strategies and provides support and advisory services in the areas of communications, public affairs,

transportation electrification, and relations with governments, communities, Indigenous peoples and partner organizations. It is also tasked with monitoring Hydro-Québec's reputation.

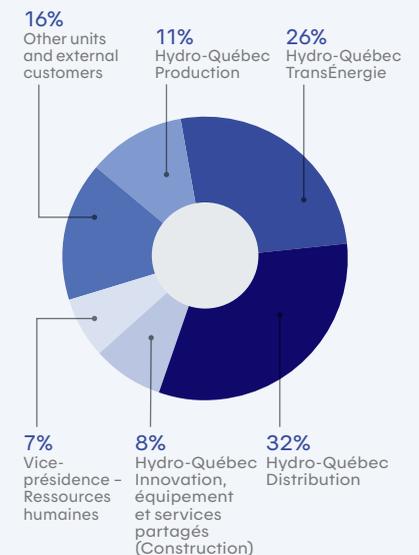
The Vice-présidence – Ressources humaines develops strategies, guidelines, frameworks, corporate programs and objectives in matters pertaining to human resources management, labor relations, compensation and employee benefits, organizational performance, as well as training and skills development. It also supports the company's transformation by seeking to ensure that Management can count on optimum conditions regarding human resources. Moreover, it is responsible for all measures regarding the protection of personnel and third parties, as well as the security of Hydro-Québec's facilities and assets.

The Direction principale – Santé, sécurité et environnement<sup>1</sup> is in charge, in particular, of occupational health and safety (OHS), one of Hydro-Québec's top priorities. Its mission is to foster a culture of prevention based on proactivity, strong leadership and the sharing of day-to-day responsibility for OHS issues and risks not just by managers, but by all employees on the ground. To this end, it develops strategies and provides advice pertaining to the prevention of accidents and illness, while promoting best practices in health and safety. In addition, the Direction principale defines the company's strategies and objectives concerning the environment and provides advisory services in that regard. It also manages strategic environmental issues for Hydro-Québec as well as matters related to environmental performance.

## Vice-présidence – Technologies de l'information et des communications

The Vice-présidence – Technologies de l'information et des communications<sup>1</sup> designs, deploys and operates Hydro-Québec's information and telecommunications networks, systems, applications and infrastructure, and is responsible for their evolution and security. As part of its mandate, it implements an integrated vision with respect to governance, architecture, development and operations. It also develops leading-edge technology solutions designed to increase the company's productivity and facilitate its digital transformation, including increased automation of the power grid and corporate

Breakdown of 2019 Activities: Vice-présidence – Technologies de l'information et des communications



1. This structural unit is part of the Exploitation et Hydro-Québec Production division.

processes, greater mobility, as well as the use of cloud computing, data analytics and artificial intelligence.

This unit's volume of activity totaled \$731 million in 2019, compared to \$726 million in 2018.

**Investing activities**

In 2019, the investments of the Vice-présidence – Technologies de l'information et des communications totaled \$136 million and were essentially allocated to maintaining asset quality.

**Vice-présidence – Stratégies d'entreprise et développement des affaires**

The mandate of the Vice-présidence – Stratégies d'entreprise et développement des affaires is to identify and seize business opportunities both in Québec and beyond its borders, so that Hydro-Québec can grow its net income and play a leading role in the global energy transition. In concrete terms, the unit is constantly on the lookout for potential investments in the form of acquisitions, equity stakes or long-term partnerships that will leverage the company's expertise in hydroelectric generation and power transmission. In addition, it is actively involved in developing Hydro-Québec's export markets by highlighting the benefits of Québec hydropower. It also coordinates the preparation and updating of the Strategic Plan and all related work.

**Vice-présidence – Transformation d'entreprise**

Established in 2019, the Vice-présidence – Transformation d'entreprise<sup>1</sup> is tasked with piloting Hydro-Québec's transformation

and implementing continuous improvement principles throughout the company. In partnership with Senior Management, it coordinates operational value creation by planning, scheduling and implementing internal and external strategic projects and ensuring their consistency, with a view to efficiency and profitability.

**Direction principale – Centre de services partagés and Direction principale – Approvisionnement stratégique**

The Direction principale – Centre de services partagés<sup>2</sup> offers services pertaining to real estate management and materials management, as well as transportation and other specialized services, in order to contribute to Hydro-Québec's overall performance. The Direction principale – Approvisionnement stratégique<sup>2</sup> provides procurement guidelines, products and services to the entire company, in line with best practices.

These two units' combined volume of activity amounted to \$514 million in 2019, compared to \$525 million in 2018.

**Direction principale – Centre de recherche d'Hydro-Québec**

The Centre de recherche d'Hydro-Québec<sup>2</sup> conducts research and development projects aimed in particular at supporting Hydro-Québec in the energy transition. It keeps the company on the leading edge of advances in knowledge and technological solutions in all important areas likely to have an impact on operations, so that it can make the most of existing and emerging products and services to improve its performance in the short and long terms.

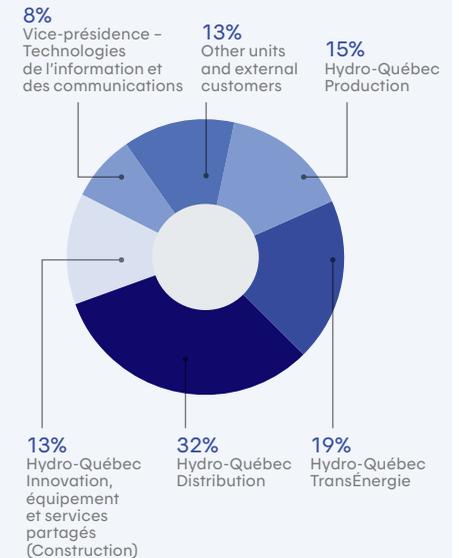
**Direction principale – Filiales d'Hydro-Québec**

The principal mandate of the Direction principale – Filiales d'Hydro-Québec<sup>1</sup> is to commercialize innovations developed by the company. To that end, it carries out market studies and prospecting to assess the commercial potential of innovations with a view to their possible market rollout. At present, its efforts are mainly focused on energy storage systems.

**Center of Excellence in Transportation Electrification and Energy Storage**

The Center of Excellence in Transportation Electrification and Energy Storage<sup>2</sup> conducts research and development on battery materials.

**Breakdown of 2019 Activities: Direction principale – Centre de services partagés and Direction principale – Approvisionnement stratégique**



1. This structural unit is part of the Exploitation et Hydro-Québec Production division.

2. This structural unit is part of Hydro-Québec Innovation, équipement et services partagés.

# Outlook

For 2020, Hydro-Québec is targeting net income of \$2.9 billion.

This forecast takes into account the impacts of the *Act to simplify the process for establishing electricity distribution rates*, passed by Québec's National Assembly and enacted in December 2019. This Act amends certain provisions of the *Act respecting the Régie de l'énergie* and the *Hydro-Québec Act*. In particular, it provides for a freeze on distribution rates for the rate year beginning April 1, 2020, as well as a refund to customers, in 2020, of an amount equivalent to the unamortized balances of the variance and deferral accounts of Hydro-Québec Distribution as at December 31, 2019. The amount to be refunded totals \$535 million.

The company plans to invest approximately \$3.9 billion in 2020, most of which will be allocated to the operations of Hydro-Québec TransÉnergie (\$1.7 billion), Hydro-Québec Production (\$1.0 billion) and Hydro-Québec Distribution (\$0.9 billion). More than 65% of the total amount will be earmarked for facility maintenance and improvements; the remainder will go toward growth and development activities.

The 2020 borrowing program is set at \$4.0 billion. The funds raised will be used to repay maturing debt and to finance part of the investment program.

**Hydro-Québec Production** will continue its work on the Romaine complex jobsites in the course of developing Québec's hydroelectric potential. Three of the four generating stations in this major project, namely Romaine-2, Romaine-1 and Romaine-3, were commissioned in 2014, 2015 and 2017, respectively, and Romaine-4 should follow in 2021. In line with the energy transition, Hydro-Québec Production will also build two solar generating stations. At the same time, it will continue investing to ensure the long-term operability of its facilities and optimize their output. For instance, refurbishment is under way at Robert-Bourassa, Rapide-Blanc and Beauharnois generating stations.

**Hydro-Québec TransÉnergie** will devote a large part of its investments to erecting transmission lines, in particular the 735-kV line that will extend some 250 km between Micoua substation, in the Côte-Nord region, and Saguenay substation, in the Saguenay-Lac-Saint-Jean region, as well as the approximately 100-km 320-kV direct current interconnection line between Appalaches substation, located near Thetford Mines, and a connection point on the Québec-Maine border. In addition, it will continue connecting the Romaine complex, in the Minganie region, and building 315/25-kV Patriotes substation, in the Basses-Laurentides region. The division will also continue to invest in upgrading and modernizing its facilities to ensure the reliability and long-term operability of its transmission assets and maintain service quality. Some examples of this include the projects to replace the grid control systems, special protection systems, and substation protections and controls, as well as work stemming from the architecture development plan for the 315-kV system on the island of Montréal.

**Hydro-Québec Distribution** will continue to deliver reliable power and high-quality services to all Quebecers. It will make further investments to better meet customer needs, including connecting the Côte-Nord communities of La Romaine and Unamen Shipu, currently served by an off-grid system. The division will also pursue projects to maintain and improve the quality of its facilities, such as replacing the distribution grid control system. Finally, in the context of the energy transition, development projects such as the deployment of a microgrid in Lac-Mégantic will enhance the division's expertise in new technologies so that it can subsequently transpose them to other localities, particularly the off-grid systems in the Nord-du-Québec region.

# Integrated Business Risk Management

For many years, Hydro-Québec has applied an integrated business risk management process as part of its ongoing activities. This process is supported by various control, communication and assessment mechanisms intended to ensure dynamic monitoring of risk developments.

The company's structural units, namely the divisions and corporate units, are central to the process. As part of their activities, they manage the risks to which they are exposed and reassess them on a regular basis, daily in some cases. In concrete terms, each structural unit must identify and assess its main risks and then develop and apply mitigation measures to ensure that residual risks are at a level acceptable to Hydro-Québec. The structural units report monthly on their risk management and monitoring activities to the Management Committee, which then acts as a risk management committee to provide overall monitoring of business risks. This approach makes it possible to create a consolidated portfolio of residual business risks during the annual planning process. The consolidated portfolio is presented to the Board of Directors along with a sensitivity analysis indicating the impact of certain risks on forecast net income.

## Financial risks

In the course of its operations, Hydro-Québec carries out transactions that expose it to certain financial risks, such as market, liquidity and credit risk. Systematic monitoring and the adoption of strategies that include the use of derivative instruments considerably reduce exposure to such risks and their impact on the company's results.

To manage market and credit risk, a team of specialists that is independent of the units carrying out the transactions constantly

## Integrated Business Risk Management Process

	Annually	Monthly
<b>Structural units</b>	<ul style="list-style-type: none"> <li>Identification of each structural unit's risks and validation by the manager reporting to the President and Chief Executive Officer</li> <li>Development or updating of the structural unit's portfolio of residual business risks</li> </ul>	Report on the monitoring of each structural unit's portfolio of residual business risks
<b>Corporate Management<sup>a)</sup></b>	Review of the company's consolidated portfolio of residual business risks, risk map and probability of attaining forecast net income	Review of the consolidated monthly report on the monitoring of the company's portfolio of residual business risks
<b>Board of Directors</b>	<p><b>Audit Committee</b> Analysis of the company's integrated process for managing residual business risks</p> <p><b>Financial Affairs, Projects and Technology Committee</b> Analysis of the company's consolidated portfolio of residual business risks, risk map and probability of attaining forecast net income</p> <p><b>Board of Directors</b> Review of the company's consolidated portfolio of residual business risks, risk map and probability of attaining forecast net income</p>	

a) Acting as the risk management committee, with the Executive Vice President and Chief Financial and Risk Officer as Chief Risk Officer.

monitors a number of indicators related to financial and energy transactions, recommends strategies and applies controls aimed at reducing risk.

### Market risk

Hydro-Québec's results are subject to three main types of market risk: currency risk, interest rate risk and risk associated with energy and aluminum prices. Fluctuations in the Canadian dollar's exchange rate

relative to the U.S. dollar affect revenue from sales denominated in U.S. dollars, as well as the cost of U.S. dollar-denominated debt. Interest rate fluctuations affect financial expenses and pension costs. Finally, energy price fluctuations affect revenue from wholesale markets, while aluminum price fluctuations have an impact on revenue from special contracts with certain large industrial customers in Québec.

The three types of market risk are the subject of active integrated management based mainly on the use of derivative financial instruments. The purpose of such management is to limit the impact of market risk on Hydro-Québec's results, according to strategies and criteria established based on the company's risk tolerance. In addition, market risk over the medium and long term is mitigated by the offsetting effect between the impact of a general increase or decrease

in interest rates on financial expenses, on the one hand, and the impact of such an increase or decrease on pension costs, on the other.

Hydro-Québec's pension costs are also subject to the risk of fluctuation in the fair value of investments held in the pension fund portfolio. To manage this risk, the company relies on asset diversification and on investment management strategies that include the use of derivatives.

### Liquidity risk

Liquidity risk is the risk that an entity will encounter difficulty in meeting obligations associated with its financial liabilities. This type of risk may translate into difficulties accessing sources of financing for its investment program.

Hydro-Québec's liquidity risk is mitigated by several factors, including substantial cash flows generated by operating activities, access to a preauthorized standby credit facility and a diversified portfolio of highly liquid financial instruments.

### Credit risk

Credit risk is the risk that a counterparty may not meet its contractual obligations. Hydro-Québec is exposed to credit risk related to receivables through ongoing electricity sales in Québec. It is also exposed to credit risk related to the cash equivalents, short-term investments and derivative instruments traded with financial institutions and other issuers and, to a lesser extent, with North American energy companies under Hydro-Québec Distribution power purchase agreements and Hydro-Québec Production energy transactions on markets outside Québec.

Exposure to credit risk is mitigated by the implementation of limits and frameworks for risk concentration and level of exposure by counterparty. To ensure compliance with such limits and frameworks, Hydro-Québec takes a proactive approach based on various controls and monitoring reports. These enable it to react quickly to any event that could have an impact on the financial position of its counterparties. In addition, the company generally does business with counterparties that have a high credit rating. It also enters into agreements to keep the market value of the main portfolios of derivative instruments below a predetermined threshold.

### Regulatory risks

Hydro-Québec is exposed to regulatory risks because, under the *Act respecting the Régie de l'énergie*, its activities related to electricity transmission and distribution are regulated.

The decisions handed down by the Régie de l'énergie may therefore affect the results of Hydro-Québec TransÉnergie and Hydro-Québec Distribution. In particular, the Act stipulates that rates are determined on a basis that allows for recovery of the cost of service and provides a reasonable return on the rate base.

However, the *Act to simplify the process for establishing electricity distribution rates*, which came into force in December 2019, called for the abolishment of the regulatory practice allowing Hydro-Québec Distribution to integrate in its future rates any variance between the actual amounts of certain items, in particular the revenue variances related to weather conditions and the variances related to electricity supplies, and the amounts forecast in rate filings, which were based on climate normals and recognized by the Régie for rate-setting purposes. As of 2020, the division will therefore be exposed to the risks associated with these items, which were formerly covered by variance and deferral accounts. As of 2021, these risks will be mitigated by the annual indexation of rates.

Various measures have been put in place to reduce the impact of regulatory risks on these two divisions' results. These measures include submitting complete and well-argued files to the Régie de l'énergie and maintaining a constructive dialogue with the Régie and the intervenors, particularly during working sessions.

### Operational risks

Managing a power system poses numerous technical challenges related to aging equipment. Hydro-Québec must therefore make informed decisions when it comes to planning investments aimed at extending the useful life of its facilities and replacing certain assets.

#### Generation

One of the principal uncertainties that Hydro-Québec faces relates to natural water inflows. Hydro-Québec Production must ensure that it is able to meet its obligations to supply an annual base volume of up to 165 TWh of heritage pool electricity to Hydro-Québec Distribution and fulfill its contractual undertakings. In concrete terms, this means being able to cover a natural inflow deficit of 64 TWh over two consecutive years, and 98 TWh over four consecutive years. To manage this risk, Hydro-Québec Production applies a variety of mitigation measures and closely monitors them. In particular, it manages its reservoir storage on a multiyear basis and maintains an adequate margin between its generating capacity and its commitments. This allows it to compensate for variations in runoff, replenish its reserves or take advantage of business opportunities. Hydro-Québec regularly reports to the Régie de l'énergie on the generating capacity and energy reserve of Hydro-Québec Production.

Moreover, Hydro-Québec Production operates many generating stations and control structures in southern Québec, particularly on the Rivière Saint-Maurice,

the Rivière des Outaouais and the Fleuve Saint-Laurent, along which a number of urban centers and other agglomerations are located. These rivers have experienced major spring flooding in recent years, especially in 2017 and 2019. To minimize the impact of flooding on communities, Hydro-Québec Production plans ahead and manages its facilities in such a way as to ensure public safety, by carrying out rigorous monitoring and by working closely with the authorities. For example, various reservoirs were used to limit flooding in 2019. The company also held numerous information sessions during the year to educate the public about the key role that its reservoirs and control structures play in managing floods.

In addition to runoff uncertainties, Hydro-Québec Production's export activities on wholesale markets are subject to market risk and the risk of unavailability of generating and transmission equipment. Market risk results from fluctuations in energy prices on markets outside Québec and is mitigated by ongoing monitoring of trends in wholesale markets and the use of hedging derivative instruments. The risk of unavailability of generating and transmission equipment is mitigated through maintenance and upgrade programs.

Hydro-Québec Production is also exposed to risk arising from variances between forecast and actual temperatures and market demand in Québec. Such variances have an impact on its electricity sales to Hydro-Québec Distribution and may affect the volume available for its export sales.

The risks related to Hydro-Québec Production's export activities are quantified in an integrated fashion by a team of specialists that is independent of the unit carrying out the transactions. This team sees to the application of controls, presents daily reports to Senior Management and ensures compliance with the limits approved by Management and the Board of Directors.

#### Transmission

Several factors, such as extreme weather events and equipment failure, may cause service interruptions or result in the unavailability of part of the transmission system. To mitigate these risks, Hydro-Québec TransÉnergie adopts a multipronged preventive approach; for instance, it implements the reliability standards of the North American Electric Reliability Corporation (NERC), as well as measures to maintain and reinforce its transmission facilities and ensure that assets continue to operate smoothly throughout their useful lives. It is worth noting in this regard that Hydro-Québec TransÉnergie's Direction - Contrôle des mouvements d'énergie [system control unit] is Reliability Coordinator for transmission systems in Québec, a role it was assigned by the Régie de l'énergie in 2007.

Hydro-Québec TransÉnergie must provide enough transmission capacity to supply Hydro-Québec Distribution and other customers, while also ensuring transmission system security and reliability. To do so, it applies optimal management of the annual peak load and invests in modernizing its transmission facilities based on an asset management model. It has also undertaken major projects to replace the grid control systems, special protection systems, and substation protections and controls.

#### Distribution

The main risk to which Hydro-Québec Distribution is exposed relates to continuity of service. To maintain power quality, the division makes ongoing investments in its system to modernize and automate it and enhance its security. It also relies on vegetation control, the implementation of an asset maintenance program and a strategy for asset renewal, as well as compliance with applicable standards for overhead and underground systems. To reduce the duration of service interruptions, the vast majority of which are caused by adverse weather conditions, the division has adopted new technologies for rapid detection of outages, faster service restoration and remote management of certain incidents.

Even under normal weather conditions, Hydro-Québec Distribution has to deal with demand fluctuations that are due to economic and market factors and that impact its results. When demand is lower than forecast, the division cannot recover from customers all the costs related to power distribution, nor the total cost of native-load transmission. Following the abolishment of its variance and deferral accounts at the end of 2019, it will also be exposed, as of 2020, to risks related to weather conditions and variances in electricity supplies. To counter the impact of all these risks, the division constantly fine-tunes its method of forecasting electricity demand.

#### Construction

One of the key risks that Hydro-Québec Innovation, équipement et services partagés must deal with is occupational health and safety on its jobsites. In 2017, the division initiated a major shift aimed at developing strong leadership, raising its standards and improving its performance in health and safety, and thereby becoming a benchmark in this area in Québec's construction industry. To this end, it developed an action plan that is reviewed annually and monitored on a monthly basis by Senior Management. It has also teamed up with the other structural units to achieve a common goal: provide a safe, healthy and respectful work environment.

Pressure on construction project costs is another risk to which the division is constantly exposed. This pressure stems from such factors as a labor shortage due in part to the boom in Québec's construction industry, higher prices for certain materials or products, as well as factors like late deliveries, poor quality and work stoppages, which affect project schedules.

To meet its commitments and continue to apply high safety and quality standards, the division has implemented a number of measures to reduce its risk exposure. In particular, it closely monitors project schedules, costs, accidents and risks specific to each project or key deliverable, an approach that enables it to ensure that projects are progressing as planned and to take any necessary corrective action. It also maintains ongoing relations with the relevant organizations and government

departments to stay abreast of future amendments to laws and regulations that could affect its activities. In addition, it develops procurement strategies that promote competition, secure long-term supplies and continuity of expertise in its markets, and it adjusts its project completion strategies according to economic conditions, in consultation with its customers.

Finally, trade agreements between Québec and Ontario and between Canada and the European Union may affect Hydro-Québec's procurement processes, especially regarding security, confidentiality of information and how requirements are defined.

**Corporate and Other Activities**

**Occupational health and safety**

Hydro-Québec is continuing the company-wide shift it initiated to change its culture and improve its performance in occupational health and safety (OHS) in order to protect all its workers. The transformation is built around three pillars: leadership, risk management and performance.

Numerous initiatives were launched, many of which seek to reduce the frequency and severity of accidents. Priority is given to the three most critical risks for the company, namely moving vehicles, live equipment, and musculoskeletal disorders.

Significant efforts were deployed to optimize reporting of potentially serious incidents, determine their causes and implement effective control strategies and methods. In addition, Hydro-Québec continued to improve its investigation and analysis

process to enhance its managers' skills in this area and equip managers with a common method for identifying accident causes.

To maximize the impact of these initiatives, the company took specific measures to develop OHS competencies in the highest-risk units, namely the departments in which most accidents occur. In this way, it seeks to encourage the teams on the ground to take charge of health and safety issues and manage the highest risks.

OHS performance indicators continue to be closely monitored in dashboards and performance reviews. Although certain indicators are not improving as quickly as hoped, the measures taken since 2017 have provided the necessary foundation for achieving the desired results. Improving the company's OHS performance and creating a genuine culture of prevention is a long process. However, the continued deployment, in 2020, of the company's Health and Safety Action Plan should contribute to more effective risk management and significant progress in this area during the coming years.

**Safety of individuals and security of assets and revenue**

Hydro-Québec takes every possible measure to protect its employees and third parties against any threats, hazards, disasters and exceptional circumstances that might occur during the course of operations. It carries out continuous monitoring of threats and vulnerabilities, and of the safety measures necessary for accomplishing its mission. The company also looks after securing all its physical assets, information assets and cyber assets.

To help ensure optimal protection of individuals and of its assets and revenue, Hydro-Québec is committed to fostering a safety and security culture; increasing public awareness of the need for good safety habits near its facilities; anticipating, evaluating and mitigating risks and threats; establishing and applying adapted safety measures; ensuring surveillance of assets and detection of anomalies; responding quickly in the event of harm, damage or threat to individuals, assets or revenue in order to limit impacts; complying with legal and regulatory requirements; and taking part in government safety and security initiatives.

Concerning protection of revenue, Hydro-Québec pays special attention to electricity theft, fraud, intellectual property infringement and possible attacks on the grid. To counter these risks, the company relies on a series of measures, including an analytical method for detecting electricity theft, increased security at strategic facilities, as well as continued active surveillance in collaboration with partners. It also carries out in-depth personal reliability and integrity background checks (PRIBC) when recruiting candidates for positions at the Center of Excellence in Transportation Electrification and Energy Storage, and has undertaken to set up an anti-bribery system for which it intends to obtain ISO 37001 certification.

In addition, Hydro-Québec has a corporate emergency response plan to ensure the continuity of its operations and its mission in case of an exceptional event. The corporate plan integrates the structural units' emergency response plans

and activities with the aim of strengthening and improving coordination of the efforts of all internal and external responders, including public authorities.

**Security of information and communication technologies**

Cybersecurity is a key concern for Hydro-Québec. To manage this issue, the company relies on a multidisciplinary team of experts who monitor its information and telecommunications networks, anticipate and analyze threats, maintain a close watch on related risks, regularly assess the mitigation measures in place and deploy new strategies based on changes in the business environment and emerging trends in security. The corporate ICT (information and communication technologies) security monitoring center plays a leading role in this regard.

**Growth in Québec and beyond**

In keeping with the strategies set out in the *Strategic Plan 2020-2024*, Hydro-Québec intends to take advantage of opportunities both in Québec and beyond its borders with a view, in particular, to increasing the company's value and supporting the decarbonization of all its markets. The growth avenues it is exploring involve developing its domestic and export markets, leveraging its technologies and acquiring assets or equity stakes. To ensure the success of these ventures, the company has adopted a disciplined approach and implemented a business opportunity analysis process to identify the related risks and manage them proactively.

### **Environment**

Every year, Hydro-Québec reviews its management of environmental risks as well as areas for improvement using its ISO 14001:2015-certified management system. In this way, it strives to better control the effects of its operations and projects on the natural and human environments. The company also acts to maximize the positive environmental spinoffs resulting from its presence in Québec.

### **Climate change**

Climate change is already starting to have an impact on Hydro-Québec's operations. In its *Strategic Plan 2020-2024*, the company therefore undertook to develop an adaptation plan aimed at mitigating the related risks. In 2019, it set up a committee made up of representatives from all the units concerned and mandated it to identify vulnerabilities, propose short- and long-term adaptation measures and oversee their implementation. The company also asserted its intention to be a leader in the energy transition so as to make an even larger contribution to the fight against global warming.

## MANAGEMENT'S REPORT ON FINANCIAL INFORMATION

Hydro-Québec's consolidated financial statements and all the information contained in this Annual Report are the responsibility of Management and are approved by the Board of Directors. The consolidated financial statements have been prepared by Management in accordance with United States generally accepted accounting principles and take into account the decisions handed down by the Régie de l'énergie with respect to the transmission and distribution of electricity. They include amounts determined based on Management's best estimates and judgment. Financial information presented elsewhere in the Annual Report is consistent with the information provided in the consolidated financial statements.

Management maintains an internal control system whose objective is to provide reasonable assurance that financial information is relevant and reliable and that Hydro-Québec's assets are appropriately recorded and safeguarded. In particular, this system includes Hydro-Québec's policies and directives, and involves communicating Hydro-Québec's rules of ethics and Code of Conduct to employees to ensure the proper management of resources and the orderly conduct of business, in compliance with the applicable laws and regulations. An internal auditing process allows evaluation of the sufficiency and effectiveness of controls, as well as of Hydro-Québec's policies and directives. Recommendations ensuing from this process are submitted to Management and the Audit Committee.

The Board of Directors approves the corporate governance rules. It assumes its responsibility for the consolidated financial statements through its Audit Committee, composed solely of independent directors, who do not hold full-time positions within Hydro-Québec or in one of its subsidiaries. The Audit Committee is responsible for recommending the consolidated financial statements to the Board of Directors for approval. The Audit Committee meets with Management, the independent auditors and the Internal Auditor to discuss the results of their audits and the resulting findings with respect to the integrity and the quality of Hydro-Québec's financial reporting as well as its internal control system. The independent auditors and the Internal Auditor have full and unrestricted access to the Audit Committee, with or without Management present.

The 2019 and 2018 consolidated financial statements have been audited jointly by the Auditor General of Québec, KPMG LLP and Ernst & Young LLP.

**/s/ Jacynthe Côté**  
Chair of the Board

**/s/ Éric Martel**  
President and Chief Executive Officer

**/s/ Jean-Hugues Lafleur**  
Executive Vice President and  
Chief Financial and Risk Officer

Montréal, Québec  
February 14, 2020

# INDEPENDENT AUDITORS' REPORT

To the Minister of Finance of Québec:

## Report on the Audit of the Consolidated Financial Statements

### Opinion

We have audited the consolidated financial statements of Hydro-Québec ("the Group"), which comprise the consolidated balance sheets as at December 31, 2019 and 2018, and the consolidated statements of operations, consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at December 31, 2019 and 2018, and its consolidated results of operations and its consolidated cash flows for the years then ended, in accordance with United States generally accepted accounting principles ("U.S. GAAP").

### Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### Other Information

Management is responsible for the other information. The other information comprises:

- The information, other than the consolidated financial statements and our auditors' report thereon, included in the Annual Report
- The information, other than the consolidated financial statements and our auditors' report thereon, included in a document likely to be entitled *Annual Report - Form 18-K*.

Our opinion on the consolidated financial statements does not cover the other information and we do not and will not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

We obtained the Annual Report prior to the date of this auditors' report. If, based on the work we have performed on the other information, we conclude that there is a material misstatement of this other information, we are required to report that fact in this auditors' report. We have nothing to report in this regard.

The document likely to be entitled *Annual Report - Form 18-K* is expected to be made available to us after the date of the auditors' report. If, based on the work we will perform on the other information included in this document, we conclude that there is a material misstatement of this other information, we are required to report that fact to those charged with governance.

### Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with U.S. GAAP, and for such internal control as Management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, Management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless Management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

## Auditors' Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by Management.
- Conclude on the appropriateness of Management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

## Report on Other Legal and Regulatory Requirements

As required by the *Auditor General Act* (CQLR, c. V-5.01), we report that, in our opinion, except for the changes in the accounting policy related to leases as explained in Note 2 to the consolidated financial statements, these principles have been applied on a basis consistent with that of the preceding year.

The engagement partners from KPMG LLP and from Ernst & Young LLP on the audit resulting in this independent auditors' report are respectively André Dugal and Laurent Liagre.

/s/ KPMG LLP<sup>1</sup>

/s/ Ernst & Young LLP<sup>2</sup>

On behalf of the Auditor General of Québec,  
/s/ Marc-Antoine Daoust, CPA auditor, CA, CFA  
Assistant Auditor General

Montréal, Québec  
February 14, 2020

1. FCPA auditor, FCA, public accountancy permit No. A110618

2. CPA auditor, CA, public accountancy permit No. A129122

# CONSOLIDATED FINANCIAL STATEMENTS

## Consolidated Statements of Operations

Years ended December 31 In millions of Canadian dollars	Notes	2019	2018
<b>Revenue</b>	20	<b>14,021</b>	14,370
<b>Expenditure</b>			
Operations		<b>2,835</b>	2,859
Other components of employee future benefit cost	18	<b>(557)</b>	(340)
Electricity and fuel purchases		<b>2,210</b>	2,151
Depreciation and amortization	4	<b>2,782</b>	2,685
Taxes	5	<b>1,133</b>	1,111
		<b>8,403</b>	8,466
<b>Income before financial expenses</b>		<b>5,618</b>	5,904
Financial expenses	6	<b>2,695</b>	2,712
<b>Net income</b>		<b>2,923</b>	3,192

## Consolidated Statements of Comprehensive Income

Years ended December 31 In millions of Canadian dollars	Notes	2019	2018
<b>Net income</b>		<b>2,923</b>	3,192
<b>Other comprehensive income</b>	16		
Net change in items designated as cash flow hedges	15	<b>260</b>	215
Net change in employee future benefits	18	<b>(759)</b>	469
Translation differences in financial statements of foreign operations		<b>(3)</b>	3
		<b>(502)</b>	687
<b>Comprehensive income</b>		<b>2,421</b>	3,879

The accompanying notes are an integral part of the consolidated financial statements.

## Consolidated Balance Sheets

As at December 31 In millions of Canadian dollars	Notes	2019	2018
<b>ASSETS</b>			
<b>Current assets</b>			
Cash and cash equivalents		1,115	1,335
Short-term investments		445	884
Accounts receivable and other receivables	15	2,488	2,713
Derivative instruments	15	186	72
Regulatory assets	3	118	203
Materials, fuel and supplies		291	264
		<b>4,643</b>	5,471
Property, plant and equipment	7	65,992	64,966
Intangible assets	8	925	877
Investments	9	1,132	1,022
Derivative instruments	15	24	121
Regulatory assets	3	4,959	3,863
Other assets	10	888	669
		<b>78,563</b>	76,989
<b>LIABILITIES</b>			
<b>Current liabilities</b>			
Borrowings		40	8
Accounts payable and accrued liabilities		2,897	2,135
Dividend payable	16	2,192	2,394
Accrued interest		911	914
Asset retirement obligations	11	66	62
Derivative instruments	15	30	80
Regulatory liabilities	3	-	80
Current portion of long-term debt	12	1,817	3,151
		<b>7,953</b>	8,824
Long-term debt	12	43,690	42,910
Asset retirement obligations	11	821	811
Derivative instruments	15	-	28
Regulatory liabilities	3	343	714
Other liabilities	13	4,048	2,219
Perpetual debt	14	260	274
		<b>57,115</b>	55,780
<b>EQUITY</b>			
Share capital	16	4,374	4,374
Retained earnings		19,482	18,741
Accumulated other comprehensive income		(2,408)	(1,906)
		<b>21,448</b>	21,209
		<b>78,563</b>	76,989
Commitments and contingencies	19		

The accompanying notes are an integral part of the consolidated financial statements.

On behalf of the Board of Directors,  
/s/ Geneviève Brouillette  
Chair of the Audit Committee

/s/ Jacynthe Côté  
Chair of the Board

## Consolidated Statements of Changes in Equity

Years ended December 31 In millions of Canadian dollars	Notes	Share capital	Retained earnings	Accumulated other comprehensive income	Total equity
Balance as at December 31, 2018		<b>4,374</b>	<b>18,741</b>	<b>(1,906)</b>	<b>21,209</b>
Adjustments related to a change in accounting policy	2	-	10	-	10
Net income		-	2,923	-	2,923
Other comprehensive income	16	-	-	(502)	(502)
Dividend	16	-	(2,192)	-	(2,192)
<b>Balance as at December 31, 2019</b>		<b>4,374</b>	<b>19,482</b>	<b>(2,408)</b>	<b>21,448</b>
Balance as at December 31, 2017		4,374	17,972	(2,591)	19,755
Adjustments related to a change in accounting policy		-	(29)	(2)	(31)
Net income		-	3,192	-	3,192
Other comprehensive income	16	-	-	687	687
Dividend	16	-	(2,394)	-	(2,394)
<b>Balance as at December 31, 2018</b>		<b>4,374</b>	<b>18,741</b>	<b>(1,906)</b>	<b>21,209</b>

The accompanying notes are an integral part of the consolidated financial statements.

## Consolidated Statements of Cash Flows

Years ended December 31 In millions of Canadian dollars	Notes	2019	2018
<b>Operating activities</b>			
Net income		2,923	3,192
Adjustments to determine net cash flows from operating activities			
Depreciation and amortization	4	2,782	2,685
Amortization of premiums, discounts and issue expenses related to debt securities		211	203
Deficit of net cost recognized with respect to amounts paid for employee future benefits		(433)	(146)
Gain on partial sale of a subsidiary	9	-	(277)
Other		208	118
Regulatory assets and liabilities		(453)	(57)
Change in non-cash working capital items	17	804	(420)
		<b>6,042</b>	<b>5,298</b>
<b>Investing activities</b>			
Additions to property, plant and equipment		(3,480)	(3,292)
Additions to intangible assets		(134)	(110)
Partial sale of a subsidiary, net of cash transferred		-	160
Net change in short-term investments and sinking fund	10	485	215
Other		(80)	70
		<b>(3,209)</b>	<b>(2,957)</b>
<b>Financing activities</b>			
Issuance of long-term debt		3,075	1,828
Repayment of long-term debt		(3,818)	(1,778)
Cash receipts arising from credit risk management		2,909	3,737
Cash payments arising from credit risk management		(2,810)	(3,200)
Net change in borrowings		(9)	(18)
Dividend paid		(2,394)	(2,135)
Other		8	13
		<b>(3,039)</b>	<b>(1,553)</b>
<b>Foreign currency effect on cash and cash equivalents</b>		<b>(14)</b>	<b>10</b>
<b>Net change in cash and cash equivalents</b>		<b>(220)</b>	<b>798</b>
<b>Cash and cash equivalents, beginning of year</b>		<b>1,335</b>	<b>537</b>
<b>Cash and cash equivalents, end of year</b>		<b>1,115</b>	<b>1,335</b>
Supplementary cash flow information	17		

The accompanying notes are an integral part of the consolidated financial statements.

# NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

## Note 1 Significant Accounting Policies

Years ended  
December 31, 2019 and 2018

Amounts in tables are in millions  
of Canadian dollars, unless  
otherwise indicated.

*Under the provisions of the Hydro-Québec Act (CQLR, c. H-5), Hydro-Québec is mandated to supply power and to pursue endeavors in energy-related research and promotion, energy conversion and conservation, and any field connected with or related to power or energy. Hydro-Québec is required, in particular, to supply a base volume of up to 165 TWh a year of heritage pool electricity for the Québec market, as set out in the Act respecting the Régie de l'énergie (CQLR, c. R-6.01). As a government corporation, Hydro-Québec is exempt from paying income taxes in Canada.*

Hydro-Québec's consolidated financial statements have been prepared in accordance with United States generally accepted accounting principles ("U.S. GAAP").

Management is of the opinion that these consolidated financial statements present fairly, in all material respects, the consolidated financial position of Hydro-Québec.

Management has reviewed events occurring until February 14, 2020, the date of approval of these consolidated financial statements by the Board of Directors, to determine whether circumstances warranted consideration of events subsequent to the balance sheet date.

### Regulation

The *Act respecting the Régie de l'énergie* grants the Régie de l'énergie (the "Régie") exclusive authority to determine or modify the rates and conditions under which electricity is transmitted and distributed by Hydro-Québec. Hydro-Québec's electricity transmission and distribution activities in Québec are therefore regulated. Under this legislation, rates are set by reasoned decision of three commissioners after public hearings. The Act also stipulates that rates are set on a basis that allows for recovery of the cost of service and provides a reasonable return on the rate base. Since January 1, 2019, the Transmission Provider's rates have been subject to performance-based regulation (PBR), which will apply for a four-year period. Under PBR, rates for the 2019 rate year were set using the cost-of-service method, while those for the three following years will be determined using a parametric formula specifically for transmission activities. This formula provides that, for a given year, service costs related to unforeseeable events will continue to be based on the cost-of-service method, while the other cost components will be calculated using an indexation formula. Previously, the Transmission Provider's rates were based solely on the cost-of-service method. As for the Distributor, PBR was applied since January 1, 2018. Under PBR, rates for the 2018-2019 rate year, in effect from April 1, 2018, to March 31, 2019, were set using the cost-of-service method, whereas those for the 2019-2020 rate year, which went into effect on April 1, 2019, were set using a parametric formula specifically for distribution activities. This formula also had two components, namely the application of the cost-of-service method for costs related to unforeseeable events and the use of an indexation formula for the other cost components.

Moreover, the rates of the Transmission Provider are subject to an earnings-sharing mechanism, while those of the Distributor were subject to it until December 31, 2019.

The *Act to simplify the process for establishing electricity distribution rates* (S.Q. 2019, c. 27), passed by Québec's National Assembly and enacted on December 8, 2019, has amended certain provisions of the *Act respecting the Régie de l'énergie*. In particular, it specifies that electricity distribution

rates are to be set or modified by the Régie every five years commencing on April 1, 2025, and that they will be indexed annually in the interim, based on the annual change in the average Québec Consumer Price Index. It also provides for a freeze on distribution rates for the rate year beginning April 1, 2020, followed by their annual indexation for the next four years, as well as a refund to customers, before April 1, 2020, of an amount equivalent to the unamortized balances of the Distributor's variance and deferral accounts as at December 31, 2019. Furthermore, it authorizes the Distributor to apply to the Régie to modify its rates before the scheduled date if they do not allow for recovery of the cost of service. Even after the coming into force of this Act, power distribution activities are still considered rate-regulated activities as defined under U.S. GAAP.

Under U.S. GAAP, it is acknowledged that rate regulation may affect the timing of the recognition of certain transactions in the consolidated results, giving rise to the recognition of regulatory assets and liabilities, which Hydro-Québec considers it is likely to recover or settle subsequently through the rate-setting process.

When the Transmission Provider or the Distributor determines that certain costs incurred may likely be recovered in future rates, such costs are deferred and recognized as assets. When it is probable that the Transmission Provider or the Distributor will be required to reimburse customers, or when costs have been recovered but will be incurred in the future, a liability is recognized. The balances of these assets and liabilities are amortized over the recovery periods approved by the Régie.

The risks and uncertainties related to regulatory assets and liabilities are monitored and assessed from time to time. When Hydro-Québec deems that the net carrying amount of a regulatory asset or liability is no longer likely to be taken into account in establishing future rates, a loss or gain is recognized in the results for the period during which the judgment is made.

### Scope of consolidation

The consolidated financial statements include the accounts of Hydro-Québec and its subsidiaries as well as those of variable interest entities where Hydro-Québec is the primary beneficiary. All intercompany balances and transactions are eliminated at the time of consolidation.

Investments over which Hydro-Québec has joint control or significant influence are accounted for on an equity basis. These investments are initially recognized at cost, and their carrying amount is subsequently increased or decreased by an amount equal to Hydro-Québec's share of the changes in their net assets after the date of acquisition. Hydro-Québec's share of the results of these investments is recognized in results. Dividends received are applied against the carrying amount of the investments.

## Note 1 Significant Accounting Policies (continued)

### Use of estimates

The preparation of financial statements in accordance with U.S. GAAP requires that Management make estimates and assumptions that affect the amounts recognized as assets and liabilities, the disclosures regarding contingent assets and liabilities at the date of the consolidated financial statements and the amounts recognized as revenue and expenditure for the years at issue. The estimates relate, among other things, to revenue, which includes estimated amounts for electricity delivered but not billed; the carrying amount of regulatory assets and liabilities; fair value measurements of financial instruments; the useful life of property, plant and equipment and intangible assets for calculating the depreciation and amortization expense; as well as cash flows, the expected timing of payments, and the discount rates used to determine asset retirement obligations and employee future benefit liabilities. These rates are based on economic and actuarial assumptions. Actual results could differ from those estimates and such differences could be significant.

### Revenue

Hydro-Québec supplies the Québec market with electricity and also sells power on wholesale markets in Canada and the United States. Substantially all revenue from ordinary activities is derived from electricity sales contracts with customers. These sales are recognized over time, based on the electricity delivered and the amount that Hydro-Québec is entitled to charge customers in accordance with regulated rates or contractual provisions.

### Foreign currency translation

Monetary assets and liabilities denominated in foreign currencies are translated into Canadian dollars at the exchange rate in effect at the balance sheet date, whereas non-monetary items denominated in foreign currencies are translated at the historical exchange rate. Revenue and expenditure arising from foreign currency transactions are translated into Canadian dollars at the exchange rate in effect at the transaction date. The exchange gains or losses resulting from the translation of monetary items are included in results.

The financial statements of foreign operations whose functional currency is not the Canadian dollar are translated according to the current rate method. Under this method, assets and liabilities are translated into Canadian dollars at the exchange rate in effect at the balance sheet date, whereas revenue and expenditure are translated at the average exchange rate in effect during the period. The exchange gains or losses resulting from the translation of the financial statements of these foreign operations are presented in Other comprehensive income.

### Financial instruments

#### Cash and cash equivalents

Cash and cash equivalents include investments with a maturity of three months or less from the date of acquisition.

### Short-term investments

Short-term investments, classified as available-for-sale debt securities, consist of money market instruments with a maturity of more than three months from the date of acquisition and are recognized at fair value. Changes in fair value are recorded in Other comprehensive income until they are realized, at which time they are reclassified to results. Revenue from these investments, calculated using the effective interest method, is recognized in results.

#### Receivables – Accounts receivable

Accounts receivable are recognized at the amount invoiced, net of the allowance for doubtful accounts. This allowance is based on the status of customer files and the recovery experience for each age group of accounts. Receivables are written off during the period in which the accounts are deemed uncollectible.

#### Other receivables and financial liabilities

Other receivables presented under Accounts receivable and other receivables, long-term bonds held in the sinking fund, which are presented in Other assets, less any impairment losses, as well as borrowings, financial liabilities presented under Accounts payable and accrued liabilities, the dividend payable, accrued interest, long-term debt, financial liabilities presented under Other liabilities, and perpetual debt, are measured at amortized cost using the effective interest method. Amortized cost includes issue expenses as well as premiums and discounts, if applicable. Interest is recognized in results.

#### Derivative instruments

Derivative instruments are recognized at fair value at the balance sheet date. Changes in fair value are recognized in results for the period in which they occur, except in the case of derivative instruments designated as hedges in a cash flow hedging relationship. The net balances of derivative instruments that are transacted with the same counterparty, that are the subject of an enforceable master netting arrangement, net of cash received or paid under collateral exchange agreements, and that meet the conditions for set-off are presented on the balance sheet.

As part of its integrated business risk management, Hydro-Québec uses derivative instruments to manage its market risk, consisting of currency risk, interest rate risk and risk resulting from fluctuating energy and aluminum prices. It applies cash flow or fair value hedge accounting to eligible hedging relationships that it designates as hedges, and formally documents these relationships. Among other things, this process involves associating derivative instruments with specific assets or liabilities on the balance sheet, or with probable anticipated transactions. Hydro-Québec ensures that hedging relationships are highly effective in hedging the designated risk exposure initially and then monthly thereafter. In addition, for hedges of anticipated transactions, it assesses the probability of the occurrence of those transactions designated as hedged items at least on a quarterly basis.

In the case of a cash flow hedge, changes in the fair value of an instrument designated as a hedge are recognized under Other comprehensive income.

## Note 1 Significant Accounting Policies (continued)

Such amounts are reclassified to results, in the line item affected by the hedged item, during the periods in which the hedged item affects results. If a derivative instrument no longer satisfies hedging conditions, if it has expired or is sold, terminated or exercised, or if Hydro-Québec cancels its designation as a hedging item, hedge accounting ceases to be applied on a prospective basis. Gains and losses previously accumulated in Other comprehensive income continue to be deferred and are later reclassified to results during the same periods as the hedged item. If the hedged item ceases to exist or if it becomes likely that the hedged anticipated transactions will not occur, the deferred gains or losses are immediately reclassified to results.

In the case of a fair value hedge, changes in the fair value of the derivative instrument are recognized in results in the line item affected by the hedged item. Offsetting changes in the fair value of the hedged item attributable to the hedged risk are recognized as adjustments to this item's carrying amount and are offset against results.

Cash flows attributable to derivative instruments designated as hedges are presented in the statement of cash flows based on the same classification as the hedged item.

Hydro-Québec assesses its contracts to determine if they meet the definition of a derivative or if they include an embedded derivative, which must be separated from its host contract. If such is the case, the contract or the embedded derivative is recognized at fair value on the balance sheet.

All futures or forward contracts on non-financial items that can be settled on a net basis and whose price is closely tied to the non-financial item bought or sold are recorded at the settlement date if there is a probability of receipt or delivery in accordance with expected requirements.

### Fair value

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

In accordance with the applicable standards, Hydro-Québec classifies the fair value measurements of assets and liabilities according to a three-level hierarchy, based on the type of inputs used in making these measurements:

- Level 1: Quoted prices (unadjusted) on active markets for identical assets or liabilities that Hydro-Québec can access at the measurement date;
- Level 2: Inputs other than quoted prices included within Level 1 that are observable either directly or indirectly; and
- Level 3: Unobservable inputs.

### Materials, fuel and supplies

Inventories of materials, fuel and supplies are valued at the lower of cost and net realizable value. Cost is determined by the weighted average cost method.

## Property, plant and equipment

Property, plant and equipment are carried at cost, which comprises materials, labor, other costs directly related to construction activities, and financial expenses capitalized during construction. Property, plant and equipment also include draft-design costs for projects whose technical feasibility has been demonstrated, whose profitability has been estimated, and for which Management deems that it will in all likelihood have the necessary resources for completion. The present value of retirement obligations related to property, plant and equipment, as well as that of agreements with local communities concerned by certain investment projects that fall within the definition of a liability, are added to the carrying amount of the property, plant and equipment at issue. Moreover, contributions from third parties are applied against the cost of the related property, plant and equipment.

Property, plant and equipment are depreciated over their useful life, using the straight-line method, starting in the month following the date of commissioning. The depreciation periods for the principal categories of property, plant and equipment are as follows:

Hydraulic generation	40-120 years
Thermal generation	15-50 years
Transmission substations and lines	30-85 years
Distribution substations and lines	25-70 years
Other property, plant and equipment	5-50 years

When property, plant and equipment are retired, their cost, net of accumulated depreciation and salvage value, is recognized in the results for the year.

Maintenance and repair costs are recognized in results when incurred.

### Leases

Hydro-Québec's leases mainly concern office buildings and its generating and transmission facilities. On the execution date, Hydro-Québec determines whether an agreement is a lease by assessing whether it confers a right to control the use of a specific asset for a certain time period in exchange for consideration.

Right-of-use assets and lease liabilities where the lease is for a term of more than 12 months are recognized at the lease commencement date, using the present value of the lease payments for the term of the lease. Any lease expenses paid prior to the commencement date are added to the amount of the assets concerned. The discount rate used is the interest rate implicit in the lease to the extent that it can be readily determined. If such is not the case, Hydro-Québec uses its incremental borrowing rate at the commencement date of the lease. Renewal and termination options are taken into account in determining the term of the lease if it is reasonably certain that they will be exercised.

The costs associated with variable lease payments are not taken into account in measuring the lease liabilities and are recognized in results as and when they are incurred. If a lease has both lease and nonlease

## Note 1 Significant Accounting Policies (continued)

components, Hydro-Québec has elected to group them together and recognize them as a single lease component.

Right-of-use assets related to finance leases are recognized in Property, plant and equipment, while the corresponding liabilities are recognized in Current portion of long-term debt and Long-term debt. The depreciation and amortization of assets and interest on finance lease liabilities are recognized in Depreciation and amortization and Financial expenses, respectively.

Right-of-use assets related to operating leases are recognized in Other assets, while the corresponding liabilities are recognized in Accounts payable and accrued liabilities and Other liabilities. Operating lease expenses are recognized on a straight-line basis as an operational expenditure over the term of the lease.

### Intangible assets

Intangible assets are recognized at cost.

The cost of internally developed computer software is capitalized when it meets capitalization criteria. The related financial expenses are capitalized during the development period.

Intangible assets with an indefinite useful life are not amortized. These assets are tested for impairment annually or more frequently if events indicate a potential impairment loss. Any amount by which the carrying amount exceeds the fair value is recognized in results for the period in which the impairment is determined.

Intangible assets with a finite useful life, such as software and licences, are amortized over their useful life according to the straight-line method. The amortization period for these assets varies from 3 to 24 years.

### Capitalized financial expenses

Financial expenses capitalized in property, plant and equipment under construction and in internally developed computer software are determined on the basis of the cost of debt and recognized as a deduction from financial expenses in the consolidated results. Capitalized financial expenses related to rate-regulated transmission or distribution activities also take into account the return on equity of the activities concerned. The portion that corresponds to return on equity is included in Revenue in the consolidated results.

### Impairment of long-lived assets

Hydro-Québec reviews the carrying amount of its property, plant and equipment and its amortizable intangible assets whenever events or changes in circumstances indicate that the expected undiscounted net cash flows could be lower than the carrying amount of the property and assets. An impairment loss corresponding to the amount by which the carrying amount exceeds fair value is recognized in the results for the year, if applicable.

### Employee future benefits

Hydro-Québec offers all its employees a contributory pension plan based on final pay (the "Pension Plan"), as well as other post-retirement benefits and post-employment benefits (collectively, the "Other plans"). All Hydro-Québec's employee future benefit plans are defined-benefit plans.

#### Pension plan and other post-retirement benefits

The Pension Plan is a fully funded contributory plan that provides pension benefits based on the number of years of service and an average of the best five years of earnings. These benefits are indexed annually based on a rate which is the greater of the inflation rate, up to a maximum of 2%, and the inflation rate less 3%.

The other post-retirement benefits are provided by group life, medical and hospitalization insurance plans, which are contributory plans with contributions adjusted annually.

Hydro-Québec accounts for its obligations under the Pension Plan and other post-retirement benefits after deducting the fair value of their respective assets.

Benefit costs and obligations under the Pension Plan and other post-retirement benefits provided in exchange for current service are calculated according to the projected benefit method prorated on years of service. They are determined using a discount rate and are based on Management's best estimates, in particular concerning the expected return on plan assets, salary escalation, the increase in health care costs, and employees' retirement ages. Plan assets are measured at fair value at the balance sheet date.

In order to establish the benefit costs and its obligations under the Pension Plan and other post-retirement benefits, Hydro-Québec has adopted the following policies:

- Discount rates used to determine the projected benefit obligations and to estimate the current service cost and the interest on obligations are based on the interest rate curve on the measurement date, namely December 31, of high-quality Canadian corporate bonds. These discount rates take into account the amount and different payment maturity dates of the projected benefit obligations for each plan.
- Actuarial gains and losses are initially recognized in Other comprehensive income. Thereafter, amortization of actuarial gains or losses is recognized under Other components of employee future benefit cost if the unamortized net actuarial gain or loss at the beginning of the year exceeds 10% of the value of the projected benefit obligations or 10% of the market-related value of the plan assets, whichever is greater. The amortization corresponds to the excess divided by active employees' average remaining years of service.
- Past service costs (credits) arising from amendments to the Pension Plan and other post-retirement benefits are initially recognized in Other comprehensive income. Thereafter, they are amortized under Other components of employee future benefit cost using the straight-line method over periods not exceeding active employees' average remaining years of service.

## Note 1 Significant Accounting Policies (continued)

The expected return on Pension Plan assets is based on a market-related value determined by using a five-year moving average value for equity securities and by measuring other asset classes at fair value.

The current service cost component of net plan costs for the year is recognized as an operational expenditure, net of the amount capitalized in assets.

Interest on obligations, expected return on plan assets, amortization of net actuarial loss and amortization of past service costs (credits) are recognized under Other components of employee future benefit cost. These components are not capitalized in assets.

The unamortized balances of net actuarial losses and of past service costs (credits) recognized in Accumulated other comprehensive income for employee future benefits to be recovered in future rates are recognized as a regulatory asset.

### Post-employment benefits

Post-employment benefits are under non-contributory salary insurance plans, which pay short- and long-term disability benefits. Most of these plans are not funded, with the exception of the long-term disability plan, which is fully funded.

The post-employment benefit cost and obligation are recognized at the time of the event giving rise to the obligation to pay benefits. The cost of these benefits is recognized in results for the period. Actuarial gains and losses are accounted for in the same way as for the Pension Plan and other post-retirement benefits, the only difference being that the amortization period is determined based on the average remaining years of disability.

### Asset retirement obligations

Hydro-Québec accounts for asset retirement obligations in the period in which the legal obligations with respect thereto arise, provided that a reasonable estimate of their fair value can be made. The corresponding costs of asset retirement are added to the carrying amount of the related long-lived asset and are amortized over its useful life. Any change due to the passage of time is recognized as an operational expenditure (i.e., an accretion expense) for the current year, and the corresponding amount is added to the carrying amount of the liability. Changes resulting from revisions to the timing or the amount of the undiscounted cash flows are recognized as an increase or decrease in the carrying amount of the liability arising from asset retirement obligations, and the corresponding amount is added to the carrying amount of the related asset or deducted up to a maximum of its carrying amount, with any excess then being recognized in results. When the asset reaches the end of its useful life, any change is immediately recognized in results. The actual costs incurred to settle asset retirement obligations are applied against liabilities. During the final settlement of such an obligation, the difference between the balance of the obligation and the actual cost incurred is recognized as a gain or a loss in results.

The cash flows required to settle asset retirement obligations are estimated on the basis of studies that use various assumptions concerning the methods and timing to be adopted for the retirement. Hydro-Québec periodically reviews the measurement of these obligations in light of the underlying assumptions and estimates, potential technological advances, and changes in applicable standards, laws and regulations.

### Agreements with local communities

Hydro-Québec has entered into various agreements with the local communities concerned by certain investment projects. The amounts under these agreements are recognized in Long-term debt if they fall within the definition of a liability, and the offsetting item is recognized in Property, plant and equipment. The recognized amounts are determined by discounting the future cash flows related to these agreements. The discount rate used is the interest rate on Hydro-Québec bonds at the date of initial recognition. Subsequently, in the case of agreements with indexed cash flows, the cash flows are subject to an annual re-estimate that can result in a change in the discount rate.

### Related party transactions

In the normal course of business, Hydro-Québec sells electricity and enters into other business transactions with its sole shareholder, the Québec government, and its agencies, as well as with other government corporations. These transactions are measured at the exchange amount.

In addition, as a government corporation, Hydro-Québec provides the Québec government with financial data prepared in accordance with International Financial Reporting Standards so that it can prepare its consolidated financial statements.

## Note 2 Changes to Accounting Policies

### Recent change

#### Leases

On January 1, 2019, Hydro-Québec adopted Accounting Standards Codification (“ASC”) 842, *Leases*, issued by the Financial Accounting Standards Board (“FASB”) to replace ASC 840, *Leases*. The new standard provides guidance on lease definition, recognition, measurement, presentation and disclosure, and requires, in particular, the recognition of right-of-use assets and lease liabilities by lessees for all operating and finance leases with a term of more than 12 months.

ASC 842 was applied on a modified retrospective basis to leases in effect on January 1, 2019. Hydro-Québec selected the transition method allowing the cumulative effect of initially applying ASC 842 to be recognized as an adjustment to the opening balance of retained earnings as at the adoption date of the standard, without restatement of comparative data. It also applied the three practical expedients to not reassess the existence and classification of leases, or the treatment of capitalized initial direct costs, as well as the practical expedient to not evaluate easement agreements that were not previously accounted for as leases. As at January 1, 2019, the adoption of ASC 842 led to the recognition of right-of-use assets and operating lease liabilities on the balance sheet, which translated into an increase of \$200 million in other assets, of \$27 million in accounts payable and accrued liabilities, and of \$173 million in other liabilities. It also led to a \$10-million decrease in regulatory liabilities and a \$10-million increase in retained earnings, corresponding to the reversal of a deferred gain on a sale and leaseback transaction, as required by the ASC 842 transitional provisions.

### Standard issued but not yet adopted

#### Financial instruments

In June 2016, the FASB issued Accounting Standards Update (“ASU”) 2016-13, *Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. This ASU provides new guidance on the impairment of financial assets that are not accounted for at fair value in results. It will be applied on a modified retrospective basis to the financial statements for interim and annual periods beginning on or after January 1, 2023. Hydro-Québec is currently examining the impact of this ASU on its consolidated financial statements.

## Note 3 Regulation

### Rates

#### Transmission

Hydro-Québec's power transmission rates for 2019 and 2018 were determined in Régie decisions D-2019-058 and D-2018-035, effective January 1, 2019, and January 1, 2018, respectively. The authorized return on the rate base was set at 7.05% in 2019 and 7.0% in 2018, assuming a capitalization with 30% equity.

### Distribution

Hydro-Québec's electricity distribution rates for the rate years beginning on April 1, 2019, and April 1, 2018, respectively, were determined in decisions D-2019-037 and D-2018-030, in which the Régie authorized increases of 0.9% and 0.3% for all rates except Rate L, which increased by 0.3% in 2019 but which remained unchanged in 2018. The authorized return on the rate base was set at 7.13% in 2019 and 7.08% in 2018, assuming a capitalization with 35% equity.

The following information describes the impact on the consolidated financial statements of the regulatory accounting policies and practices adopted by Hydro-Québec in accordance with the Régie's decisions with respect to its rate-regulated activities.

### Regulatory assets and liabilities

	Expected years of amortization	2019	2018
<b>Regulatory assets</b>			
Employee future benefits	As of 2020	4,186	2,880
Costs related to a suspension agreement	2020-2023	464	473
Costs related to energy efficiency initiatives	2020-2029	397	472
Other <sup>a</sup>	2020-2047	30	241
		<b>5,077</b>	4,066
Less			
Current portion		118	203
		<b>4,959</b>	3,863
<b>Regulatory liabilities</b>			
Depreciation of property, plant and equipment	2020-2115	335	375
Revenue variances related to climate conditions <sup>a, b</sup>		-	179
Earnings variances to be shared with customers <sup>a, b</sup>		-	167
Other <sup>a</sup>	2020-2022	8	73
		<b>343</b>	794
Less			
Current portion		-	80
		<b>343</b>	714

a) Unamortized balances of regulatory assets and liabilities recorded in the Distributor's variance and deferral accounts, which totaled \$535 million as at December 31, 2019, were recognized under Accounts payable and accrued liabilities as a credit to be refunded to customers under the *Act to simplify the process for establishing electricity distribution rates*.

b) The offsetting item is recognized under Revenue.

Regulatory assets and liabilities are not included in the rate base, except in the case of costs related to energy efficiency initiatives.

### Note 3 Regulation (continued)

#### Variance and deferral accounts

##### Revenue variances related to climate conditions

Variances between the Distributor's actual transmission and distribution revenue and the forecast revenue in rate filings, which is based on climate normals, are recognized as a regulatory asset or a regulatory liability, as the case may be. They bear interest at the rates prescribed by the Régie until such time as amortization begins.

##### Earnings variances to be shared with customers

An earnings-sharing mechanism applied since 2017 provides for earnings variances to be shared with customers. Under this mechanism, any return in excess of the authorized returns of the Transmission Provider and the Distributor is shared equally with customers for the first 100 basis points and is split 75/25 in their favor for any portion of the variance exceeding 100 basis points. These amounts bear interest at the rates prescribed by the Régie until such time as amortization begins.

##### Other regulatory assets and liabilities

###### Employee future benefits

The unamortized balances of net actuarial losses and of past service costs (credits) to be recovered in future rates are recognized as a non-interest-bearing regulatory asset, which is amortized when the unamortized balances are reclassified as a cost component of employee future benefits.

###### Costs related to a suspension agreement

The Régie authorized an agreement regarding the temporary suspension of deliveries from a generating station in 2014. The offsetting entry for the financial liability recorded for this agreement was recognized as a non-interest-bearing regulatory asset, and the adjustments related to subsequent changes in this liability are also recognized in this asset. The annual costs related to the suspension agreement are recovered in the rates, according to the amounts billed.

###### Costs related to energy efficiency initiatives

Eligible costs incurred with regard to energy efficiency initiatives are recognized as a regulatory asset and bear interest at the rate of return authorized by the Régie on the rate base until such time as they are included in the rate base and amortization begins.

###### Depreciation of property, plant and equipment

Prior to July 10, 2015, the useful life of property, plant and equipment was limited to 50 years for rate-setting purposes. Since then, this limit no longer applies, provided that the weighted average useful life of all property, plant and equipment of the Transmission Provider, on the one hand, and of the Distributor, on the other hand, does not exceed 50 years. The differences in the depreciation expense resulting from the application of useful lives limited to 50 years for rate-setting purposes until July 9, 2015, were recognized as a non-interest-bearing regulatory liability and are amortized at the same rate as the property, plant and equipment concerned.

#### Other regulatory practices

The compensation granted by the Québec government for the 1998 ice storm was applied against the cost of newly constructed property, plant and equipment. It is amortized over the remaining useful life of the retired assets, using the straight-line method of depreciation.

Financial expenses are capitalized in property, plant and equipment under construction related to rate-regulated activities according to the authorized rates of return on the rate bases. Set using methods approved by the Régie, these rates take into account a component associated with the cost of the debt and a component associated with the return on equity. The component associated with return on equity totaled \$47 million in 2019 and \$56 million in 2018.

The cost of dismantling retired and replaced transmission assets for which no asset retirement obligation was recognized is added, net of the salvage value, to the cost of the newly constructed assets. The cost of restoring sites associated with replaced assets is also added to the cost of newly constructed assets.

Finally, contributions received for relocation or modification projects relating to certain transmission grid assets are recorded in a separate account and applied against property, plant and equipment. These contributions are amortized over the average useful life of assets for each project, using the straight-line method.

## Note 4 Depreciation and Amortization

	2019	2018
Property, plant and equipment	2,344	2,299
Intangible assets <sup>a</sup>	107	121
Regulatory assets and liabilities	190	198
Retirement of capital assets	141	67
	<b>2,782</b>	<b>2,685</b>

a) For the period from 2020 to 2024, amortization of intangible assets that have already been recognized should be as follows: \$87 million in 2020, \$63 million in 2021, \$42 million in 2022, \$35 million in 2023 and \$19 million in 2024.

## Note 5 Taxes

	2019	2018
Water-power royalties <sup>a</sup>	720	705
Public utilities tax <sup>b</sup>	299	298
Municipal, school and other taxes <sup>c</sup>	114	108
	<b>1,133</b>	<b>1,111</b>

a) Water-power royalties payable to the Québec government totaled \$714 million in 2019 (\$699 million in 2018), including a balance due of \$15 million as at December 31, 2019 (\$5 million as at December 31, 2018).

b) The public utilities tax is payable to the Québec government.

c) Including two amounts payable to the Québec government in 2019, namely \$59 million under the *Act respecting Transition énergétique Québec* (CQLR, c. T-11.02) (\$53 million in 2018), for which there was no outstanding balance as at December 31, 2019 (\$2 million as at December 31, 2018), and \$15 million under the *Act to establish the Northern Plan Fund* (CQLR, c. F-3.2.1.1.1) (\$15 million in 2018), which was outstanding as at December 31, 2019 and 2018.

## Note 6 Financial Expenses

	2019	2018
Interest on debt securities	2,769	2,741
Net foreign exchange loss (gain)	7	(6)
Guarantee fees related to debt securities <sup>a</sup>	220	215
	<b>2,996</b>	<b>2,950</b>
Less		
Capitalized financial expenses	183	169
Net investment income	118	69
	<b>301</b>	<b>238</b>
	<b>2,695</b>	<b>2,712</b>

a) Guarantee fees related to debt securities are charged at a rate of 0.5% and are paid to the Québec government.

## Note 7 Property, Plant and Equipment

	2019				2018			
	In service	Accumulated depreciation	Under construction	Net carrying amount	In service	Accumulated depreciation	Under construction	Net carrying amount
<b>Generation</b>								
Hydraulic	48,522	19,611	1,952	<b>30,863</b>	48,254	18,894	1,329	30,689
Other	1,175	809	137	<b>503</b>	1,180	835	41	386
	49,697	20,420	2,089	<b>31,366</b>	49,434	19,729	1,370	31,075
<b>Transmission</b>								
Substations and lines	34,654	13,417	1,068	<b>22,305</b>	32,761	12,718	1,828	21,871
Other	2,678	1,581	135	<b>1,232</b>	2,636	1,553	127	1,210
	37,332	14,998	1,203	<b>23,537</b>	35,397	14,271	1,955	23,081
<b>Distribution</b>								
Substations and lines	15,462	7,298	454	<b>8,618</b>	15,039	7,044	366	8,361
Other	3,613	1,974	99	<b>1,738</b>	3,563	1,916	113	1,760
	19,075	9,272	553	<b>10,356</b>	18,602	8,960	479	10,121
<b>Other</b>	1,546	921	108	<b>733</b>	1,455	870	104	689
	107,650 <sup>a</sup>	45,611 <sup>a</sup>	3,953	<b>65,992</b>	104,888 <sup>a</sup>	43,830 <sup>a</sup>	3,908	64,966

a) As at December 31, 2019, the cost and accumulated depreciation of property, plant and equipment in service under finance leases amounted to \$1,029 million and \$297 million, respectively (\$1,034 million and \$250 million as at December 31, 2018).

## Note 8 Intangible Assets

	2019			2018		
	Cost	Accumulated amortization	Net carrying amount	Cost	Accumulated amortization	Net carrying amount
<b>Amortizable</b>						
Software, licences and other	2,114	1,708	<b>406</b>	2,051	1,658	393
<b>Unamortizable</b>						
Easements and other			<b>519</b>			484
			<b>925</b>			877

Additions consisting of internally developed software totaled \$105 million in 2019 (\$90 million in 2018).

## Note 9 Investments

	2019	2018
<b>At equity</b>		
Société en commandite Hydroélectrique Manicouagan (60.0%) <sup>a, b</sup>	590	594
Churchill Falls (Labrador) Corporation Limited (34.2%) <sup>b</sup>	292	278
Dana TM4 (45%) <sup>c</sup>	216	135
	<b>1,098</b>	1,007
<b>Other</b>	<b>34</b>	15
	<b>1,132</b>	1,022

- a) This investment includes the unamortized excess of the purchase price over the underlying net carrying amount of the assets of Société en commandite Hydroélectrique Manicouagan ("SCHM") as at the acquisition date, which consisted of unamortizable intangible assets of \$282 million and amortizable assets of \$230 million as at December 31, 2019 (respectively, \$282 million and \$241 million as at December 31, 2018).
- b) In 2019, electricity purchases from SCHM and Churchill Falls (Labrador) Corporation Limited totaled \$81 million and \$100 million, respectively (\$81 million and \$97 million in 2018).
- c) Dana TM4 includes investments in TM4 Inc. and Dana Electric Holdings BV. The latter investment was acquired on July 29, 2019.

### Partial sale of a subsidiary

On June 22, 2018, Hydro-Québec sold 55% of the shares of its subsidiary TM4 Inc. ("TM4") to an independent third party for a cash consideration of \$165 million. As a result of this transaction, Hydro-Québec ceased to consolidate TM4, and the 45% interest retained was measured at fair value.

A non-recurring \$277-million gain on the partial sale of TM4, including \$125 million resulting from the fair value measurement of the interest retained, was recognized in Revenue. The investment in TM4 is now accounted for using the equity method.

## Note 10 Other Assets

	Note	2019	2018
Sinking fund <sup>a</sup>	12	649	650
Right-of-use assets		212	-
Other		27	19
		<b>888</b>	669

- a) The sinking fund, allocated to repaying the long-term debt, consists of bonds issued by the Québec government, including primarily long-term bonds maturing in 2021 and 2026 as well as short-term bonds presented in Short-term investments, which totaled \$75 million as at December 31, 2019 and 2018. In 2019, no short-term investments in this fund were replaced by long-term bonds (\$50 million in 2018).

## Note 11 Asset Retirement Obligations

Liabilities arising from asset retirement obligations relate to the costs of dismantling the Gentilly-2 facilities, the removal of spent nuclear fuel resulting from their operation, and the dismantling of thermal generating stations and certain fuel tanks and transmission substations.

The aggregate carrying amount of the asset retirement obligations is as follows:

	2019				2018			
	Dismantling of Gentilly-2 facilities <sup>a</sup>	Removal of spent nuclear fuel <sup>a</sup>	Dismantling of other assets	Total	Dismantling of Gentilly-2 facilities <sup>a</sup>	Removal of spent nuclear fuel <sup>a</sup>	Dismantling of other assets	Total
Balance, beginning of year	463	259	151	873	463	261	140	864
Liabilities incurred	-	-	4	4	-	-	12	12
Accretion expense	25	16	4	45	25	16	4	45
Liabilities settled	(26)	(2)	(9)	(37)	(25)	(1)	(9)	(35)
Revision of estimated cash flows and expected timing of payments	38	(43)	7	2	-	(17)	4	(13)
Balance, end of year	500	230	157	887	463	259	151	873
Less								
Current portion	47	6	13	66	48	5	9	62
	453	224	144	821	415	254	142	811

a) The Canadian Nuclear Safety Commission requires a financial guarantee to secure performance of Hydro-Québec's obligations with regard to the cost of dismantling the Gentilly-2 facilities and the removal of spent nuclear fuel. This guarantee consists of investments held by the Hydro-Québec Trust for Management of Nuclear Fuel Waste, as well as an irrevocable financial guarantee of up to \$685 million from the Québec government.

The following table presents the discount rates used to determine the carrying amount of the asset retirement obligations, which correspond to the credit-adjusted risk-free rates:

%	Dismantling of Gentilly-2 facilities	Removal of spent nuclear fuel	Dismantling of other assets
Initial recognition of obligations	6.4	6.4	Between 1.1 and 4.6
Subsequent recognition of obligations	Between 2.4 and 5.7	Between 3.1 and 5.7	Between 0.8 and 4.6

### Hydro-Québec Trust for Management of Nuclear Fuel Waste

Under the *Nuclear Fuel Waste Act* (S.C. 2002, c. 23) ("NFWA"), which came into force in 2002, the owners of nuclear fuel waste in Canada were required to set up a management organization, the Nuclear Waste Management Organization, and each of them was required to establish a trust fund to finance the cost of long-term management of its nuclear fuel waste.

In April 2009, the Government of Canada approved a formula for financing the costs of the approach adopted for long-term nuclear fuel waste management. The amounts deposited in the trust funds can only be used to finance the implementation of this approach.

Hydro-Québec has made all the payments required under the NFWA.

As at December 31, 2019, the investments held in the Hydro-Québec trust fund were composed of debt securities issued by Hydro-Québec, the fair value of which totaled \$173 million (\$167 million as at December 31, 2018).

The Hydro-Québec Trust for Management of Nuclear Fuel Waste is considered a variable interest entity of which Hydro-Québec is the primary beneficiary.

## Note 12 Long-Term Debt

Long-term debt is mainly composed of bonds, medium-term notes and other debts, including liabilities under agreements entered into with local communities and finance lease liabilities. The following table presents a breakdown of the debt, including the current portion, at amortized cost,

by currency at the time of issue and at the time of repayment. Currency swaps traded for purposes of managing currency risk related to long-term debt were taken into account in determining the percentages of debt by currency at the time of repayment.

	2019						2018	
	At closing exchange rates as at the balance sheet date		At time of issue	At time of repayment	At closing exchange rates as at the balance sheet date		At time of issue	At time of repayment
	In Canadian dollars and other currencies		%	%	In Canadian dollars and other currencies		%	%
Canadian dollars <sup>a, b</sup>	37,801	<b>37,801</b>	<b>84</b>	<b>100</b>	38,016	38,016	83	100
U.S. dollars	5,710	<b>7,403</b>	<b>16</b>	<b>-</b>	5,707	7,789	17	-
		<b>45,204</b>	<b>100</b>	<b>100</b>		45,805	100	100
Plus Adjustment for fair value hedged risk		<b>303</b>				256		
		<b>45,507</b>				46,061		
Less Current portion		<b>1,817</b>				3,151		
		<b>43,690</b>				42,910		

a) Including non-interest-bearing debts other than bonds and medium-term notes whose present value was \$1,556 million as at December 31, 2019 (\$1,543 million as at December 31, 2018).

b) Certain debts carry sinking fund requirements. This fund, presented in Short-term investments and Other assets, totaled \$724 million as at December 31, 2019 (\$725 million as at December 31, 2018).

The amortized cost, at the balance sheet date, of the tranches of long-term debt maturing over the 2020–2024 period is as follows: \$1,817 million in 2020, \$2,365 million in 2021, \$3,336 million in 2022, \$7 million in 2023 and \$1,380 million in 2024.

## Note 12 Long-Term Debt (continued)

### Interest rates

The following table presents interest rates on bonds and medium-term notes, which take into account contractual rates, premiums, discounts and issue expenses, as well as the effect of forward contracts and swaps traded to manage long-term risks related to debt. As at December 31, 2019, the variable-rate portion of the bonds and notes totaled 4.7% (9.3% as at December 31, 2018).

%	2019			2018
	Canadian dollars	U.S. dollars	Weighted average	Weighted average
Maturity				
1-5 years	9.98	8.12	<b>9.00</b>	9.08
6-10 years	5.46	9.07	<b>8.89</b>	8.20
11-15 years	5.32	10.60	<b>7.98</b>	8.31
16-20 years	5.93	-	<b>5.93</b>	5.93
21-25 years	5.11	-	<b>5.11</b>	5.11
26-30 years	4.89	-	<b>4.89</b>	4.89
31-35 years	4.47	-	<b>4.47</b>	4.47
36-40 years	3.11	-	<b>3.11</b>	3.28
41-45 years	6.53	-	<b>6.53</b>	6.53
Weighted average	4.55	9.34	<b>4.76</b>	5.08

### Credit facility and lines of credit

Hydro-Québec has an undrawn credit facility of US\$2,000 million, including a US\$750-million swing loan, which will expire in 2024. Any related debt securities will bear interest at a rate based on the London Interbank Offered Rate ("LIBOR"), except for the swing loan, which is at the U.S. base rate. Hydro-Québec also has access to operating lines of credit, which are renewed

automatically in the absence of notice to the contrary and bear interest at the prime rate. As at December 31, 2019, the available balances on these lines of credit were US\$200 million and \$264 million in Canadian or U.S. dollars (US\$200 million and \$276 million in Canadian or U.S. dollars as at December 31, 2018).

## Note 13 Other Liabilities

	Note	2019	2018
Employee future benefit liabilities	18	<b>3,358</b>	1,726
Accounts payable		<b>501</b>	493
Operating lease liabilities <sup>a</sup>		<b>189</b>	-
		<b>4,048</b>	2,219

a) As at December 31, 2019, operating leases had a weighted average remaining term of 8.4 years, and the weighted average discount rate applicable to the related liabilities was 2.5%.

Accounts payable include a \$346-million financial liability (\$354 million as at December 31, 2018) related to an agreement regarding the temporary suspension of deliveries from a generating station. The current portion, presented under Accounts payable and accrued liabilities, totaled \$118 million as at December 31, 2019 (\$119 million as at December 31, 2018). This financial liability, including the current portion, represented a discounted

amount of \$464 million as at December 31, 2019 (\$473 million as at December 31, 2018). It included an outstanding amount, payable in U.S. dollars, of \$21 million (US\$16 million) as at December 31, 2019 (\$25 million, or US\$19 million, as at December 31, 2018). As at December 31, 2019, the effective rate of this liability was 1.94% (1.85% as at December 31, 2018).

## Note 14 Perpetual Debt

Perpetual notes in the amount of \$260 million (US\$201 million) as at December 31, 2019, and of \$274 million (US\$201 million) as at December 31, 2018, bear interest at LIBOR, plus 0.0625%, as calculated semiannually. As at December 31, 2019 and 2018, the rates applicable to the perpetual notes were 2.2% and 2.7%, respectively.

The perpetual notes are redeemable at Hydro-Québec's option. Forward contracts are used to mitigate the currency risk associated with the perpetual debt.

## Note 15 Financial Instruments

In the course of its operations, Hydro-Québec carries out transactions that expose it to certain financial risks, such as market, liquidity and credit risk. Exposure to such risks and the impact on results are reduced through careful monitoring and implementation of strategies that include the use of derivative instruments.

### Market risk

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate as a result of changes in market prices. Hydro-Québec is exposed to three main types of market risk: currency risk, interest rate risk and risk associated with energy and aluminum prices. Active integrated management of these three types of risk aims to limit exposure to each risk and reduce their overall impact on results.

### Management of long-term risk

#### Management of risk associated with debt

Currency risk and interest rate risk – Hydro-Québec uses currency forward contracts and swaps to manage the currency risk associated with long-term debt and perpetual debt, as well as interest rate forward contracts and swaps to modify long-term exposure to interest rate risk. When designated as hedging items, these derivative instruments are recognized as cash flow hedges or fair value hedges, depending on the risk hedged. The impact on results of foreign currency hedging transactions and those associated with debt interest rates is recognized in Financial expenses.

The following table presents the notional amounts, expressed in Canadian dollars and foreign currencies, of forward contracts and swaps used to manage long-term risk:

	2019 <sup>a</sup>	2018 <sup>a</sup>
<b>Forward contracts</b>		
Canadian dollars	(1,900)	(1,000)
U.S. dollars	203	204
<b>Swaps</b>		
Canadian dollars	(6,893)	(6,844)
U.S. dollars	5,730	5,730

a) Figures in parentheses represent amounts to be paid.

### Management of short-term risk

Currency risk – Hydro-Québec uses forward contracts to manage its foreign currency risk exposure over the short term. When designated as hedging items, these derivative instruments are recognized as cash flow hedges. The impact of currency risk hedging transactions on results is recognized in the line items affected by the hedged item, namely Revenue, Electricity and fuel purchases, or Financial expenses. In this context, Hydro-Québec traded foreign currency sales contracts for which the notional amount of open positions as at December 31, 2019, was US\$1,542 million (US\$1,800 million as at December 31, 2018).

Interest rate risk – Hydro-Québec uses interest rate forward contracts and swaps to manage short-term interest rate risk. When designated as hedging items, these derivative instruments are recognized as cash flow hedges. The impact on results of transactions to hedge short-term interest rate risk is recognized in the line item affected by the hedged item, namely Financial expenses.

Price risk – Hydro-Québec uses mainly commodity futures and swaps to manage risk resulting from fluctuations in energy and aluminum prices. When designated as hedging items, these derivative instruments are recognized as cash flow hedges. The impact on results of transactions to hedge the risk related to energy and aluminum prices is recognized in the line item affected by the hedged item, namely Revenue or Electricity and fuel purchases. In this context, Hydro-Québec traded electricity futures and swaps for which open positions as at December 31, 2019, totaled 23.4 TWh (23.2 TWh as at December 31, 2018), natural gas futures for which open positions as at December 31, 2019, totaled 2.8 million MMBtu (0.4 million MMBtu as at December 31, 2018), petroleum product swaps for which open positions as at December 31, 2019, totaled 22.3 million litres (9.1 million litres as at December 31, 2018), as well as aluminum swaps for which open positions as at December 31, 2019, totaled 187,775 tonnes (240,825 tonnes as at December 31, 2018).

## Note 15 Financial Instruments (continued)

### Liquidity risk

Liquidity risk is the risk that an entity will encounter difficulty in meeting obligations associated with its financial liabilities.

Hydro-Québec's exposure to this risk is reduced by significant cash flows from operating activities; a diversified portfolio of highly liquid or readily convertible instruments traded with high-quality counterparties; preauthorized sources of financing; the ability to access capital markets; the diversification of financing sources; and management of the volume of floating-rate debt and debt repayable in foreign currency.

Moreover, as at December 31, 2019, \$43,383 million in long-term debt, perpetual debt and borrowings, net of the sinking fund (\$43,971 million as at December 31, 2018) was guaranteed by the Québec government.

### Credit risk

Credit risk is the risk that one party to a financial asset will fail to meet its obligations.

Hydro-Québec is exposed to credit risk related to accounts receivable and other receivables, which arises primarily from its day-to-day electricity sales in and outside Québec. It is also exposed to credit risk related to cash and cash equivalents, short-term investments and the sinking fund, as well as to derivative instruments traded with financial institutions. Credit risk is limited to the carrying amount of the related assets presented on the balance sheet, which approximates fair value.

#### Accounts receivable and other receivables

Exposure to credit risk from electricity sales is limited due to Hydro-Québec's large and diverse customer base. Management believes that Hydro-Québec is not exposed to a significant credit risk, particularly because sales in Québec are billed at rates that allow for recovery of costs based on the terms and conditions set by the Régie. Moreover, Hydro-Québec holds as collateral customer deposits totaling \$123 million (\$132 million as at December 31, 2018), of which \$47 million (\$46 million as at December 31, 2018) is recognized in Accounts payable and accrued liabilities and \$76 million (\$86 million as at December 31, 2018) in Other liabilities.

The value of accounts receivable and other receivables, net of the related allowance for doubtful accounts, is presented in the following table:

	2019	2018
Accounts receivable <sup>a</sup>	2,145	2,124
Other receivables <sup>b</sup>	343	589 <sup>c</sup>
	2,488 <sup>d</sup>	2,713 <sup>d</sup>

- a) Including unbilled electricity deliveries, which totaled \$1,317 million as at December 31, 2019 (\$1,390 million as at December 31, 2018).  
 b) Including an \$82-million financial guarantee (\$139 million as at December 31, 2018) covering certain derivative instruments held at year end.  
 c) Including the government reimbursement of \$66 million for the 1998 ice storm.  
 d) Including US\$132 million (US\$255 million as at December 31, 2018) translated at the exchange rate in effect at the balance sheet date.

The allowance for doubtful accounts amounted to \$245 million as at December 31, 2019 (\$241 million as at December 31, 2018).

#### Other financial assets

In order to reduce its exposure to credit risk associated with cash and cash equivalents, short-term investments, the sinking fund and derivative instruments, Hydro-Québec deals with a number of issuers and financial institutions with high credit ratings, most of which are Canadian. In addition, it applies policies to limit risk concentration as well as various monitoring programs and sets credit limits for each counterparty. Through prior agreements, it can also limit the market value of the main derivative instrument portfolios. Any variation in market value beyond the agreed-upon limit results in a cash receipt or payment. As at December 31, 2019, substantially all counterparties dealing with Hydro-Québec had a credit rating of A or higher, and none of them had defaulted on their obligations to Hydro-Québec.

**Note 15**  
**Financial Instruments**  
**(continued)**

**Fair value**

**Fair value of derivative instruments**

The following table presents the fair value of derivative instruments, excluding the impact of offsets, by type and depending on whether they are designated as fair value hedges or cash flow hedges, or not designated as hedges:

	2019				2018			
	Derivatives designated as fair value hedges	Derivatives designated as cash flow hedges	Derivatives not designated as hedges <sup>a</sup>	Gross amounts of derivatives recognized <sup>b</sup>	Derivatives designated as fair value hedges	Derivatives designated as cash flow hedges	Derivatives not designated as hedges <sup>a</sup>	Gross amounts of derivatives recognized <sup>b</sup>
<b>Assets</b>								
Contracts – Currency risk	-	1,085	9	<b>1,094</b>	-	1,280	14	1,294
Contracts – Interest rate risk	413	81	-	<b>494</b>	372	2	-	374
Contracts – Price risk	-	145	51	<b>196</b>	-	159	49	208
	413	1,311	60	<b>1,784</b>	372	1,441	63	1,876
<b>Liabilities</b>								
Contracts – Currency risk	-	(101)	(174)	<b>(275)</b>	-	(162)	(116)	(278)
Contracts – Interest rate risk	-	(1)	-	<b>(1)</b>	-	(55)	-	(55)
Contracts – Price risk	-	(2)	(10)	<b>(12)</b>	-	(104)	(13)	(117)
	-	(104)	(184)	<b>(288)</b>	-	(321)	(129)	(450)
Total	413	1,207	(124)	<b>1,496</b>	372	1,120	(66)	1,426

a) These derivative instruments are mainly traded as part of Hydro-Québec's risk management. As at December 31, 2019, \$(165) million was in consideration of amounts received or disbursed [\$(116) million as at December 31, 2018] with respect to agreements to limit the market value of the main portfolios of derivative instruments. These agreements arise from frameworks applied by Hydro-Québec to reduce its credit risk exposure and limit risk concentration.

b) Fair value measurements of derivative instruments are Level 2 measurements. These measurements are obtained by discounting future cash flows, which are estimated on the basis of the spot rates, forward rates or forward prices (foreign exchange rates, interest rates, and energy or aluminum prices) in effect on the balance sheet date and take into account the credit risk assessment. The valuation techniques make use of observable market data.

**Note 15**  
**Financial Instruments**  
**(continued)**

The impact of offsetting derivative instruments is presented in the table below:

	2019				2018			
	Gross amounts of derivatives recognized	Gross amounts offset <sup>a</sup>	Cash (received) paid as collateral <sup>b</sup>	Net amounts presented on the balance sheet	Gross amounts of derivatives recognized	Gross amounts offset <sup>a</sup>	Cash (received) paid as collateral <sup>b</sup>	Net amounts presented on the balance sheet
<b>Assets</b>								
Current	297	(18)	(93)	<b>186</b>	217	(97)	(48)	72
Long-term	1,487	(240)	(1,223)	<b>24</b>	1,659	(215)	(1,323)	121
	1,784	(258)	(1,316)	<b>210</b>	1,876	(312)	(1,371)	193
<b>Liabilities</b>								
Current	(186)	156	-	<b>(30)</b>	(350)	240	30	(80)
Long-term	(102)	102	-	<b>-</b>	(100)	72	-	(28)
	(288)	258	-	<b>(30)</b>	(450)	312	30	(108)
Total	1,496	-	(1,316)	<b>180</b>	1,426	-	(1,341)	85

a) The gross amounts of derivatives offset are related to contracts traded according to International Swaps and Derivatives Association ("ISDA") guidelines and constituting enforceable master netting arrangements. Such master netting arrangements apply to all derivative instrument contracts traded over the counter.

b) Cash amounts offset are amounts received or paid under collateral exchange agreements signed in compliance with ISDA guidelines.

Moreover, although certain derivatives cannot be offset for lack of enforceable master netting arrangements, margin calls may result in amounts received from or paid to clearing agents, based on the fair value of the instruments concerned. As at December 31, 2019, no amount receivable from clearing agents in consideration of net cash payments

was included in Accounts receivable and other receivables (\$129 million as at December 31, 2018), while \$133 million payable to clearing agents in consideration of net cash receipts was included in Accounts payable and accrued liabilities (\$10 million as at December 31, 2018).

**Note 15**  
**Financial Instruments**  
**(continued)**

The impact of derivative instruments on results and other comprehensive income is presented in the tables below. It should be noted that most derivative instruments traded are designated as cash flow hedges or fair value hedges and therefore reduce the volatility of results. Derivative instruments which are not designated as hedges, but which nonetheless provide an economic hedge for at-risk opposite positions, also reduce the volatility of results. The sensitivity of results is thus limited to net exposure to unhedged risks.

	2019			
	Losses (gains) on derivatives designated as fair value hedges	Losses (gains) on derivatives designated as cash flow hedges		Losses (gains) on derivatives not designated as hedges
	Recognized in results	Recognized in Other comprehensive income	Reclassified from Other comprehensive income to results	Recognized in results
Contracts - Currency risk	-	169	428 <sup>a</sup>	18
Contracts - Interest rate risk	(40)	94	6 <sup>b</sup>	2
Contracts - Price risk	-	(355)	(266) <sup>c</sup>	(44)
	<b>(40)<sup>b,d</sup></b>	<b>(92)</b>	<b>168<sup>d</sup></b>	<b>(24)<sup>d,e</sup></b>
Impact of hedged items on results	<b>47</b>		<b>(185)</b>	<b>(36)</b>

	2018			
	Losses (gains) on derivatives designated as fair value hedges	Losses (gains) on derivatives designated as cash flow hedges		Losses (gains) on derivatives not designated as hedges
	Recognized in results	Recognized in Other comprehensive income	Reclassified from Other comprehensive income to results	Recognized in results
Contracts - Currency risk	-	(590)	(651) <sup>a</sup>	(84)
Contracts - Interest rate risk	40	47	4 <sup>b</sup>	1
Contracts - Price risk	-	(142)	177 <sup>c</sup>	24
	<b>40<sup>b,d</sup></b>	<b>(685)</b>	<b>(470)<sup>d</sup></b>	<b>(59)<sup>d,e</sup></b>
Impact of hedged items on results	<b>(34)</b>		<b>472</b>	<b>86</b>

a) In 2019, \$46 million was recognized in Revenue (nil in 2018), and \$382 million in Financial expenses [\$(651) million in 2018].

b) These amounts were recognized in Financial expenses.

c) These amounts were recognized in Revenue.

d) In 2019, the items Revenue, Electricity and fuel purchases, and Financial expenses totaled \$14,021 million, \$2,210 million and \$2,695 million, respectively (\$14,370 million, \$2,151 million and \$2,712 million in 2018).

e) These instruments are essentially related to integrated risk management transactions. Their impact on results is recognized in the line items affected by the managed risk. Therefore, in 2019, \$(61) million was recognized in Revenue (\$41 million in 2018), \$17 million in Electricity and fuel purchases [\$(9) million in 2018], and \$20 million in Financial expenses [\$(91) million in 2018].

**Note 15**  
**Financial Instruments**  
**(continued)**

In 2019, Hydro-Québec reclassified a net gain of \$17 million from Accumulated other comprehensive income to results after having discontinued cash flow hedges (net loss of \$2 million in 2018).

As at December 31, 2019, Hydro-Québec estimated the net amount of gains presented in Accumulated other comprehensive income that would be reclassified to results in the next 12 months to be \$155 million (net loss of \$13 million as at December 31, 2018).

**Fair value of other financial instruments**

Fair value measurements for other financial instruments are Level 2 measurements. Fair value is obtained by discounting future cash flows, based on rates observed on the balance sheet date for similar instruments traded on capital markets.

The fair value of cash equivalents, receivables – accounts receivable, other receivables and financial liabilities approximates their carrying amount because of the short-term nature of these financial instruments, except for the items presented in the table below:

	2019		2018	
	Carrying amount	Fair value	Carrying amount	Fair value
Long-term debt <sup>a</sup>	45,507 <sup>b</sup>	63,643	46,061 <sup>b</sup>	59,876
Perpetual debt	260	245	274	252

a) Including the current portion.

b) Including an amount of \$1,998 million (\$2,000 million as at December 31, 2018) for debts subject to a fair value hedge, which resulted in an adjustment of \$390 million (\$350 million as at December 31, 2018) in connection with the hedged risk for existing hedging relationships and of \$(87) million [\$(94) million as at December 31, 2018] for discontinued relationships.

## Note 16 Equity

### Share capital

The authorized share capital consists of 50,000,000 shares with a par value of \$100 each, of which 43,741,090 shares were issued and paid up as at December 31, 2019 and 2018.

### Retained earnings

Under the *Hydro-Québec Act*, the dividends to be paid by Hydro-Québec are declared once a year by the Québec government, which also determines the payment terms. For a given year, the dividend cannot exceed

the distributable surplus, equal to 75% of net income. This calculation is based on the consolidated financial statements. However, in respect of a given year, no dividend may be declared in an amount that would have the effect of reducing the capitalization rate to less than 25% at the end of the year. All or a portion of the distributable surplus that has not been subject to a dividend declaration may no longer be distributed to the shareholder as a dividend.

For 2019, the dividend is \$2,192 million (\$2,394 million for 2018).

### Accumulated other comprehensive income

	2019				2018			
	Cash flow hedges	Employee future benefits	Translation differences	Accumulated other comprehensive income	Cash flow hedges	Employee future benefits	Translation differences	Accumulated other comprehensive income
Balance, end of prior year	(193)	(1,717)	4	(1,906)	(406)	(2,186)	1	(2,591)
Adjustments related to a change in accounting policy	-	-	-	-	(2)	-	-	(2)
	(193)	(1,717)	4	(1,906)	(408)	(2,186)	1	(2,593)
Other comprehensive income before reclassifications	92	(804)	(3)	(715)	685	351	3	1,039
Amounts reclassified to results	168	45	-	213	(470)	118	-	(352)
Other comprehensive income	260	(759) <sup>a</sup>	(3)	(502)	215	469 <sup>a</sup>	3	687
Balance, end of current year	67	(2,476)	1	(2,408)	(193)	(1,717)	4	(1,906)

a) Other comprehensive income includes the change in the employee future benefit regulatory asset, which totaled \$1,306 million in 2019 [\$(787) million in 2018].

## Note 17 Supplementary Cash Flow Information

	2019	2018
<b>Change in non-cash working capital items</b>		
Accounts receivable and other receivables	204	(132)
Materials, fuel and supplies	(27)	(41)
Accounts payable and accrued liabilities	672	(223)
Accrued interest	(45)	(24)
	804	(420)
<b>Activities not affecting cash</b>		
Increase in property, plant and equipment and intangible assets	64	119
Increase in operating lease assets and liabilities	41	-
	105	119
<b>Interest paid</b>	2,229	2,219

## Note 18 Employee Future Benefits

The projected benefit obligations, valued by independent actuaries, and the assets of employee future benefit plans, at fair value, are valued as at December 31 of each year. The most recent actuarial valuation of the Pension Plan for funding purposes was as at December 31, 2018. The next valuation is required to be as at December 31, 2019.

### Changes in projected benefit obligations and in plan assets, at fair value

	Pension Plan		Other plans	
	2019	2018	2019	2018
<b>Projected benefit obligations</b>				
Balance, beginning of year	25,111	26,400	1,460	1,582
Current service cost	431	505	43	49
Employee contributions	212	196	-	-
Benefit payments and refunds	(1,076)	(1,034)	(67)	(74)
Interest on obligations	906	837	53	51
Actuarial loss (gain)	3,364	(1,793)	240	(148)
Balance, end of year	28,948	25,111	1,729	1,460
<b>Plan assets, at fair value</b>				
Balance, beginning of year	24,688	24,706	96	88
Actual return on plan assets <sup>a)</sup>	3,053	541	2	2
Employee contributions	212	196	-	-
Contributions by Hydro-Québec	276	279	19	18
Benefit payments and refunds	(1,076)	(1,034)	(12)	(12)
Balance, end of year	27,153	24,688	105	96
<b>Funded status – Plan deficits</b>	1,795	423	1,624	1,364
Presented as:				
Accounts payable and accrued liabilities	-	-	61	61
Other liabilities	1,795	423	1,563	1,303

a) Administrative and management expenses billed to the Pension Plan by Hydro-Québec amounted to \$20 million in 2019 (\$18 million in 2018).

As at December 31, 2019, accumulated benefit obligations under the Pension Plan totaled \$27,140 million (\$23,550 million as at December 31, 2018). Unlike projected benefit obligations, accumulated benefit obligations do not take into account the salary escalation rate assumption.

### Pension Plan assets

Investments and their associated risks are managed in accordance with the Hydro-Québec Pension Fund Investment Management Policy (the "Investment Policy"), which is approved every year by the Board of Directors. These risks include market risk, credit risk and liquidity risk. The Investment Policy provides for diversification of benchmark portfolio securities in order to maximize the expected return within an acceptable risk interval that takes into account the volatility of the Pension Plan's surplus or deficit. Additional frameworks define the approval process for each type of transaction and establish rules governing the active management of the different portfolios as well as credit risk management.

Compliance with the Investment Policy and the additional frameworks is monitored on a regular basis. The Investment Policy allows the use of derivative instruments such as forward contracts, options and swaps.

The target allocation of Pension Plan investments, as established by the Investment Policy in effect as at December 31, 2019, was as follows:

%	Target allocation
Fixed-income securities	38
Equities	50
Alternative investments <sup>a)</sup>	12
	100

a) Alternative investments include real estate investments, private equity investments and commercial mortgages.

**Note 18**  
**Employee**  
**Future Benefits**  
**(continued)**

The fair value of net Pension Plan investments as at December 31, according to the fair value hierarchy and based on the type of securities, was as follows:

	2019				2018			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Cash	170	-	-	<b>170</b>	192	-	-	192
Short-term investments <sup>a</sup>	-	1,375	-	<b>1,375</b>	-	1,559	-	1,559
Bonds <sup>a, b</sup>	696	6,618	-	<b>7,314</b>	242	6,567	-	6,809
Listed shares	11,179	-	-	<b>11,179</b>	9,438	-	-	9,438
Real estate investments <sup>a, c</sup>	-	38	3,176	<b>3,214</b>	-	40	3,303	3,343
Private equity investments <sup>d</sup>	-	-	1,079	<b>1,079</b>	-	-	826	826
Hedge funds <sup>e</sup>	505	2,281	-	<b>2,786</b>	470	2,103	-	2,573
Derivative instruments – Assets <sup>f</sup>	-	63	-	<b>63</b>	1	252	-	253
Derivative instruments – Liabilities <sup>f</sup>	(10)	(21)	-	<b>(31)</b>	(24)	(301)	-	(325)
Other	20	17	-	<b>37</b>	58	20	-	78
	12,560	10,371	4,255	<b>27,186<sup>g</sup></b>	10,377	10,240	4,129	24,746 <sup>g</sup>

- a) The fair value of Level 2 short-term investments, bonds and real estate investments is essentially measured by discounting net future cash flows, based on the current market rate of return.
- b) Pension Plan assets include securities issued by Hydro-Québec, as well as by the Québec government and some of its agencies, for a total of \$990 million (\$957 million as at December 31, 2018).
- c) The fair value of Level 3 real estate investments is measured by independent appraisers. The main method used to determine the fair value of these investments is discounting future cash flows. This method is based on observable and unobservable inputs, in particular the discount rate and future cash flows.
- d) The fair value of private equity investments is measured by various techniques including future cash flow discounting or using data such as earnings multiples or the price of recent comparable transactions.
- e) Hedge funds are measured at the values provided by the fund managers, which are determined on the basis of the fair value of the underlying investments or of the net asset value.
- f) Level 2 derivatives are measured using the market closing prices of the underlying products or by discounting net future cash flows.
- g) The fair value of investments does not take into account the net amount of payables and receivables, which is an amount payable of \$33 million (\$58 million as at December 31, 2018).

A reconciliation of the opening and closing balances of Level 3 investments is presented in the table below:

	2019			2018		
	Real estate investments	Private equity investments	Total	Real estate investments	Private equity investments	Total
Balance, beginning of year	3,303	826	<b>4,129</b>	2,856	573	3,429
Net (disposals) acquisitions	(113)	233	<b>120</b>	149	121	270
Realized net gains	127	3	<b>130</b>	4	2	6
Unrealized net (losses) gains	(141)	17	<b>(124)</b>	294	130	424
Balance, end of year	3,176	1,079	<b>4,255</b>	3,303	826	4,129

In 2019 and 2018, there was no reclassification between Level 3 and Levels 1 and 2.

**Other plan assets**

Other plan assets as at December 31, 2019, were composed of bonds issued by Hydro-Québec for a total of \$87 million (\$87 million as at December 31, 2018), as well as cash amounting to \$18 million (\$9 million as at December 31, 2018). Bonds are classified at Level 2 in the fair value hierarchy.

**Note 18**  
**Employee**  
**Future Benefits**  
**(continued)**

**Plan costs**

Net cost components recognized for the year

	Pension Plan		Other plans	
	2019	2018	2019	2018
Current service cost	431	505	43	49
Other components of employee future benefit cost				
Interest on obligations	906	837	53	51
Expected return on plan assets	(1,623)	(1,533)	(2)	(3)
Amortization of net actuarial loss	91	275	16	30
Amortization of past service costs (credits)	7	7	(5)	(4)
	(619)	(414)	62	74
<b>Net (credit) cost recognized for the year</b>	<b>(188)</b>	91	<b>105</b>	123

Components of Other comprehensive income for the year

	Pension Plan		Other plans	
	2019	2018	2019	2018
Actuarial loss (gain)	1,934	(801)	240	(147)
Amortization of net actuarial loss	(91)	(275)	(16)	(30)
Amortization of past service (costs) credits	(7)	(7)	5	4
Total decrease (increase) in Other comprehensive income	1,836	(1,083)	229	(173)
Less				
Increase (decrease) in the employee future benefit regulatory asset	1,162	(678)	144	(109)
<b>Net decrease (increase) in Other comprehensive income</b>	<b>674</b>	(405)	<b>85</b>	(64)

Components of Accumulated other comprehensive income

	Pension Plan		Other plans	
	2019	2018	2019	2018
Unamortized net actuarial loss	6,145	4,302	515	291
Unamortized past service costs (credits)	18	25	(16)	(21)
Aggregate of amounts recognized in Accumulated other comprehensive income	6,163	4,327	499	270
Less				
Employee future benefit regulatory asset	3,872	2,710	314	170
<b>Net amount recognized in Accumulated other comprehensive income</b>	<b>2,291</b>	1,617	<b>185</b>	100

For 2020, the amortization of the net actuarial loss and the past service costs (credits) in the net cost recognized for the year should amount to \$287 million and \$7 million, respectively, for the Pension Plan, and to \$33 million and \$(5) million, respectively, for the Other plans.

**Note 18**  
**Employee**  
**Future Benefits**  
**(continued)**

**Significant actuarial assumptions**

The following actuarial assumptions, used to determine the projected benefit obligations and net cost recognized for the plans, result from a weighted average.

	Pension Plan		Other plans	
	2019	2018	2019	2018
<b>Projected benefit obligations</b>				
Rate at end of year (%)				
Discount rate – Projected benefits	3.13	3.91	3.14	3.95
Salary escalation rate <sup>a</sup>	3.27	3.24	-	-
<b>Net cost recognized</b>				
Rate at end of prior year (%)				
Discount rate – Current service cost	3.99	3.47	3.97	3.45
Discount rate – Interest on obligations	3.64	3.19	3.72	3.24
Expected long-term rate of return on plan assets <sup>b</sup>	6.50	6.50	2.55	2.32
Salary escalation rate <sup>a</sup>	3.24	3.10	-	-
Active employees' average remaining years of service	13	13	12	12

a) This rate takes salary increases into account as well as promotion opportunities while in service.

b) The expected long-term rate of return on the Pension Plan assets is the average of the expected long-term return on the various asset classes, weighted according to their respective target weightings, plus a rebalancing, diversification and active management premium, net of expected management and administrative fees.

As at December 31, 2019, health care costs were based on an annual growth rate of 5.50% for 2020. According to the assumption used, this rate will increase on a linear basis to reach 6.50% in 2022 and subsequently decrease to a final rate of 4.50% in 2037. A change of 1% in this annual growth rate would have had the following impact in 2019 and 2018:

	1% increase		1% decrease	
	2019	2018	2019	2018
Impact on current service cost and interest cost on projected benefit obligations for the year	9	10	(7)	(7)
Impact on projected benefit obligations at end of year	151	108	(117)	(85)

**Benefits to be paid in next 10 years**

	Pension Plan	Other plans
2020	1,104	67
2021	1,129	69
2022	1,152	71
2023	1,176	74
2024	1,199	76
2025–2029	6,363	417

In 2020, Hydro-Québec expects to make contributions of \$264 million and \$19 million, respectively, to the Pension Plan and the Other plans.

## Note 19 Commitments and Contingencies

### Commitments

#### Electricity purchases

On May 12, 1969, Hydro-Québec signed a contract with Churchill Falls (Labrador) Corporation Limited ["CF(L)Co"] whereby Hydro-Québec undertook to purchase substantially all the output from Churchill Falls generating station, which has a rated capacity of 5,428 MW. In 2016, this contract was automatically renewed for a further 25 years in accordance with the contract provisions. On June 18, 1999, Hydro-Québec and CF(L)Co entered into a contract to guarantee the availability of 682 MW of additional power until 2041 for the November 1 to March 31 winter period.

As at December 31, 2019, Hydro-Québec was also committed under contracts to purchase electricity from other power producers. Based on the renewal clauses, the terms of these contracts extend through 2062. Hydro-Québec had also undertaken to purchase power transmission rights.

On the basis of all these commitments, Hydro-Québec expects to make the following payments over the coming years:

2020	1,891
2021	1,903
2022	1,928
2023	1,937
2024	2,065
2025 and thereafter	23,950

#### Investments

As part of its development projects and activities aimed at maintaining or improving the quality of its assets, Hydro-Québec plans to invest approximately \$4.0 billion in property, plant and equipment and intangible assets per year in Québec over the period from 2020 to 2024.

### Contingencies

#### Guarantees

In accordance with the terms and conditions of certain debt securities issued outside Canada, Hydro-Québec has undertaken to increase the amount of interest paid to non-residents in the event of changes to Canadian tax legislation governing the taxation of non-residents' income. Hydro-Québec cannot estimate the maximum amount it might have to pay under such circumstances. Should an amount become payable, Hydro-Québec has the option of redeeming most of the securities in question. As at December 31, 2019, the amortized cost of the long-term debts concerned was \$3,303 million (\$3,314 million as at December 31, 2018).

#### Litigation

In the normal course of its development and operating activities, Hydro-Québec is sometimes party to claims and legal proceedings. Management is of the opinion that an adequate provision has been made for these legal actions. Consequently, it does not foresee any significant adverse effect of such contingent liabilities on Hydro-Québec's consolidated results or financial position.

Among other ongoing actions, some Indigenous communities have instituted proceedings against the governments of Canada and Québec, as well as against Hydro-Québec, based on demands concerning their ancestral rights. In particular, the Innus of Uashat mak Mani-Utenam are demanding \$1.5 billion in damages resulting from various activities carried out on land they claim as their own. Hydro-Québec is challenging the legitimacy of this claim.

As well, in November 2006 the Innus of Pessamit reactivated an action brought in 1998, aimed at obtaining, among other things, the recognition of ancestral rights related to Québec lands on which certain hydroelectric generating facilities of the Manic-Outardes complex are located. This community is claiming \$500 million. Hydro-Québec is challenging the legitimacy of this claim.

## Note 20 Segmented Information

Hydro-Québec carries on its activities in the four reportable business segments defined below. The non-reportable business segments and other activities, including intersegment eliminations and adjustments, are grouped together under Corporate and Other Activities for reporting purposes.

**Generation:** Hydro-Québec Production operates and develops Hydro-Québec's generating facilities. It provides Hydro-Québec Distribution with an annual base volume of up to 165 TWh of heritage pool electricity, and can participate in that division's calls for tenders in a context of free market competition. In addition, it sells electricity and engages in arbitrage transactions on external markets.

**Transmission:** Hydro-Québec TransÉnergie operates and develops Hydro-Québec's power transmission system. It markets system capacity and manages power flows throughout Québec.

**Distribution:** Hydro-Québec Distribution operates and develops Hydro-Québec's distribution system and ensures the supply of electricity to the Québec market. It also engages in activities related to selling electricity in Québec, delivering customer services and promoting energy efficiency.

**Construction:** Hydro-Québec Innovation, équipement et services partagés and Société d'énergie de la Baie James ("SEBJ") design, build and refurbish generating and transmission facilities, mainly for Hydro-Québec Production and Hydro-Québec TransÉnergie. Hydro-Québec Innovation, équipement et services partagés is responsible for projects throughout Québec, except in the territory governed by the *James Bay and Northern Québec Agreement* ("JBNQA"). SEBJ builds generating facilities in the territory governed by the JBNQA (north of the 49th parallel) and may also carry out certain projects elsewhere in Québec or outside the province.

**Corporate and Other Activities:** The corporate units help the business segments carry out their operations. Other activities include, in particular, intersegment eliminations and adjustments.

The amounts presented for each segment are based on the financial information used to prepare the consolidated financial statements. The accounting policies used to calculate these amounts are as described in Note 1, Significant Accounting Policies, and Note 3, Regulation.

Intersegment transactions related to electricity sales are recorded based on the supply and transmission rates provided for by the *Act respecting the Régie de l'énergie*. The Act sets a supply rate for an annual base volume of up to 165 TWh of heritage pool electricity for the Québec market.

Intersegment products and services are measured at full cost, which includes all costs directly associated with product or service delivery.

Most of Hydro-Québec's revenue is from Québec, and substantially all its property, plant and equipment are related to its Québec operations. In 2019, revenue from outside Québec amounted to \$1,629 million, with \$1,104 million originating from the United States (\$1,767 million and \$1,231 million, respectively, in 2018).

**Note 20**  
**Segmented**  
**Information**  
**(continued)**

The following tables present information related to results, assets and investing activities by segment:

						2019
	Generation	Transmission	Distribution	Construction	Corporate and Other Activities	Total
Revenue						
External customers	1,665	50	12,161	1	144	14,021 <sup>a</sup>
Intersegment customers	5,027	3,443	84	2,247	(10,801) <sup>b</sup>	-
Depreciation and amortization	867	1,074	606	7	228	2,782
Financial expenses	1,241	962	456	-	36	2,695
Net income (loss)	2,042	569	323	1	(12)	2,923
Total assets	33,534	23,773	14,079	40	7,137	78,563
Investments in property, plant and equipment and intangible assets affecting cash	1,110	1,563	737	4	200	3,614

						2018
	Generation	Transmission	Distribution	Construction	Corporate and Other Activities	Total
Revenue						
External customers	1,792	130	12,124	1	323	14,370 <sup>a</sup>
Intersegment customers	4,914	3,387	85	2,140	(10,526) <sup>b</sup>	-
Depreciation and amortization	819	1,030	697	5	134	2,685
Financial expenses	1,250	953	480	(1)	30	2,712
Net income	1,999	554	368	-	271	3,192
Total assets	32,994	23,288	13,976	44	6,687	76,989
Investments in property, plant and equipment and intangible assets affecting cash	792	1,782	664	10	154	3,402

a) Including \$(55) million from sources other than contracts with customers (\$307 million in 2018), of which \$(102) million [\$(241) million in 2018] relates to alternative revenue programs involving certain regulatory assets and liabilities.

b) Including intersegment eliminations of \$(12,647) million [\$(12,379) million in 2018].

**Note 21**  
**Subsequent**  
**Event**

On February 6, 2020, Hydro-Québec acquired a 19.9% stake, through a private placement, in Innergex énergie renouvelable inc. (TSX: INE) ("Innergex"), a renewable power producer that builds, acquires, owns and operates hydroelectric facilities, wind farms and solar farms. The purchase price was \$661 million. In addition, Hydro-Québec has committed \$500 million to projects it will develop and carry out with Innergex, in particular wind or solar projects involving battery storage, power transmission, distributed generation or off-grid networks.

**Note 22**  
**Comparative**  
**Information**

Some of the prior year's data have been reclassified to conform to the presentation adopted in the current year. In particular, some variance and deferral accounts that were formerly presented separately in Note 3, Regulation, are now presented under Other in the Regulatory assets and liabilities table in that note. This reclassification did not affect the amounts recognized as regulatory assets and liabilities on the balance sheet.

# FIVE-YEAR REVIEW

## Consolidated Financial Information

\$M	2019	2018	2017	2016	2015
<b>OPERATIONS</b>					
<b>Revenue</b>	<b>14,021</b>	14,370	13,468	13,339	13,754
<b>Expenditure</b>					
Operations	<b>2,835</b>	2,859	2,680	2,675	2,559
Other components of employee future benefit cost	<b>(557)</b>	(340)	(322)	(233)	(32)
Electricity and fuel purchases	<b>2,210</b>	2,151	1,989	1,862	1,938
Depreciation and amortization	<b>2,782</b>	2,685	2,686	2,597	2,713
Taxes	<b>1,133</b>	1,111	1,076	1,045	980
	<b>8,403</b>	8,466	8,109	7,946	8,158
<b>Income before financial expenses</b>	<b>5,618</b>	5,904	5,359	5,393	5,596
Financial expenses	<b>2,695</b>	2,712	2,513	2,532	2,449
<b>Net income</b>	<b>2,923</b>	3,192	2,846	2,861	3,147
<b>DIVIDEND</b>	<b>2,192</b>	2,394	2,135	2,146	2,360
<b>BALANCE SHEET SUMMARY</b>					
Total assets	<b>78,563</b>	76,989	75,769	75,167	75,199
Long-term debt, including current portion and perpetual debt	<b>45,767</b>	46,335	45,259	45,909	45,983
Equity	<b>21,448</b>	21,209	19,755	19,704	19,475
<b>INVESTMENTS AFFECTING CASH</b>					
Property, plant and equipment and intangible assets	<b>3,614</b>	3,402	3,754	3,460	3,440
<b>FINANCIAL RATIOS</b>					
Return on equity (%) <sup>a</sup>	<b>12.4</b>	14.0	12.9	13.4	15.3
Capitalization (%) <sup>b</sup>	<b>32.3</b>	31.8	30.7	30.5	30.1
Profit margin (%) <sup>c</sup>	<b>20.8</b>	22.2	21.1	21.4	22.9
Interest coverage <sup>d</sup>	<b>2.07</b>	2.18	2.13	2.16	2.20
Self-financing (%) <sup>e</sup>	<b>48.6</b>	63.9	66.6	58.8	82.8

a) Net income divided by average equity for the year less average accumulated other comprehensive income for the year.

b) Equity divided by the sum of equity, long-term debt, current portion of long-term debt, perpetual debt, borrowings and derivative instrument liabilities, less derivative instrument assets and sinking fund.

c) Net income divided by revenue.

d) Sum of income before financial expenses and net investment income divided by interest on debt securities.

e) Cash flows from operating activities less dividend paid, divided by the sum of cash flows from investing activities, excluding net change in short-term investments and sinking fund, and repayment of long-term debt.

Note: Certain comparative figures in the Five-Year Review have been reclassified to conform to the presentation adopted in the current year.

## Operating Statistics

	2019	2018	2017	2016	2015
GWh					
<b>Electricity sales</b>					
In Québec, by segment					
Residential	70,688	69,566	66,111	65,065	66,558
Commercial, institutional and small industrial	47,894	47,659	45,816	45,483	45,335
Large industrial	50,358	50,252	53,699	53,635	54,200
Other	5,640	5,337	5,077	5,062	5,170
	<b>174,580</b>	172,814	170,703	169,245	171,263
Outside Québec					
Canada/U.S.	34,789	36,524	34,935	32,744	29,864
Total electricity sales	<b>209,369</b>	209,338	205,638	201,989	201,127
\$M					
<b>Revenue from electricity sales</b>					
In Québec, by segment					
Residential	5,752	5,591	5,285	5,155	5,222
Commercial, institutional and small industrial	4,056	4,016	3,873	3,842	3,774
Large industrial	2,279	2,196	2,288	2,265	2,350
Other	342	331	317	311	316
	<b>12,429</b>	12,134	11,763	11,573	11,662
Outside Québec					
Canada/U.S.	1,510	1,731	1,651	1,626	1,700
Total revenue from electricity sales	<b>13,939</b>	13,865	13,414	13,199	13,362
As at December 31					
<b>Number of customer accounts</b>					
In Québec, by segment					
Residential	4,032,426	3,994,491	3,958,300	3,924,992	3,890,956
Commercial, institutional and small industrial	319,225	317,608	316,430	314,816	319,294
Large industrial	186	185	184	183	181
Other	4,705	4,630	4,582	4,550	4,290
Total customer accounts	<b>4,356,542</b>	4,316,914	4,279,496	4,244,541	4,214,721

## Operating Statistics (continued)

	2019	2018	2017	2016	2015
MW					
<b>Installed capacity</b>					
Hydroelectric	36,700	36,767	36,767	36,366	36,370
Thermal	543	543	542	542	542
Total installed capacity	37,243 <sup>a</sup>	37,310	37,309	36,908	36,912
GWh					
<b>Total energy requirements<sup>b</sup></b>	229,959	230,795	226,824	223,143	222,172
MW					
<b>Peak power demand in Québec<sup>c</sup></b>	36,159	38,319	38,204	36,797	37,349
km					
<b>Lines (overhead and underground)</b>					
Transmission	34,802 <sup>d</sup>	34,361	34,479	34,292	34,272
Distribution	225,304	224,659	224,033	221,843	220,920
Total lines (overhead and underground)	260,106	259,020	258,512	256,135	255,192

- a) In addition to the generating capacity of its own facilities, Hydro-Québec has access to almost all the output from Churchill Falls generating station (5,428 MW) under a contract with Churchill Falls (Labrador) Corporation Limited that will remain in effect until 2041. It also purchases all the output from 41 wind farms (3,876 MW) and 7 small hydropower plants (107 MW) and almost all the output from 9 biomass and 4 biogas cogeneration plants (303 MW) operated by independent power producers. Moreover, 969 MW are available under long-term contracts with other suppliers.
- b) Total energy requirements consist of kilowatt-hours delivered within Québec and to neighboring systems.
- c) The 2019 figure was valid on February 14, 2020. The values indicated reflect demand at the annual domestic peak for the winter beginning in December, including interruptible power. The 2019–2020 winter peak occurred at 7:00 p.m. on December 19, 2019.
- d) 34,530 km of lines operated by Hydro-Québec TransÉnergie and 272 km by Hydro-Québec Distribution.

## Other Information

	2019	2018	2017	2016	2015
%					
<b>Rate increase as at April 1<sup>a</sup></b>	0.9	0.3	0.7	0.7	2.9
As at December 31					
<b>Total number of employees<sup>b</sup></b>					
Permanent	16,977	16,960	17,338	17,282	17,475
Temporary	2,500	2,944	2,448	2,270	2,319
	19,477	19,904	19,786	19,552	19,794
%					
<b>Representation of target groups</b>					
Women	29.2	28.8	28.9	28.7	29.0
Other <sup>c</sup>	10.4	8.9	8.1	7.7	7.4

- a) Excluding Rate L.
- b) Excluding employees of subsidiaries and joint ventures.
- c) Self-reported members (men and women) of the following groups: Indigenous peoples, ethnic minorities, visible minorities and people with disabilities.

## CONSOLIDATED RESULTS BY QUARTER

					2019
\$M	1st quarter	2nd quarter	3rd quarter	4th quarter	12-month period
<b>Revenue</b>	4,640	2,932	2,765	3,684	<b>14,021</b>
<b>Expenditure</b>					
Operations	694	702	674	765	<b>2,835</b>
Other components of employee future benefit cost	(139)	(140)	(139)	(139)	<b>(557)</b>
Electricity and fuel purchases	687	505	445	573	<b>2,210</b>
Depreciation and amortization	637	686	658	801	<b>2,782</b>
Taxes	325	250	260	298	<b>1,133</b>
	2,204	2,003	1,898	2,298	<b>8,403</b>
<b>Income before financial expenses</b>	2,436	929	867	1,386	<b>5,618</b>
Financial expenses	662	665	662	706	<b>2,695</b>
<b>Net income</b>	1,774	264	205	680	<b>2,923</b>

					2018
\$M	1st quarter	2nd quarter	3rd quarter	4th quarter	12-month period
<b>Revenue</b>	4,507	3,291	2,901	3,671	14,370
<b>Expenditure</b>					
Operations	709	705	649	796	2,859
Other components of employee future benefit cost	(85)	(85)	(85)	(85)	(340)
Electricity and fuel purchases	626	496	444	585	2,151
Depreciation and amortization	650	654	659	722	2,685
Taxes	305	244	264	298	1,111
	2,205	2,014	1,931	2,316	8,466
<b>Income before financial expenses</b>	2,302	1,277	970	1,355	5,904
Financial expenses	658	654	661	739	2,712
<b>Net income</b>	1,644	623	309	616	3,192

## BOARD OF DIRECTORS



Front row (left to right): **Geneviève Bich, Éric Martel, Dominique Savoie, Jacynthe Côté, Hélène V. Gagnon.**

Back row (left to right): **Anne-Marie Croteau, Paul Stinis, Luc Doyon, François Lafortune, Suzanne Guin, Marie-Josée Morency, Yvon Marcoux, Geneviève Brouillette, Luc Jobin.** Absent from photo: **Anik Brochu.**

## Jacynthe Côté

Chair of the Board, Hydro-Québec

*Appointment: November 7, 2018*

*Term: May 14, 2023*

*Status: Independent director*

*Place of residence: Candiac*

Jacynthe Côté holds a bachelor's degree in chemistry from Université Laval. She spent most of her career at Alcan, where she held a series of management positions in areas including human resources, environment, health and safety, business planning and development, production and management, in both Québec and England. After Alcan was acquired by Rio Tinto, she headed the Rio Tinto Alcan Primary Metal group for a number of years. From 2009 to 2014, she was the multinational's President and Chief Executive Officer. Ms. Côté serves on the boards of Banque Royale du Canada, Transcontinental and Finning International. She also chairs the boards of Alloprof and the Fondation CHU Sainte-Justine.

## Éric Martel

President and Chief Executive Officer, Hydro-Québec

*Appointment: July 6, 2015*

*Term: July 6, 2020*

*Status: Non-independent director*

*Place of residence: Mont-Royal*

Éric Martel graduated from Université Laval with a bachelor's degree in electrical engineering and is a member of the Ordre des ingénieurs du Québec. Before joining Hydro-Québec in July 2015, he held a number of management positions at Bombardier from 2002 to 2015, including President of the Avions d'affaires and Services à la clientèle divisions. Mr. Martel has also worked for several high-profile international companies such as Pratt & Whitney, Rolls Royce, Procter & Gamble and Kraft Foods. He serves on the board of the Global Sustainable Electricity Partnership and is Chair of the Electric Industry community of the World Economic Forum (Davos). In addition, he sits on the board of Robotique FIRST Québec and is a member of the advisory board of Concordia University's Gina Cody School of Engineering and Computer Science. He has been actively involved with Centraide of Greater Montréal since the late 1990s and co-chaired its 2019 campaign.

## Geneviève Bich

Vice President, Human Resources, Metro inc.

*Appointment: September 9, 2015*

*Term: September 9, 2019<sup>1</sup>*

*Status: Independent director*

*Place of residence: Westmount*

Geneviève Bich holds a Bachelor of Arts with a major in psychology from McGill University and a Bachelor of Law from Université de Montréal. She is a member of the Barreau du Québec and the Ordre des conseillers en ressources humaines agréés du Québec. From 1991 to 2008, she held various management positions at Bell Canada, including Vice-President, Human Resources and Labour Relations. Before joining Metro in 2013 as Vice President, Human Resources, Ms. Bich worked at Groupe Dynamite and Aimia.

1. When their term expires, directors remain in office until replaced or reappointed.

## Anik Brochu

Director, Special Projects, Groupe T.A.P.

*Appointment: September 13, 2006*

*Term: July 6, 2020*

*Status: Independent director*

*Place of residence: Val-d'Or*

Anik Brochu holds a law degree from the University of Ottawa and is a member of the Barreau du Québec. After serving as General Manager of the Chambre de commerce de Val-d'Or from 1997 to 2008, she was a lawyer with Cain Lamarre Casgrain Wells from 2008 to 2010. In 2011, she joined Groupe T.A.P., where she now holds the position of Director, Special Projects. She sits on the board of the Centre de musique et de danse de Val-d'Or.

## Geneviève Brouillette

Chief Financial Officer, Groupe ALDO

*Appointment: July 12, 2017*

*Term: September 4, 2023*

*Status: Independent director*

*Place of residence: Montréal*

With a Bachelor of Commerce from McGill University and a bachelor's degree in accounting from Université du Québec à Montréal, Geneviève Brouillette is a member of the Ordre des comptables professionnels agréés du Québec (CPA, CA) and has certification from the Collège des administrateurs de sociétés. Over the course of her career, she has held senior positions at Kraft Canada, Pratt & Whitney Canada, Groupe St-Hubert, Colabor and Keurig Dr Pepper, in Canada and the United States. She joined Groupe ALDO in January 2019 as Chief Financial Officer.

## Anne-Marie Croteau

Dean, John Molson School of Business,  
Concordia University

*Appointment: July 6, 2016*

*Term: July 6, 2020*

*Status: Independent director*

*Place of residence: Montréal*

Anne-Marie Croteau holds a bachelor's degree in actuarial mathematics from Concordia University, a Bachelor of Business Administration and a master's in management from HEC Montréal, and a PhD in administration from Université Laval. She is dean of the John Molson School of Business at Concordia University and full professor of business technology management. She is certified by the Collège des administrateurs de sociétés and has served on the boards of Finance Montréal and the Société de l'assurance automobile du Québec.

## Luc Doyon

Corporate director

*Appointment: September 4, 2019*

*Term: September 4, 2023*

*Status: Independent director*

*Place of residence: Montréal*

Luc Doyon holds a bachelor's degree in mechanical engineering from Polytechnique Montréal and a graduate diploma in welding engineering from the École supérieure du soudage et de ses applications in Paris. He has also taken part in the Executive Education program at INSEAD (Institut européen d'administration des affaires) [European Institute of Business Administration] in Fontainebleau, France. He spent his career with the French industrial group Air Liquide, where he worked from 1983 to 2017. He started out as an engineer at Air Liquide Canada and became a manager in 1988. In particular, he served as Vice-President, Merchant Gases at Air Liquide America in Houston, and President and Chief Executive Officer of Air Liquide Canada in Montréal. In 2012, he was appointed President and Chief Executive Officer of the welding division of Groupe Air Liquide in Paris.

## Hélène V. Gagnon

Vice President, Public Affairs and Global Communications, CAE Inc.

*Appointment: April 22, 2015*

*Term: September 4, 2023*

*Status: Independent director*

*Place of residence: Outremont*

A graduate of McGill University in both civil law and common law, Hélène V. Gagnon also has a master's degree in public administration and public policy from the London School of Economics. She is a member of the Barreau du Québec and holds accreditation from the Canadian Public Relations Society. Ms. Gagnon has been Vice President, Public Affairs and Global Communications at CAE since 2015 and has held similar positions at Bombardier Aéronautique, Bombardier Transport and Noranda. She sits on the boards of Aéroports de Montréal, the Canadian American Business Council and Aéro Montréal, Québec's aerospace cluster.

## Suzanne Gouin

Chair of the Board of Management, Canada Revenue Agency

*Appointment: September 26, 2007*

*Term: July 6, 2020*

*Status: Independent director*

*Place of residence: Hampstead*

Suzanne Gouin has a bachelor's degree in political science from Concordia University, where she also pursued graduate courses in media studies. She completed an MBA at the University of Western Ontario and has earned certification from the Institute of Corporate Directors. She has held several management positions in media companies, including President and Chief Executive Officer of TV5 Québec Canada from 2002 to 2015. She was appointed Chair of the Board of Management at the Canada Revenue Agency in 2017. She chairs the board of directors of Montreal Digital Spring and sits on the board of the Foundation of Greater Montreal. She is also a member of an advisory group of the Public Sector Accounting Board.

## Luc Jobin

Corporate director and leadership consultant

*Appointment: September 11, 2019*

*Term: September 11, 2023*

*Status: Independent director*

*Place of residence: Montréal*

With a bachelor's degree in criminology from Nova Southeastern University in Florida and a diploma in public accountancy from McGill University, Luc Jobin is a member of the Ordre des comptables professionnels agréés du Québec (CPA, CA). He began his career at Deloitte Haskins & Sells in 1980. From 1983, he held a number of management positions at Imasco, Imperial Tobacco Canada and Power Corporation du Canada, in such areas as finance, human resources, planning and business development. His responsibilities included managing strategic units in North America, Europe and Asia. He joined the Canadian railway company CN as Executive Vice-President and Chief Financial Officer in 2009 and was named President and Chief Executive Officer in 2016, after holding the position on an interim basis. Since 2018, he has been a corporate director and leadership consultant.

## François Lafortune

Founder and Chief Executive Officer, Diagram Ventures

*Appointment: July 12, 2017*

*Term: July 12, 2021*

*Status: Independent director*

*Place of residence: Montréal*

François Lafortune holds a Bachelor of Engineering from McGill University and an MBA from Stanford University in California. In 2006, he joined McKinsey management consulting, where he was project manager and co-leader of its Canadian technology practice, a position he held until he left the company in 2015. In 2016, he founded Diagram Ventures, a business incubator for innovative technology companies in financial services, insurance and healthcare, and has remained at its helm since inception.

## Yvon Marcoux

Corporate director

*Appointment: December 17, 2014*

*Term: December 17, 2018<sup>1</sup>*

*Status: Independent director*

*Place of residence: Boucherville*

With a licentiate in law from Université Laval and a Master of Laws from the University of Toronto, Yvon Marcoux is a retired lawyer and Lawyer Emeritus. After starting out as a professor in the Faculty of Law at Université Laval, he held senior management positions at Québec's Conseil du trésor and Ministère des Affaires municipales, as well as at Banque Nationale, Banque Laurentienne and Provigo, and was Chairman and President and Chief Executive Officer of the Société générale de financement du Québec. He has sat in the Québec National Assembly, where he was Transport Minister, then Justice Minister and Attorney General.

1. When their term expires, directors remain in office until replaced or reappointed.

### Marie-Josée Morency

Executive Vice-President and General Manager,  
Chambre de commerce de Lévis

*Appointment: July 6, 2016*

*Term: July 6, 2020*

*Status: Independent director*

*Place of residence: Québec*

After completing a bachelor's in communications at Université Laval, Marie-Josée Morency began her career as an entrepreneur. She has worked in communications in the Saguenay region for Cystic Fibrosis Québec, the Association provinciale des constructeurs d'habitations du Québec and Promotion Saguenay. From 2010 to 2017, she was Executive Director, Chambre de commerce et d'industrie Saguenay-Le Fjord and served on the boards of numerous economic development corporations. From 2017 to 2018, she worked for Raymond Chabot Grant Thornton in business development at their subsidiary Operio. Since 2019, she has been Executive Vice-President and General Manager of the Chambre de commerce de Lévis. She also sits on the board of the Société Alzheimer de Québec and on the Conseil régional des partenaires du marché du travail de la Chaudière-Appalaches.

### Dominique Savoie

Deputy Minister of Energy  
and Natural Resources

*Appointment: March 21, 2018*

*Term: July 11, 2021*

*Status: Non-independent director*

*Place of residence: Montréal*

Dominique Savoie holds a bachelor's degree in psychology from Université du Québec à Montréal and a master's in psychology from Université de Montréal. For nearly 30 years, she has been with the public service, where she has held a number of positions including Assistant Deputy Minister responsible for operations at Emploi Québec (2005–2006), Associate Deputy Minister and Secretary General of the Commission des partenaires du marché du travail (2006–2009), Deputy Minister responsible for Employment and Social Solidarity (2009–2011), Deputy Minister of Transport,

Sustainable Mobility and Transport Electrification (2011–2016) and administrator of state at the Ministère du Conseil exécutif (2016–2018). In 2018, she was named Deputy Minister of Energy and Natural Resources. Ms. Savoie is certified by the Collège des administrateurs de sociétés.

### Paul Stinis

Corporate director

*Appointment: April 22, 2015*

*Term: July 6, 2020*

*Status: Independent director*

*Place of residence: Westmount*

With a bachelor's in mining engineering from McGill University and an MBA from Concordia University, Paul Stinis began his career as an engineer in the oil and gas industry. He has held various management positions at two major banks and was Vice-President, Finance and Treasurer at Bell Canada International. In 2003, he joined the BCE/Bell Canada group as Vice-President and Assistant Treasurer, then served as Senior Vice-President and Treasurer from 2009 to 2018. Among other duties, he was in charge of all operations related to treasury and capital markets, including risk management, insurance, pension funds, pension plans, group benefits and investor relations. From 2015 to 2018, he headed Bimcor, the pension fund investment manager for the BCE/Bell Canada group.

### Directors' compensation and benefits in 2019<sup>a</sup>

	Base compensation	Meeting fees	Taxable benefits <sup>b</sup>
Geneviève Bich	\$23,692	\$16,254	\$7,142
Anik Brochu	\$19,268	\$9,933	\$141
Geneviève Brouillette	\$23,692	\$15,351	\$141
Jacynthe Côté <sup>c</sup>	\$62,941	\$37,023	\$7,142
Anne-Marie Croteau	\$19,268	\$19,866	\$141
Luc Doyon	\$5,780	\$5,418	\$47
Hélène V. Gagnon	\$19,268	\$12,642	\$141
Suzanne Gouin	\$19,268	\$19,866	\$2,930
Luc Jobin	\$5,410	\$4,515	\$1,623
François Lafortune	\$19,268	\$11,739	\$141
Yvon Marcoux	\$20,534	\$18,221	\$141
Éric Martel <sup>d</sup>	-	-	-
Marie-Josée Morency	\$19,268	\$12,642	\$7,142
Dominique Savoie <sup>d</sup>	-	-	\$5,710
Paul Stinis	\$19,268	\$25,284	\$3,507

- a) Compensation set by the government under Order-in-Council No. 610-2006 of June 28, 2006. It consists of a basic annual retainer plus a fee for each Board or committee meeting attended. A yearly supplement is also paid to the chairs of the Audit Committee, the Governance and Ethics Committee, and the Human Resources Committee.
- b) Insurance and health assessments paid by Hydro-Québec.
- c) Jacynthe Côté's compensation was set under Order-in-Council No. 1342-2018 of November 7, 2018. She receives an annual base compensation of \$58,517, plus a meeting fee of \$903 for each Board or committee meeting attended.
- d) By law, non-independent directors—Éric Martel and Dominique Savoie—receive no compensation or meeting fees as members of the Board of Directors.

# ACTIVITY REPORT OF THE BOARD OF DIRECTORS AND BOARD COMMITTEES

## Board of Directors

In 2019, the Board of Directors met eight times and its committees held 33 meetings. Management and the Board members held planning sessions to draw up the *Strategic Plan 2020–2024*. In particular, they studied the results of Hydro-Québec's *Strategic Plan 2016–2020*, examined changes in the company's business context, reviewed its mission, values, objectives and strategies, and evaluated its risks and value creation opportunities. The Board adopted the new plan and recommended its approval by the Québec government. In order to optimize its operations, the Board reviewed the mandates and composition of its committees, delegated some of its responsibilities for financial management of the pension plan to a steering committee and made the corresponding changes in the list of decision-making powers. In accordance with the *Hydro-Québec Act*, the Board also approved the criteria for evaluating its performance.

The Board closely monitored the company's growth activities. It approved the financial commitment needed to launch the subsidiary Services Hilo inc., which, as of 2020, will offer personalized products and services making it easy for customers to better manage their electricity use.

It also approved capital projects in power generation, transmission and distribution, including the Rapide-Blanc generating station refurbishment in the Mauricie region, grid control system modernization, the Appalaches–Maine interconnection line, reinforcement of the main transmission system, a smart microgrid in Lac-Mégantic and solar power plants in La Prairie and Varennes.

It approved organizational changes and the appointment of senior executives reporting to the President and Chief Executive Officer. It also paid close attention to the optimization of resources and improvement of processes, management succession and training, and talent management. It monitored the company's performance in cybersecurity and occupational health and safety. With a view to establishing and maintaining good relations with Indigenous communities, the Board adopted a policy in this regard.

In the course of its recurring deliberations, the Board examined the company's objectives and approved its Business Plan and its quarterly and annual financial results, as well as the financial statements of the Hydro-Québec pension plan. It reviewed the progress of the company's major capital projects and examined the consolidated residual business risk portfolio. It approved the annual internal audit plan and the Distributor's Electricity Supply Plan 2020–2029, which it approved for filing with the Régie de l'énergie.

At the end of each Board meeting, the independent directors hold a closed-door session with the President and Chief Executive Officer present and another among themselves. To allow the members to speak freely, with no representation by the government department responsible for Hydro-Québec, the Deputy Minister of Energy and Natural Resources does not attend closed-door sessions and does not sit on any Board committee.



Proud to support the visual arts in Québec, the company displays some pieces from its collection in high-traffic areas where they can be enjoyed by as many people as possible. Among the works added to Hydro-Québec's art collection in 2019 are these two sculptures by Inuit artist Mattiusi Iyaituk (left to right):

***She-Shaman Wants to Be a Mermaid*** – steatite, caribou antler, muskox horn, alabaster and China ink, 2016.

***It Takes a Shaman with a Good Song to Excite a Helping Spirit to Come out of the Ground*** – serpentinite, caribou antler, muskox horn, resin, synthetic sinew and China ink, 2012.

© Mattiusi Iyaituk

### Executive (A)

The Executive Committee did not hold any meetings in 2019.

### Governance and Ethics (B)

In 2019, the Governance and Ethics Committee, chaired by Jacynthe Côté, met five times. It recommended that the Board review the mandates and composition of some of its committees, as well as the process and criteria for evaluating its own performance and the performance review process for the President and Chief Executive Officer. It further recommended approval of Hydro-Québec's *Annual Report 2018* and the appointment of the most senior officer of each of the company's wholly owned subsidiaries, as well as the directors of its first-tier wholly owned subsidiaries. The Committee suggested that the Board update the code of ethics and rules of professional conduct applicable to directors and executives of Hydro-Québec and its wholly owned subsidiaries, the corporate governance bylaw and the list of decision-making powers. Finally, it examined the annual accountability reports on several corporate policies.

### Audit (C)

The Audit Committee, chaired by Geneviève Brouillette, held seven meetings in 2019. It examined the company's 2020 internal audit plan and recommended its approval by the Board. It reviewed the internal audit results and monitored the ensuing recommendations and action plans. It appointed an external examiner to assess the quality of the internal audit and ensure its compliance with professional standards and best practices. The Committee reviewed the 2019 resource optimization plan and took note of the value-for-money audits by the Auditor General of Québec, in particular the audit on support for low-income households and on residential customer service. In addition, the Committee examined the quarterly and annual financial statements of Hydro-Québec, the annual financial statements of its pension plan and the annual financial statements of Société d'énergie de la Baie James. It ensured the independence of the auditors and met with them to plan the annual audit and examine the audit results.

With regard to financial management of the pension plan, the Committee studied the Hydro-Québec pension fund investment policy, including responsible investments and the actuarial valuation of plan funding and solvency, as well as the project to overhaul the systems for managing and recording pension fund investments, and recommended their approval by the Board. It evaluated the performance and structure of the pension fund portfolio and the performance of specialized portfolio managers. In addition, it closely monitored the management of risks related to the pension fund.

In the area of risk control and management, the Committee reviewed and followed up on the annual control plans of the company and its pension plan. It examined the reports on those control plans and on the application of the financial disclosure policy. It also reviewed the company's integrated business risk management process.

In addition, it closely monitored the handling of allegations concerning wrongdoing or inappropriate situations. It also looked at the optimization of the internal audit and the reorganization of the Groupe - Direction financière et du risque. To optimize its operations, the Committee reviewed its mandate and delegated some of its responsibilities for financial management of the pension plan to a steering committee whose mandate was approved by the Board.

### Human Resources (D)

Chaired by Geneviève Bich, who succeeded Yvon Marcoux on March 29, the Human Resources Committee met six times in 2019. It examined the performance objectives of the President and Chief Executive Officer and his direct reports, recommended that the Board extend the review criteria for the President and Chief Executive Officer, and coordinated that review. It carefully studied various aspects of talent management, including management succession, retention and diversity. It tracked the negotiations to renew the collective agreement of the Syndicat professionnel des ingénieurs d'Hydro-Québec [engineers' union]. The Committee reviewed the compensation guidelines, the standard service contract for senior managers and executives, and the incentive compensation policy for employees of Hydro-Québec and its wholly owned subsidiaries, and recommended their approval by the Board. It also monitored legislative and regulatory developments that have an impact on human resources management. Finally, the Committee studied the 2018 report of activities of the Corporate Ombudsman.

### **Health and Safety, Environment and Social Responsibility (E)**

Chaired by Hélène V. Gagnon, the Health and Safety, Environment and Social Responsibility Committee attaches great importance to occupational health and safety (OHS), supporting and advising Management in the deployment of its overall action plan and the ensuing shift in culture. The Committee reviewed the report of Raymond Chabot Grant Thornton, the firm hired to audit the implementation of the various OHS action plans, as well as the Accenture report assessing the corporate health and safety culture. In particular, after an incident led to the tragic death of a traffic control flagger, the Committee ensured that the company was addressing the impact on the individuals affected, had thoroughly investigated the incident and was working with the Ministère des transports and the Société de l'assurance automobile du Québec to review traffic signaling procedures, which are of critical importance to roadside construction or maintenance work.

With respect to the environment, the Committee studied the results of the annual environmental management review and the semiannual reports on compliance with environmental laws.

In its monitoring of communication activities, the Committee took a special interest in the company's advertising campaign and the activities surrounding its 75th anniversary. It attended a presentation on adaptation to climate change and drew up a policy on relations with Indigenous communities, which it recommended for Board approval. It also recommended Board approval of donations and sponsorships. Lastly, it reviewed the annual reports of the Fondation Hydro-Québec pour l'environnement and of the liaison committee with the Union des producteurs agricoles, as well as the annual report on international cooperation initiatives funded by Hydro-Québec in French-speaking nations.

### **Financial Affairs, Projects and Technologies (F)**

The Financial Affairs, Projects and Technologies Committee, chaired by Paul Stinis, held eight meetings in 2019. The Committee analyzed the business plans of the company and certain subsidiaries, and examined various annual programs and files of a financial nature—borrowings, guarantees, swaps, sinking fund management, derivatives and underlying products—before recommending their approval by the Board. It further analyzed and monitored the Transmission Provider's rate filing and the changes made to the regulatory framework in order to simplify the process for establishing electricity distribution rates.

As regards capital projects and business development, the Committee examined various investment, partnership and development projects, both inside and outside Québec. It also tracked major capital projects.

With respect to technologies, the Committee reviewed the performance of the information and communication technology (ICT) project portfolio. It recommended Board approval of projects to modernize the grid control systems, technological infrastructure and mobile radio network. It closely monitored the evaluation of project risk levels and the planning of major projects that will have an impact on the company's future. In addition, the Committee studied the company's annual ICT cost schedule and paid close attention to matters pertaining to cybersecurity.

## Director attendance at meetings of the Board of Directors and Board committees in 2019

Director <sup>1</sup>	Notes		Board	Committees						Merged committees <sup>2</sup>	
	A	B		C	D	E <sup>3</sup>	F	G	H		
		Number of meetings	8		5	7	6	3	8	3	1
Jacynthe Côté	A B C D E F	4	8/8		5/5	7/7	6/6	3/3	8/8	3/3	1/1
Éric Martel	A E F	5	8/8		5/5	7/7	6/6	3/3	8/8	3/3	1/1
Geneviève Bich	D E	6	8/8				6/6	3/3			1/1
Anik Brochu	D E		4/8				3/6	0/3		3/3	1/1
Geneviève Brouillette	C D	7	7/8			6/7	4/6				
Anne-Marie Croteau	E F		8/8					3/3	8/8	3/3	
Luc Doyon	E F	8	3/3					1/1	2/2		
Hélène V. Gagnon	E	9	7/8					3/3		3/3	1/1
Suzanne Gouin	A C F		8/8			7/7			7/8		
Luc Jobin	C F	10	2/3			1/1			2/2		
François Lafortune	F		6/8						7/8		
Yvon Marcoux	A B C D		7/8		5/5	5/7	6/6				
Marie-Josée Morency	D E	11	6/8				1/1	3/3		3/3	1/1
Dominique Savoie			7/8								
Paul Stinis	A B C F		8/8		5/5	7/7			8/8		
<b>Committees</b>	<b>Notes</b>										
A. Executive	1. Carl Cassista was a member of the Board until the end of his term on November 15, 2019.										
B. Governance and Ethics	2. The Environment and Social Responsibility Committee and the Workplace Health and Safety Committee merged on June 14, 2019.										
C. Audit	3. The Health and Safety, Environment and Social Responsibility Committee is the result of the merger of the Environment and Social Responsibility Committee and the Workplace Health and Safety Committee.										
D. Human Resources	4. Jacynthe Côté was appointed Chair of the Governance and Ethics Committee on March 29, 2019.										
E. Health and Safety, Environment and Social Responsibility	5. Éric Martel attends meetings of the Governance and Ethics, Audit, and Human Resources committees as a guest.										
F. Financial Affairs, Projects and Technologies	6. Geneviève Bich was appointed Chair of the Human Resources Committee on March 29, 2019.										
	7. Geneviève Brouillette was appointed Chair of the Audit Committee on March 29, 2019.										
	8. Luc Doyon took office on September 4, 2019. He was appointed to the Health and Safety, Environment and Social Responsibility Committee and to the Financial Affairs, Projects and Technologies Committee on November 15, 2019.										
	9. Hélène V. Gagnon was appointed to the Health and Safety, Environment and Social Responsibility Committee on June 14, 2019.										
	10. Luc Jobin took office on September 11, 2019. He was appointed to the Audit and Financial Affairs, Projects and Technologies committees on November 15, 2019.										
	11. Marie-Josée Morency was appointed to the Human Resources Committee on November 15, 2019.										
<b>Merged committees</b>											
G. Environment and Social Responsibility											
H. Workplace Health and Safety											

# GOVERNANCE

Hydro-Québec's Board of Directors complies with the requirements of the *Hydro-Québec Act* with regard to governance. In particular, it ensures that appropriate control mechanisms are in place and are the subject of periodic reporting.

## Independence

With the exception of Éric Martel, President and Chief Executive Officer, and Dominique Savoie, Deputy Minister of Energy and Natural Resources, the members of the Board are independent directors, meaning that they have no direct or indirect relations or interests—in particular of a financial, commercial, professional or philanthropic nature—that could affect the quality of their decision-making with regard to the interests of the company.

## Rules of ethics

The Board is responsible for compliance with the rules set out in the Code of Ethics and Rules of Professional Conduct for Directors and Executives of Hydro-Québec and its wholly owned subsidiaries, which are based primarily on the *Regulation respecting the ethics and professional conduct of public office holders*. The code is available (in French only) at [www.hydroquebec.com/data/a-propos/pdf/code-ethique-fr.pdf](http://www.hydroquebec.com/data/a-propos/pdf/code-ethique-fr.pdf).

## Compensation and benefits paid to directors

Compensation for all independent directors is set out in Order-in-Council No. 610-2006 and is indexed periodically by the government. It consists of a basic annual retainer of \$19,268 plus a fee of \$903 for each Board or committee meeting attended. A yearly supplement of \$6,022 is paid to the chairs of the Audit Committee, the Governance and Ethics Committee, and the Human Resources Committee. Under Order-in-Council No. 1342-2018, the Chair of the Board receives annual compensation of \$58,517 and earns the same compensation as the other independent directors for participating in meetings of the Board and its committees, as well as for chairing a committee. Board members are also entitled to reimbursement of travel expenses incurred in the performance of their duties.

## Hiring of independent experts

Board members may retain the services of independent experts at the company's expense in order to obtain advice on matters related to their mandate.

## Director induction and training program

When Board members are first appointed, they receive training on their roles and responsibilities, the nature and business context of Hydro-Québec's principal activities, and the company's legal and regulatory framework. New directors also receive training providing them with a solid grasp of the basic notions of electricity, as well as tours of the system control center and the energy trading floor. By the end of the induction program, new members have received about 15 hours of training. Directors Luc Doyon and Luc Jobin, who joined the Board in 2019, have begun their induction. Continuing development activities for Board members during the year included presentations on such topics as the energy transition, cybersecurity, artificial intelligence, Hydro-Québec's relations with Indigenous communities and transportation electrification. They also toured the research center, the Robert-Bourassa hydroelectric development, the Romaine-4 jobsite, the corporate ICT security monitoring center and the emergency measures coordination room.

## Deintegration

In 1997, Hydro-Québec restructured itself into divisions, which enabled it to obtain a power marketer's licence and sell electricity at market prices on U.S. wholesale markets. Among other things, this deintegration, or structural unbundling, ensures that the Transmission Provider's operations are kept separate from those of its affiliates. Rules of conduct and ethics were enacted and integrated into internal directives, which are briefly described below:

- *Transmission Provider Code of Conduct*:<sup>1</sup> Governs relations between the Transmission Provider and its affiliates, and is intended to prevent any form of preferential treatment or cross-subsidization.
- *Reliability Coordinator Code of Conduct*:<sup>2</sup> Ensures that the reliability of the transmission system remains the Reliability Coordinator's top priority and prevents any form of preferential treatment in favor of other structural units of the Transmission Provider, its affiliates or other system users.

1. *Transmission Provider Code of Conduct* ([www.oasis.oati.com/HQT/HQTdocs/code\\_de\\_conduite\\_en.pdf](http://www.oasis.oati.com/HQT/HQTdocs/code_de_conduite_en.pdf)).

2. *Reliability Coordinator Code of Conduct* ([www.hydroquebec.com/data/transenergie/pdf/code\\_conduite-en.pdf](http://www.hydroquebec.com/data/transenergie/pdf/code_conduite-en.pdf)).

- *Code of Ethics on Conducting Calls for Tenders*:<sup>3</sup> Ensures that the tendering process is conducted fairly for all electricity suppliers.
- *Code de conduite du Distributeur* [Distributor Code of Conduct]:<sup>4</sup> Regulates transactions between the Distributor and the Generator for non-tendered electricity supply in order to ensure that the Generator does not benefit from any unfair advantage. It also governs dealings between the Distributor and its affiliates, with the aim of preventing affiliates' business operations from being subsidized, in whole or in part, by electricity service customers.

The application of each of these codes is the subject of an annual accountability report to the Régie de l'énergie.

### Internal control system

Hydro-Québec's Management maintains an internal control system with a financial information component based on the internationally recognized framework developed by the Committee of Sponsoring Organizations (COSO) of the Treadway Commission. The objective of this system is to provide reasonable assurance that the financial information is relevant and reliable, and that Hydro-Québec's assets are appropriately recorded and safeguarded. The system includes a business risk management process and the development of an annual internal control plan. Internal auditing helps to determine whether the internal control system is sufficient and effective, and to assess the company's policies and procedures. It includes a value-for-money audit to ensure the efficiency, effectiveness and profitability of the company's activities.

### Auditors' fees and independence

KPMG LLP, Ernst & Young LLP and the Auditor General of Québec are Hydro-Québec's independent auditors for 2019. The professional fees billed by KPMG LLP and by Ernst & Young LLP in 2019 for services other than auditing and certification accounted for 9.2% of the total \$3.9 million in fees billed. Hydro-Québec uses various mechanisms to enable the Audit Committee to ensure that independent auditors remain independent, including a process whereby any engagement that could be assigned to them is analyzed beforehand. No professional service engagement may be assigned to the Auditor General of Québec, since that office serves the National Assembly exclusively.

3. *Code of Ethics on Conducting Calls for Tenders* ([www.hydroquebec.com/data/achats-electricite-quebec/pdf/code\\_240701\\_en.pdf](http://www.hydroquebec.com/data/achats-electricite-quebec/pdf/code_240701_en.pdf)).

4. *Code de conduite du Distributeur* [Distributor Code of Conduct] (in French only, at [www.hydroquebec.com/data/a-propos/pdf/code-conduite-distributeur.pdf](http://www.hydroquebec.com/data/a-propos/pdf/code-conduite-distributeur.pdf)).

### Compensation and benefits paid to the company's five most highly compensated officers as at December 31, 2019

	Base salary as at December 31	Incentive compensation for 2018, paid in 2019	Perquisites used <sup>a</sup>	Taxable benefits			
				Nature of benefit	Allowance	Automobile Usage and parking	Life insurance and health insurance
<b>Éric Martel</b> President and Chief Executive Officer, Hydro-Québec	\$579,461	\$233,296	\$8,357	Executive vehicle	-	-	\$10,952
<b>David Murray</b> Chief Operating Officer, Hydro-Québec President, Hydro-Québec Production	\$492,900	\$122,059	-	Car allowance or provision of a vehicle, plus parking	\$16,956	\$6,017	\$9,354
<b>Réal Laporte</b> President, Hydro-Québec Innovation, équipement et services partagés President and Chief Executive Officer, Société d'énergie de la Baie James <sup>b</sup>	\$487,261	\$124,619	\$1,829		\$21,192	\$5,724	\$13,045
<b>Marc Boucher</b> President, Hydro-Québec TransÉnergie	\$476,278	\$131,310	\$5,000		\$16,956	\$5,774	\$10,299
<b>Jean-Hugues Lafleur</b> Executive Vice President and Chief Financial and Risk Officer	\$436,800	\$115,028	\$5,000		\$16,956	\$5,890	\$9,348
	<p><b>Incentive Compensation</b> Under Hydro-Québec's incentive compensation policy, non-unionized employees may receive an annual performance bonus. An executive's bonus is based on corporate objectives that are set and approved annually, and is subject to the attainment of the financial performance threshold.</p>						
	<p><b>Pension Plan and Supplementary Benefits Program</b></p>						
	<p><b>Basic Hydro-Québec Pension Plan (HQPP)</b> - Usual contribution under the plan - Pension calculated on the basis of average salary for the five best years - Credit of 2.25% per contribution year - Recognition of 66.67% of the maximum incentive compensation as pensionable earnings for purposes of the HQPP, up to a maximum of 20% of salary.</p>			<p><b>Supplementary Benefits Program</b> - Contribution assumed by Hydro-Québec - Additional benefits to offset the tax limits under the HQPP (lifting of ceiling on the permitted maximum amount) - Payment of benefits according to the same terms as those applicable under the HQPP <i>Other provisions applicable to the President and Chief Executive Officer of Hydro-Québec</i> - Pension calculated on the basis of average salary for the best three years (less pension payable under the HQPP) - Credit of 4% per contribution year (less pension credit under the HQPP) - Recognition of 100% of the maximum incentive compensation as pensionable earnings (less portion recognized for purposes of the HQPP)</p>			

a) Taxable benefits related to financial, fiscal and estate planning, sports clubs and professional dues.

b) Réal Laporte does not receive any separate compensation as President and Chief Executive Officer, Société d'énergie de la Baie James.

### Compensation and benefits paid to the only two officers compensated by wholly owned subsidiaries as at December 31, 2019

	Base salary as at December 31	Incentive compensation	Perquisites	Benefits
<b>Nadyne Guay</b> General Manager, Société de transmission électrique de Cedars Rapids limitée	\$135,578	\$18,456	\$1,781 <sup>c</sup>	Hydro-Québec pension plan and group insurance plan
<b>Sébastien Fournier</b> President and Chief Executive Officer of Services Hilo inc.	\$220,000	- <sup>d</sup>	\$564 <sup>e</sup>	Services Hilo inc. group RRSP and group insurance plans

c) Taxable benefits related to financial, fiscal and estate planning, sports clubs and monthly transit passes.

d) Given the appointment of Sébastien Fournier on August 28, 2019, no incentive compensation was paid in 2019.

e) Taxable benefits related to the purchase of monthly transit passes.

## Access to documents and protection of personal information

During the year, Hydro-Québec received and processed 509 requests for access to information that concerned administrative documents or personal information. Of these, 201 were granted in full, 211 were granted in part and 57 were turned down. The reasons most often cited for denying requests, based on the *Act respecting access to documents held by public bodies and the protection of personal information*, were as follows:

- confidentiality of personal information
- confidentiality of third-party information
- information of a commercial nature whose disclosure would have repercussions on the company's operations
- information that could reveal an investigative procedure or hinder the effectiveness of a security program

As for the other 40 requests, either they could not be fulfilled because the company did not have the document, the request was withdrawn or the information concerned another public body. Altogether, 247 requests for access were processed within 20 days, 178 were processed within 21 to 30 days, and 84 were processed within 31 days or more, for an average processing time of 22 days. In addition, 27 review notices were received from the Commission d'accès à l'information, and seven requests for access were the subject of reasonable accommodation measures under the government policy on equal access for persons with disabilities to publicly available documents and services. The report on requests received and processed in 2019, along with detailed statistics, is available (in French only) at [www.hydroquebec.com/documents-data/act-respecting-access/record.html](http://www.hydroquebec.com/documents-data/act-respecting-access/record.html).

To facilitate access to information whose publication is prescribed by the *Regulation respecting the distribution of information and the protection of personal information*, Hydro-Québec publishes it on its website, at [www.hydroquebec.com/documents-data/act-respecting-access/distribution-information/](http://www.hydroquebec.com/documents-data/act-respecting-access/distribution-information/).

The company reminded its employees of the principles of access to documents and protection of personal information through various directives and training sessions as well as in the context of specific cases, where it took appropriate measures as needed.

## Ethics

Ethics at Hydro-Québec are founded on five principles: acting with integrity, acting with loyalty and diligence, treating people and the environment with respect, managing information responsibly and treating our customers, suppliers and partners fairly and courteously. These principles, which are set out in the employee Code of Conduct (in French only, at [www.hydroquebec.com/data/a-propos/pdf/code-conduite.pdf](http://www.hydroquebec.com/data/a-propos/pdf/code-conduite.pdf)), and the accompanying self-training program, are meant to guide employees in their actions and in the choices they make. Employees who wish to ask a question or request advice about a particular situation can write to [ethique@hydro](mailto:ethique@hydro). During the year, more than 300 requests were received by this means.

## Language guidelines

Among the measures established for applying the *Charter of the French Language* are a consultation service offered to all employees and an intranet site devoted to the language guidelines applicable to Hydro-Québec. In 2019, the company worked with the Commission de toponymie on renaming certain hydroelectric facilities in the Eastmain-Sarcelle-Rupert complex in honor of the former Premier of Québec, Bernard Landry.

## Sustainable development

The Sustainability Report discusses Hydro-Québec's main initiatives and the progress it is making in this area, as well as its sustainable energy choices. The report is based on the Global Reporting Initiative Guidelines and is available at [www.hydroquebec.com/sustainable-development](http://www.hydroquebec.com/sustainable-development), where additional information is provided on the company's performance in sustainable development.

## Sustainable Development Action Plan 2015–2020

Hydro-Québec published its *Sustainable Development Action Plan 2015–2020* in July 2015. This is one way we contribute to the implementation of Québec's *Government Sustainable Development Strategy 2015–2020*, its 2018–2022 strategy to ensure the occupancy and vitality of territories and its Agenda 21 for Culture. A formal accounting of the company's performance with respect to the Action Plan will be presented in the *Sustainability Report 2019*.

Action		Indicator	Results as at December 31, 2019 <sup>a</sup>
1	Build hydropower projects	 Cumulative capacity made available by the Romaine complex	1,305 MW
2	Increase the capacity of existing hydroelectric generating stations	 Cumulative gains in additional available peak capacity	61 MW
3	Continue energy efficiency initiatives	New annual energy savings	478.3 GWh
4	Continue efforts in the field of transportation electrification in Québec	 Number of Electric Circuit charging stations in service and number of regions served	2,389 charging stations/ 17 regions
		 Number of R&D partnership agreements	1 agreement
		 Number of patents held	564 patents
5	Publicize the knowledge acquired through Hydro-Québec environmental studies	 Number of documents published on the Web	5 documents published
6	Continue to protect and enhance the company's built, technological and intangible heritage	 Number of measures carried out by 2020 	4 measures
7	Strengthen environmentally responsible management practices	 Annual GHG emissions from the light-vehicle fleet	20,658 t CO <sub>2</sub> eq
		 Number of videoconferences held annually	17,015 videoconferences
		 Percentage of company printers that are print-release enabled	21%
8	Continue measures that take into account and protect biodiversity and ecosystem services	 Number of innovative measures implemented annually to take into account and protect biodiversity and ecosystem services	5 measures
9	Optimize the application of sustainability principles to projects and activities	Number of projects or activities analyzed each year	– <sup>b</sup>
10	Promote the integration and favorable reception of Hydro-Québec's system equipment	 Percentage of MRCs that have received the information program	72%
11	Integrate the life cycle approach into our innovation efforts	Number of projects to which sustainability and eco-innovation principles have been applied	1 project
12	Keep updating current knowledge on the life cycle assessment of electricity distributed in Québec	Number of updates of inventory data on the life cycle of Québec's electricity mix per year	1 update

a) Preliminary data. The final figures will be published in the *Sustainability Report 2019*.

b) Development continued on a tool for demonstrating compliance with the 16 principles of sustainability in the *Sustainable Development Act*. The tool will raise employee awareness of the importance of applying these principles to the company's major projects right from the design stage.

 Action related to the implementation of the strategy to ensure the occupancy and vitality of territories.

 Action related to the implementation of Québec's *Agenda 21 for Culture*.

## ACT TO FACILITATE THE DISCLOSURE OF WRONGDOINGS RELATING TO PUBLIC BODIES

A number of years ago, to promote ethical behavior, Hydro-Québec adopted a procedure for handling allegations of wrongdoing. This procedure has been updated to meet the requirements of the *Act to facilitate the disclosure of wrongdoings relating to public bodies*.

2019 report	
Cases covered by Section 25 of the <i>Act to facilitate the disclosure of wrongdoings relating to public bodies</i>	Number of cases
1 Disclosures received by the designated officer	12
2 Cases in which processing or examination of the disclosure was ended under subparagraph 3 of Section 22	-
3 Well-founded disclosures	3
4 Disclosures broken down by category of wrongdoing set out in Section 4:	
• a contravention of a Québec law, of a federal law applicable in Québec or of a regulation made under such a law	-
• a serious breach of the standards of ethics and professional conduct	2
• a misuse of funds or property belonging to a public body, including the funds or property it manages or holds for others	2
• gross mismanagement within a public body, including an abuse of authority	7
• any act or omission that seriously compromises or may seriously compromise a person's health or safety or the environment	1
• directing or counselling a person to commit any of the wrongdoings described above	-
5 Information forwarded under the first paragraph of Section 23	-

## ACT RESPECTING WORKFORCE MANAGEMENT AND CONTROL WITHIN GOVERNMENT DEPARTMENTS, PUBLIC SECTOR BODIES AND NETWORKS AND STATE-OWNED ENTERPRISES

On December 5, 2014, the Québec government adopted the *Act respecting workforce management and control within government departments, public sector bodies and networks and state-owned enterprises*. The purpose of this Act is to strengthen workforce management and control mechanisms within public bodies, in particular through workforce planning and measures to control staffing and service contracts.

In accordance with the Act, Hydro-Québec adopted a directive establishing the situations in which the authorization of its Chief Executive Officer is not required for the signing of service contracts during the application period of the Act. The directive was submitted to the Conseil du Trésor and has been in effect since December 1, 2017. For the period from April 1, 2018 to March 31, 2019, the Chief Executive Officer of Hydro-Québec authorized 239 contracts falling within the scope of the Act for a total of \$355,818,935.

Hydro-Québec's workforce remained within the total paid hours authorized for it by the Ministère de l'Énergie et des Ressources naturelles for the reference year (April 1, 2018 to March 31, 2019).

<b>Paid hours</b>	
Management	3,623,195
Professionals	12,751,267
Clerical staff, technicians and similar	9,765,704
Peace officers	42,231
Laborers, maintenance and service personnel	12,739,228
Students and interns	135,545
<b>Total</b>	<b>39,057,170</b>

# OUR GENERATING, TRANSMISSION AND DISTRIBUTION FACILITIES

## Generation

Installed capacity						<b>37,243 MW</b>	
<b>62 hydroelectric generating stations<sup>a</sup></b>						<b>36,700 MW</b>	
Robert-Bourassa	5,616	Sainte-Marguerite-3	882	Péribonka	385	Manic-1	184
La Grande-4	2,779	Laforge-1	878	Laforge-2	319	Rapides-des-Îles	176
La Grande-3	2,417	Bersimis-2	845	Trenche	302	Chelsea	152
La Grande-2-A	2,106	Outardes-4	785	La Tuque	294	Sarcelle	150
Beauharnois	1,900	Bernard-Landry	768	Romaine-1	270	La Gabelle	131
Manic-5	1,596	Carillon	753	Beaumont	270	Première-Chute	131
La Grande-1	1,436	Romaine-2	640	McCormick	235	Les Cèdres	113
René-Lévesque	1,326	Toulnustouc	526	Rocher-de-Grand-Mère	230	Rapides-des-Quinze	109
Jean-Lesage	1,229	Outardes-2	523	Paugan	226	Rapides-Farmer	104
Bersimis-1	1,178	Eastmain-1	480	Rapide-Blanc	204	Other (17 generating stations rated less than 100 MW)	704
Manic-5-PA	1,064	Brisay	469	Shawinigan-2	200		
Outardes-3	1,026	Romaine-3	395	Shawinigan-3	194		
<b>24 thermal generating stations<sup>b</sup></b>						<b>543 MW</b>	
Bécancour (gas turbine)	411	a) 61 managed by Hydro-Québec Production and 1 by Hydro-Québec Distribution.					
Other (23 diesel plants on off-grid systems)	132	b) 1 managed by Hydro-Québec Production and 23 by Hydro-Québec Distribution.					
<b>Other sources of supply</b>						<b>10,683 MW</b>	
Churchill Falls generating station [Churchill Falls (Labrador) Corporation Limited] <sup>a</sup>	5,428	a) Hydro-Québec has access to almost all the output until 2041.					
41 wind farms operated by independent power producers <sup>b</sup>	3,876	b) Hydro-Québec purchases all the output.					
9 biomass and 4 biogas cogeneration plants operated by independent power producers <sup>c</sup>	303	c) Hydro-Québec purchases almost all the output.					
7 small hydropower plants operated by independent power producers <sup>b</sup>	107	d) Hydro-Québec has access to the output of these suppliers.					
Other suppliers <sup>d</sup>	969						
<b>Hydroelectric generating station under construction</b>						<b>245 MW</b>	
Romaine-4	245						

## Transmission

Voltage	Lines (km)	Substations (number)
765 and 735 kV	12,319 <sup>a</sup>	41
450 kV DC	1,218	2
315 kV	5,498	81
230 kV	3,252 <sup>b</sup>	53
161 kV	2,140	43
120 kV	7,008	220
69 kV or less	3,367 <sup>c</sup>	94 <sup>d</sup>
<b>Total</b>	<b>34,802</b>	<b>534</b>
<p>a) Including 469 km of 735-kV lines operated at 315 kV.                      b) Including 33 km of 230-kV lines operated at 120 kV.                      c) 3,095 km of lines operated by Hydro-Québec TransÉnergie and 272 km by Hydro-Québec Distribution.                      d) 83 substations operated by Hydro-Québec TransÉnergie and 11 by Hydro-Québec Distribution.</p>		

## Distribution

Medium voltage	Lines (km)
34 kV	757
25 kV	112,916
12 kV	4,662
4 kV or less	187
<b>Total</b>	<b>118,522</b>
<b>Low voltage</b>	<b>106,782</b>
<b>Total</b>	<b>225,304</b>



## OUR MAJOR FACILITIES

Generating stations rated 245 MW or more	
<span style="color: #00A0C0;">●</span>	Hydro
<span style="color: #00A0C0;">◐</span>	Thermal
Other facilities	
<span style="color: #00A0C0;">◐</span>	Generating station under construction
<span style="color: #E67E22;">■</span>	735-kV substation
<span style="color: #E67E22;">◐</span>	735-kV substation under construction
<span style="color: #E67E22;">—</span>	735-kV line
<span style="color: #E67E22;">- - -</span>	735-kV line under construction
<span style="color: #E67E22;">- - -</span>	450-kV direct-current line
<span style="color: #000000;">⚡</span>	Interconnection
<span style="color: #000000;">—■—</span>	Neighboring system (simplified)

## To contact us

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Hydro-Québec wishes to thank all  
the employees and suppliers whose photos  
appear in this Annual Report.

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*Ce document est également diffusé en français.*

