



The Northern Pass



A Major Source of Renewable, Low-Carbon Hydro Power

A Unique Opportunity in Time

Like many nations around the world, the New England states have set aggressive goals for reducing carbon emissions as part of their climate change action plans. One initiative that is uniquely suited to advancing these goals in the electricity sector is the Northern Pass, a transmission project designed to deliver up to 1,200 megawatts of low-carbon, renewable energy (predominantly hydropower) from Québec to New England's power grid.

This innovative transmission project, currently in the planning and permitting stages, offers a means to significantly expand the region's fuel diversity, strengthen the local economy, and provide a stable, renewable supply of electricity at a competitive price—for decades to come.

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Project Overview

The heart of the Northern Pass transmission project is the construction of a direct current (DC) transmission line that will link Hydro-Québec's hydroelectric system with New England's electricity grid. The line will carry up to 1,200 megawatts (MW) of power—enough renewable energy to supply over one million homes—helping to significantly reduce the region's greenhouse gas emissions.

Over the past several years, Hydro-Québec has focused on increasing its hydroelectric resources to power a renewable energy future for its customers. Today, Hydro-Québec has installed capacity and available supply of over 42,000 MW of electricity—more power than all of New England's power plants combined.

The Northern Pass transmission project will provide the means to import some of this hydroelectric power to New Hampshire and other New England states.

Along with the construction of the DC line, the project will include the construction of a converter terminal in New Hampshire to convert the electricity from direct current (DC) to alternating current (AC), as well as the construction of new and upgraded AC transmission lines to deliver the electricity to consumers throughout New England.

Several steps need to be taken before the Northern Pass transmission project can move forward, including detailed environmental studies, consultations with the public, and the issuance of government permits.

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Project Benefits

Major Source of Low-Carbon Power: Bringing 1,200 MW of new renewable energy into New England will reduce carbon dioxide emissions by up to five million tons a year—equivalent to the annual emissions of nearly one million cars. These emission reductions will help the New England states meet their obligations under the Regional Greenhouse Gas Initiative (RGGI).

Since 2001, Hydro-Québec's exports have avoided the emission of 39 million metric tons (43 million tons) of GHGs in North America, the equivalent of the annual emissions from about 10 million vehicles.

Renewable Power at Competitive Costs for the Long-Term:

The Northern Pass transmission project is unique because it is designed to provide New England with decades of renewable power at prices that are competitive in the regional market.

Complementing Local Renewable Development:

Both locally produced and imported renewable energy, as well as significant investment in energy-efficiency measures, will be needed to meet the aggressive goals of state and regional clean energy policies. Most New England states, including New Hampshire, have a Renewable Portfolio Standard (RPS) policy that encourages the purchase of locally generated renewable energy. The renewable power from the Northern Pass transmission project does not qualify for RPS credits; however, hydropower can play an important role in the development and operation of intermittent renewable energy sources, such as wind and solar, which need a flexible energy base.

Stronger Local Tax Bases: The Northern Pass transmission project will provide increased tax revenue for the state and the communities where the proposed power lines and new facilities would be located.

Hundreds of Local Jobs: Hundreds of quality jobs will be created in New Hampshire over several years during the construction of the converter terminal, DC transmission line, and AC transmission lines. Preference will be given to local labor. The project will also provide a boost to the local hospitality industry during construction.

How the Project Will Be Funded: Cost of The Northern Pass transmission project will not be included in regional transmission rates, which are paid for by all electricity consumers in the region. Instead, PSNH's sister company, Northern Pass Transmission LLC, will build, own, and maintain the transmission line, while HQ Hydro Renewable Energy will pay Northern Pass Transmission for the rights to use the line to then sell the renewable, low-carbon-emitting power.

Resource Diversity: Adding approximately 1,200 MW of reliable hydroelectric power to New England's portfolio of generation resources will significantly expand the region's fuel diversity, which will help to guard against fuel shortages and price volatility. It will also help to reduce our region's dependence on fossil fuels.

Meeting Future Energy Needs: Increasing the supply of hydropower to New England will help to make possible expanded uses of electricity in the region, such as plug-in electric vehicles and manufacturing using renewable energy.

Project Timeline

PROJECT	2008	2009	2010	2011	2012	2013	2014	2015
Northern Pass concept proposed by HQ Hydro Renewable Energy, NU, and NSTAR								
Federal approval of financing approach								
Communications with state and local stakeholders								
Engineering studies								
Preliminary routing studies								
Identification of preliminary and alternate routes								
Public input opportunities								
Major contracts awarded								
Permitting								
Major construction								
Targeted in-service date								

Permitting and Public Input

In order to move forward, a detailed Environmental Impact Statement will be prepared, and the Northern Pass transmission project will need to meet all necessary federal and state permitting requirements for the proposed transmission line and converter terminal. The project will also need technical approvals from ISO-New England. This process will include numerous opportunities for public input.

The Northern Pass transmission project team will also convene outreach sessions to provide information and to gather feedback from the public and local communities.

For the portion of the line in Québec, Hydro-Québec will be responsible for government permitting, and will consult with the impacted local communities with a view to optimizing the line route.

