



## 1,090 MW OF NEW, FIRM CLEAN ENERGY FOR MASSACHUSETTS

In response to the Massachusetts Clean Energy RFP, Hydro-Québec and Eversource Energy have proposed a new source of clean energy for Massachusetts: 1,090 MW of Québec hydropower to be delivered over the Northern Pass Transmission line. This proposal will provide Massachusetts customers with a firm and stable supply all year round, including during peak demand times when it is most needed.

- Minimum of 8.5 TWh and up to 9.4 TWh
- 20-year agreement
- Beginning in 2020



### RELIABLE BASELOAD ENERGY WITH ENVIRONMENTAL ATTRIBUTES

Hydro-Québec has a fleet of 63 hydropower generating stations, 62 of which are connected to the main grid. Power comes from the entire system, not from just one particular generating station, and is carried over a robust high-voltage transmission system. For this reason, supply is not affected by maintenance or equipment failure at any single facility.

Not only is hydropower a constant, permanently available energy source, it's also flexible. Thanks to its storage capacity, a reservoir generating station can respond instantly to changes in demand, including during peak periods.



## AN INNOVATIVE PARTNERSHIP WITH AN EXPERIENCED U.S. TRANSMISSION DEVELOPER

Hydro-Québec will be responsible for building and operating the Canadian portion of the new transmission line, and Northern Pass Transmission, a subsidiary of Eversource Energy, will build and operate the portion of the line located in New Hampshire.

Eversource (NYSE: ES) transmits and delivers electricity and natural gas for more than 3.6 million electric and natural gas customers in Connecticut, Massachusetts and New Hampshire. Eversource harnesses the commitment of its more than 8,000 employees across three states to build a single, united company around the mission of delivering reliable energy and superior customer service.

### RECENTLY OBTAINED APPROVALS:

- New Hampshire portion of the line Department of Energy Presidential Permit U.S. Forest Service
- Québec portion of the line Québec provincial government approval

Des Cantons

Franklin

Deerfield

OverheadUndergroundSubstation

### MASSACHUSETTS CLEAN ENERGY RFP

In August 2016, Governor Charlie Baker of Massachusetts signed into law *An Act Relative to Energy Diversity* (H.4568). Its aims are to reduce energy costs, enhance reliability and help the state meet its greenhouse gas (GHG) reduction requirements.

The Act requires utilities to competitively solicit proposals for 9.45 TWh of clean energy generation from diverse sources, including firm hydropower and onshore wind supported by firm hydropower.

This historic act recognizes the important role of hydropower in the supply mix and helps meet the state's GHG emissions reduction targets under the *Global Warming Solutions Act*. It also lays a foundation for the New England region to transition to a cost-effective clean energy future.

## CLEAN HYDROPOWER, AVAILABLE NOW

Québec hydropower possesses attributes that are well suited to helping Massachusetts achieve its carbon reduction objectives. Not only is our energy a flexible baseload source with a small carbon footprint; Hydro-Québec's high-performance fleet of hydropower facilities also generates electricity that is available today, in significant quantities.

Hydro-Québec is dedicated to working with Massachusetts to contribute to its transition towards a low-carbon economy.

### 100% 63 **500,000** lakes of the electricity Hydro-Québec hydropower • 4,500 rivers is proposing for sale on its generating stations • **22%** of territory export markets is clean covered in water Source: Institut de la statistique du Québec Storage capacity Generating capacity 37,000 MW 176 TWh in 26 reservoirs

### QUÉBEC: A RENEWABLE POWER HUB

## HYDRO-QUÉBEC: AN EARLY MOVER IN TODAY'S CLEAN ENERGY TRANSITION

The situation in Québec is unique. Over 60 years ago, our visionary leaders decided to harness the energy offered by our geography and develop our hydropower potential. Today, Hydro-Québec generates large volumes of electricity for domestic and export purposes using water, a source of clean, renewable energy.

In the early 2000s, we saw the clean energy transition coming and began to further develop our resources specifically with the evolving needs of the Northeast in mind.

We had to be prepared for those needs because it takes up to 15 years to plan and build a hydropower facility.

### SINCE THE EARLY 2000s, WE'VE BROUGHT CLOSE TO 5,000 MW OF NEW HYDROPOWER ON LINE—AND MORE IS COMING



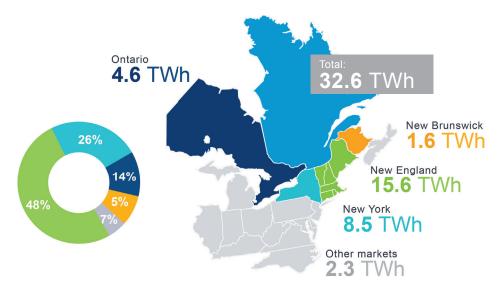
### YESTERDAY'S INVESTMENTS GUARANTEE TOMORROW'S LOW-CARBON FUTURE

Our investments in these new facilities have been considerable. The Romaine complex, with a total installed capacity of 1,550 MW and the ability to generate 8 TWh a year, comes with a cost of almost C\$8 billion. This investment will provide our entire region with new, permanent clean energy assets—generating stations that will supply us with low-carbon electricity for well over a hundred years to come.

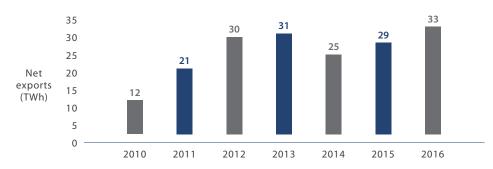
### A LONG-TERM ENERGY PARTNER

We've been selling electricity into New England for decades. In 2016 alone, Hydro-Québec exported more than 15 TWh to New England. That's over 12% of the region's annual electricity consumption. It's an impressive volume—but we can do even more. Hydro-Québec is committed to working with its partners throughout the Northeast and contributing to the decarbonization of the energy sector.

### HYDRO-QUÉBEC'S 2016 NET ELECTRICITY SALES TO NEIGHBORING MARKETS



### HYDRO-QUÉBEC HAS BEEN RAMPING UP ITS EXPORTS SINCE 2010

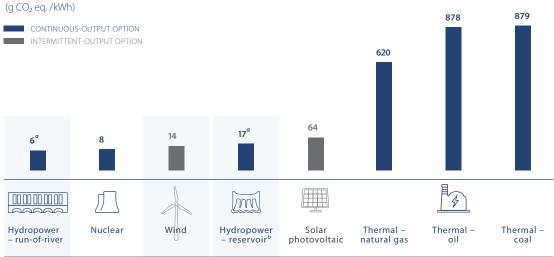


## CLEAN, RELIABLE ENERGY THAT'S READY TO FLOW WHEN IT'S NEEDED

We're fortunate to have one of the cleanest sources of energy around. Hydropower produces 5 times less greenhouse gas emissions than solar power and 50 times less than natural gas–fueled generating stations. It is on par with wind.

#### QUÉBEC ELECTRICITY, CLEAN ENERGY PAR EXCELLENCE

<u>GHG emissions: Power generation options based on life-cycle analysis</u> www.hydroquebec.com/developpement-durable/centre-documentation/pdf/15094A.pdf



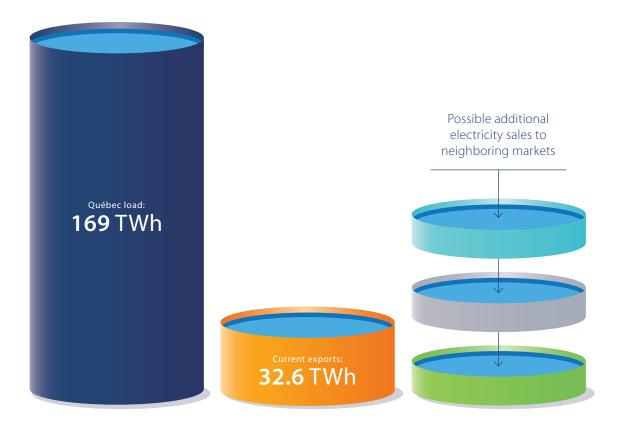
a) Hydro-Québec's results.

b) Reservoir hydropower differs from run-of-river hydropower with respect to GHG emissions. After it is impounded, a reservoir releases GHG emissions, with the emission rate diminishing gradually over the following ten years. This is why GHG emission rates are higher for reservoir hydropower than for run-of-river hydropower.

## AN ELECTRICITY PARTNERSHIP POISED TO EXPAND

Hydro-Québec's role as an energy partner in the Northeast can only expand in the years to come.

We have additional energy available for sale to our export markets today. With the right market signals and recognition, we are poised to ramp up exports to all of our markets.



## HYDRO-QUÉBEC: THE BATTERY OF NORTHEAST NORTH AMERICA

In addition to being a major source of clean energy, Hydro-Québec's vast reservoir system enables it to firm up intermittent renewables, absorb excess generation from surrounding markets and flow that power back onto those grids when it is most needed.

With the flexibility that comes with this storage capacity, your region will be able to efficiently integrate higher levels of renewable generation and reduce the possibility that those intermittent sources be curtailed.

Our early mover approach means we're in a position to help Massachusetts and the entire Northeast region as it heads towards a low-carbon future. Northeast markets have the unique opportunity to plug into this major electricity supply now and benefit from the full environmental value of hydropower.

Hydro-Québec's partners will enjoy a host of exceptional advantages:

- Clean energy that will help the region meet its carbon reduction goals in the most cost-effective way
- Energy now Hydro-Québec's hydropower resources are already in service and new generating facilities are under construction
- Enhanced reliability All of Hydro-Québec's vast generation and transmission system supports deliveries
- Foreseeable long-range operating costs Hydro-Québec can offer long-term contracts with competitive pricing far into the future
- Strong finances One of the highest debt ratings of any regulated public utility
- Extensive experience in operations and maintenance
- Proven track record in developing large energy projects

As a region, we've been working together in the energy sector for decades. And Hydro-Québec can do much more to ensure a low-carbon future for the entire Northeast.

# HYDRO-QUÉBEC HAS THE ENERGY MASSACHUSETTS NEEDS

- Clean energy to meet the region's carbon reduction goals
- Affordable electricity available now for Massachusetts customers
- Flexible and reliable supply to accompany the region in its energy transition

A NATURAL ALLY

