NEW ENGLAND CLEAN ENERGY CONNECT

THE PROJECT

The New England Clean Energy Connect (NECEC) is a proposed transmission line capable of delivering up to 1,200 megawatts (MW) of renewable energy from Québec to New England. Central Maine Power Company owns or controls all of the property and facilities for the portion of the project in Maine, including roughly 150 miles of new high voltage, direct current (HVDC) transmission line from the Maine/Québec border to a DC/AC converter station in Lewiston, and numerous smaller transmission and substation improvements at various sites within existing CMP facilities.

New England Clean Energy Connect is proposed in response to a Request for Proposals by the Commonwealth of Massachusetts for long-term, clean energy contracts, which include hydropower and other clean energy generation, to achieve a more cost-effective, low-carbon energy future for the region.

BENEFITS

The New England Clean Energy Connect will benefit Maine in multiple ways, including providing average annual wholesale energy cost savings of over $40 million per year for twenty years. The Maine communities that host the project will experience over $4 million in increased property tax revenues annually, and will benefit from the creation of over 1,000 direct and indirect new jobs each year during the 5-year period for permitting and construction of the project. The entire Maine economy will experience these benefits, all at no cost to Maine utility customers.

NECEC ADVANTAGE

The NECEC leverages recent transmission investments to deliver cost-effective renewable energy from two experienced, trusted energy companies. Clean energy shouldn't come at a high price to the environment, or a high price to consumers. Through careful siting and collaboration with stakeholders, the New England Clean Energy Connect has succeeded in developing a project that meets the needs of clean energy customers in Massachusetts, while providing significant savings for electric ratepayers throughout New England. This is a valuable partnership with the entire region.
The NECEC project is the shortest of all identified paths from Quebec, and takes advantage of an existing transmission corridor for more than half its length. The proposed transmission line starts in western Somerset County on the Canadian border, runs through working forest land for roughly 50 miles to the town of The Forks where it connects with an existing utility corridor. The route largely avoids sensitive environmental and scenic areas, minimizing environmental impacts. The remaining 100 miles parallels an existing transmission line through rural communities in Somerset, Franklin, and Androscoggin counties to a terminus in the City of Lewiston. Given the comparative advantages of length and favorable siting, the NECEC offers the lowest cost path to the New England energy market.

Central Maine Power is a subsidiary of AVANGRID, a leader in service, innovation and investment in the U.S. energy industry with operations in 27 states across the U.S. AVANGRID is also a member of the Iberdrola Group, one of the world’s largest electric utilities and a global leader in renewable energy production.
New England Clean Energy Connect
Q&A

PROJECT OVERVIEW

What is the New England Clean Energy Connect (NECEC)?
New England Clean Energy Connect (NECEC) is a clean energy transmission project proposed by Central Maine Power (CMP) in conjunction with Hydro-Québec Energy Services (US). The project is capable of delivering up to 1,200 megawatts (MW) annually of renewable energy – hydroelectric power or a combination of hydroelectric power and wind power – from Canada to the New England power grid.

How will the renewable energy be transmitted into the grid?
The proposed project consists of 145 miles of new High Voltage Direct Current (HVDC) transmission line that will tie into the existing transmission system. Additional project components include upgrading 50 miles of existing alternating current (AC) transmission lines, construction of a new HVDC converter station, a new substation and multiple system upgrades.

Where is NECEC located?
All of the U.S. project components will be located in western and southwestern Maine. A new HVDC transmission line will come into the U.S. at the Canadian border in Beattie Township, Maine and run through working forest for 51 miles before it merges with an existing CMP-owned transmission line right-of-way (ROW) in The Forks, Maine, for 94 miles. A new HVDC convertor substation will be located in Lewiston, Maine, and a new 345 kV substation will be located in Pownal, Maine.

What is the timeline for NECEC?
Construction is anticipated to begin in 2019, with the project completed and in-service by 2022.

Who owns the land where the transmission line and substations will be constructed?
Central Maine Power has completed acquisition of a corridor from the Canadian border into the U.S. electric grid in Maine. CMP owns and controls the 145-mile transmission corridor where the new transmission line will be located, as well as the land in Lewiston where the new HVDC convertor substation will be constructed, and the land in Pownal – the location of the new 345 kV substation.
PROJECT DETAILS

How wide is the new transmission corridor that begins in Beattie Township?
The 45 miles of new transmission corridor or right-of-way (ROW) will be 150 feet of cleared width, with an additional 150 feet that remains undeveloped.

What will need to be done to the existing ROW to accommodate the new HVDC transmission line? The corridors where the HVDC line will be co-located with existing CMP transmission lines are 300 feet to 500 feet wide with 150 feet or more currently cleared for the existing lines. Co-locating in existing corridors minimizes new clearing requirements and provides more options for the location of construction roads and support activities.

How many new transmission structures are needed for the HVDC line? What will the structures look like? The new line will be supported on approximately 850 weathering steel monopoles, although a two-pole structure will be used in certain situations. The average height of the poles is 95’ above ground.

What upgrades will be done to CMP’s existing transmission line? The most significant upgrade is 26.5 miles of new 345 kV transmission line in an existing corridor between the Coopers Mills substation in Windsor, Maine, and the Maine Yankee substation in Wiscasset, Maine. Additional upgrades are planned in Pownal, Sabbatus and Lewiston.

PERMITS/LICENSES/APPROVALS

What permits are required for this project? State and federal agencies that will be issuing permits include:
- United States Department of Energy (DOE) – Presidential Permit
- U.S. Army Corps of Engineers (USACE)
- Maine Department of Environmental Protection (MDEP) – Site Location of Development, Natural Resources Protection Act
- Maine Public Utilities Commission (MPUC) – Certificate of Public Convenience and Necessity (CPCN)
- Maine Land Use Planning Commission (LUPC) – Certification for Transmission Facilities in Unorganized Territories

Will NECEC require local permits? Yes, some local municipal approvals are required for construction of project components such as substations and transmission structures. The exact type and number of permits will vary, depending on the location.

How long will the permitting process take? The permitting process began in 2017 and is expected to be completed in 2018, with all permits in hand by the end of 2018. The one exception is the Presidential Permit that has an anticipated issuance date of early to mid-2019.
ENVIRONMENTAL ISSUES

How will the construction of the new transmission line and substations affect the environment?
Biologists are currently evaluating impacts to wetlands, wildlife and other ecosystem features. This information will be compiled as part of the state and federal permit applications, and all environmental standards will be met or exceeded. The project has been designed to minimize environmental impacts through careful siting and to mitigate for impacts that cannot be avoided, consistent with CMP’s commitment to environmental stewardship.

PROJECT BENEFITS

How will NECEC benefit Maine residents and ratepayers?
NECEC will provide average annual wholesale energy cost savings of over $40 million per year for 20 years. The Maine communities that host the project will experience over $18 million increased property tax revenues annually, and will benefit from the creation of nearly 1,700 direct and indirect new jobs each year during the 6-year period for permitting and construction of the project.

How will NECEC benefit Massachusetts residents and ratepayers?
Massachusetts ratepayers will experience annual savings of $150 million, or $1.7 billion (net present value) of electric price savings over the life of the project and an increase in gross domestic product of $240 million in the same period. Additionally, NECEC will help Massachusetts meet its Green House Gas reduction targets.

COSTS AND RATES

How much will the project cost to construct?
This project is a substantial investment for CMP. The company is confident the project will be very competitive given the comparatively short length and cost-effective siting and construction methods. The actual construction cost will be kept confidential due to the competitive nature of the information. Savings of $3.9 billion over the life of the project will be experienced by ratepayers throughout New England due to the overall effect of driving down regional costs for electricity.

Who will pay for the project?
Massachusetts electric customers will pay for the project.

Will this project raise electricity rates?
No, in fact Maine electric customers will experience a decrease in wholesale electric rates.
COMPETITIVE PROCESS

Why is CMP proposing this project?
The state of Massachusetts issued a Request for Proposals (RFP) in March 2017, in response to legislation in that state requiring the procurement of clean energy generation. The RFP seeks contracts for up to 9.45 terawatts (TWh) of clean energy generation. Contracts will be issued for 20 years. CMP was able to assemble a corridor from Quebec linking into the existing electric grid that represents the shortest route between hydropower resources in Quebec and the New England market.

Why is there more than one proposal under consideration?
The Federal Energy Regulatory Commission (FERC) is opening up the electric industry to competition, which is intended to benefit electricity consumers. There will be many proposed projects bidding into the Massachusetts RFP.

Why does the clean energy have to come from outside of Massachusetts?
Clean energy generation from renewable sources such as hydroelectric, wind and solar is replacing some fossil fuel generation. Currently, the generation sources with the capacity to provide the amount of renewable energy to meet the RFP are located in less densely populated areas of the region, such as northern New England and Canada.

How does NECEC fulfill Massachusetts’ request for clean energy?
NECEC will deliver up to 1,200 MW of clean energy from either Canadian hydroelectric power or a combination of hydroelectric and wind power, in a cost-effective manner, benefitting rate payers in Massachusetts and throughout New England. NECEC fulfills the criteria in the Massachusetts RFP as follows:

RFP Criteria and NECEC advantages:
- Firm clean energy and environmental attributes
  - Dispatchable hydro with optional Québec wind
- Significant economic benefits to Massachusetts
  - $1.7 billion NPV electric cost (LMP) benefits to MA
- Low-cost transmission with cost protection
  - Significantly lower costs than competition
  - CMP assuming transmission cost risks
- Experienced developers
  - MPRP on time and under budget with good support
  - Iberdrola and HQ global leaders in renewable energy

Does NECEC meet the scheduling requirements in the RFP?
Yes. NECEC offers a competitive advantage because the entire corridor is owned by CMP. Having control of almost 150 miles of the transmission corridor removes uncertainties and delays during the permitting process. And because this new corridor will feed into an existing CMP-owned right-of-way from The Forks to Lewiston, the result will be a more streamlined construction phase.
**Why is this project cost-competitive?**
NECEC is expected to be the lowest-cost project of all the major transmission proposals responding to the RFP. Not only does CMP own or control the entire transmission corridor but it follows the shortest route and leverages existing infrastructure that was developed during the recent Maine Power Reliability Program (MPRP). NECEC does not include expensive underground or underwater transmission, nor is it expected to encounter costly permitting hurdles.

**What is important about the partnership behind NECEC?**
NECEC represents a strong partnership between two energy leaders: Hydro-Québec and AVANGRID, the owner of Central Maine Power. AVANGRID is a leader in service, innovation and investment in the U.S. energy industry with operations in 27 states across the U.S. AVANGRID is also a member of the Iberdrola Group, one of the world's largest electric utilities and a global leader in renewable energy production.