



**Advancing Clean Energy in New Hampshire:  
The Northern Pass**

**Deerfield  
January 31, 2011**



# Today's Agenda

- Purpose and Overview of Proposed Project
- Project Benefits
- Proposed Line Routing and Considerations
- Permitting and Approvals
- Project Timeline

## Why The Northern Pass? Why Now?

**The state and the region have set aggressive clean energy goals:**

- **NH's Climate Action Plan:** Recommends 67 actions for the state to pursue with a goal of reducing greenhouse gas emissions 80% below 1990 levels by 2050
- **Regional Greenhouse Gas Initiative (RGGI):** Sets standards for reducing carbon dioxide emissions from power plants in 10 Northeast/Mid-Atlantic states
- **NH's Renewable Portfolio Standard (RPS):** Requires NH utilities to purchase locally produced renewable energy (biomass, wind, solar, and small-scale hydropower)
  - Goal of 25% renewables by 2025

# PSNH is Working on Multiple Fronts to Meet These Requirements



**Investing** in energy-efficiency programs



Voluntarily **partnering** with independent renewable power developers



**Encouraging** small-scale renewable energy production



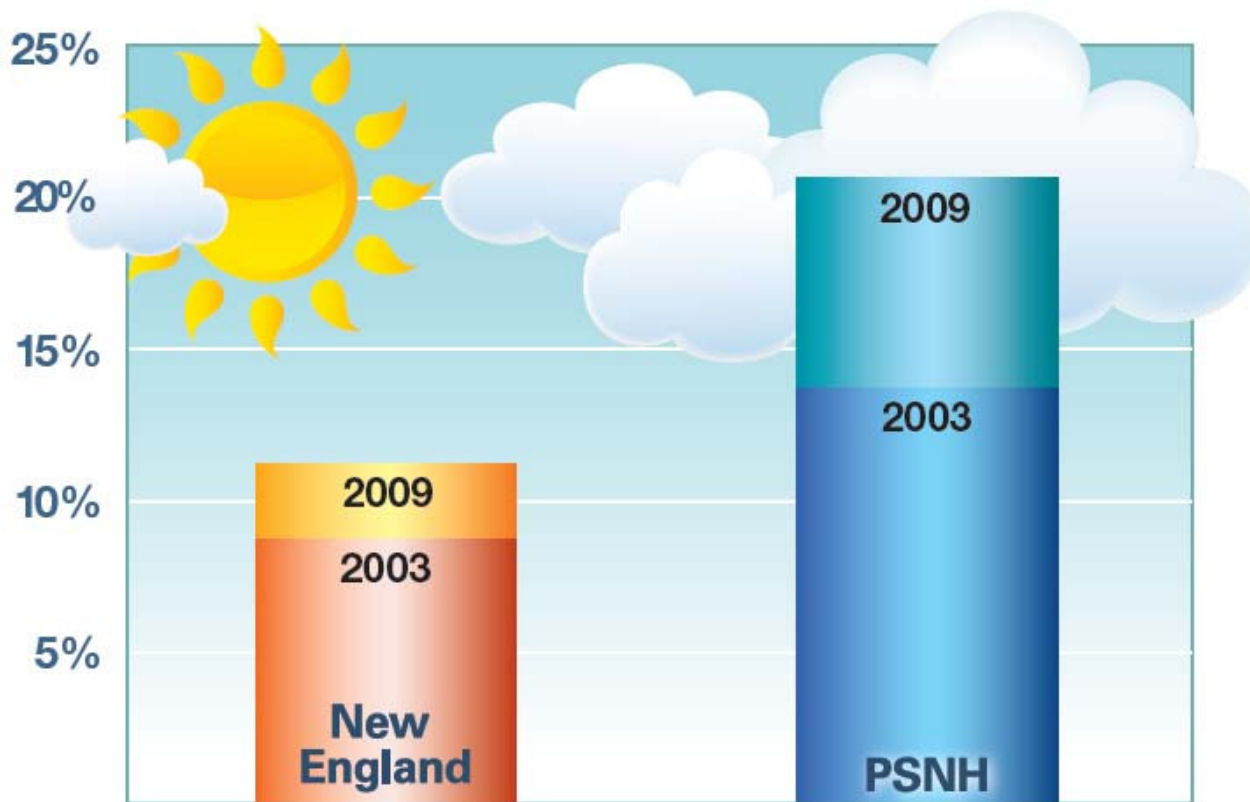
**Investing** in environmental and efficiency upgrades at existing power facilities



**Supporting** large-scale renewable development

# PSNH Leads the Region in its Use of Renewable Energy Sources

## Renewable Energy Progress 2003 – 2009



Source: "Energy Sources in New England," ISO-NE

Numbers reflect percent of load supplied by renewable resources

# What Is the Northern Pass?

- A **proposed transmission project** to deliver up to 1,200 megawatts (MW) of energy (predominantly hydropower) from Québec to New England's power grid
  - Competitively priced, renewable, low-carbon energy
  - Enough energy to power one million homes
- **Project partners** include:
  - HQ Hydro Renewable Energy (Hydro-Québec)
  - Northern Pass Transmission LLC – a NH company established by PSNH's parent company, Northeast Utilities, and NSTAR

# Benefits to New Hampshire and the Region

- **Competitively Priced Power:** PSNH is working to secure a long-term agreement to buy a portion of the power at competitive prices
  - Will provide the benefits of renewable power without the renewable cost premium
- **Lower Regional Average Market Price of Electricity:** Adding 1200 MW of competitively priced power into the region will lower electricity prices throughout the region
- **Resource Diversity:** Adding more hydroelectric power to the region's fuel mix will help guard against fuel shortages and price volatility
- **Greenhouse Gas Reductions:** Reduces regional carbon dioxide emissions by up to 5 million tons a year
  - Project identified as one of the 67 actions in NH Climate Action Plan
- **NH Renewable Energy:** Complements the development and operation of local renewable energy sources, such as wind and solar, which need a flexible energy base

# Benefits to New Hampshire and the Region

## \$1.1 Billion Investment in New Hampshire Economy

- **New Hampshire Employment:** Creates about 1,200 jobs per year over three-year construction phase (2013 – 2015)
  - Preference will be given to local labor
  - Hospitality industry would also benefit greatly during construction
- **New Tax Revenues:** Estimated \$15 to \$20 million annually in new local, state, and county taxes
- **State Economic Output:** Project is estimated to increase NH's economic output by \$259 – \$319 million during development

*The Northern Pass will provide the most significant contribution of renewable energy to New Hampshire and the region, with environmental and economic benefits locally and regionally.*



# The Northern Pass: Major Components

- **Conventional direct-current (DC) transmission line:**  
Extending from Québec to central New Hampshire (about 140 miles long)
- **Converter terminal:** Facility proposed in Franklin to convert DC power from Québec to alternating current (AC) power for distribution on New England's electric grid; valued at \$250 million
- **345 kilovolt (kV) AC transmission line:** Extending from the proposed Franklin converter terminal to the existing Deerfield Substation in Deerfield, NH (about 40 miles long)

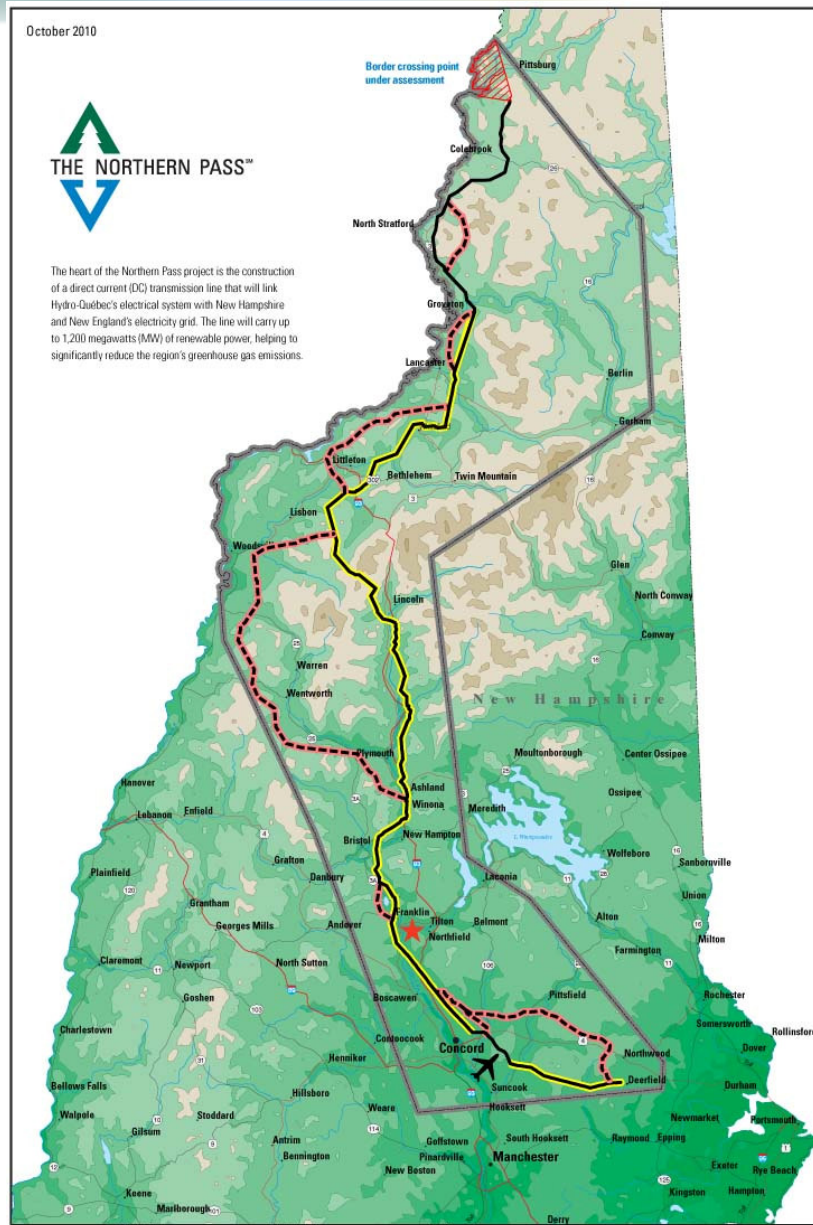
# How is this Proposed Project Different than Other Transmission Projects?

- **Participant-funded project:** Unlike other transmission projects in New England, this project won't increase the "transmission charge" on your electric bill
- **This project will not receive or compete for Renewable Portfolio Standard (RPS) premiums:** Local renewable energy projects will still be needed to meet state RPS requirements
- **Direct-current technology**
  - More efficient transmission of large amounts of electricity over long distances
  - Allows power transmission between unsynchronized alternating-current (AC) systems, such as the US and Québec
  - Does not allow for interconnection with other transmission lines that use AC technology

# Establishing the Proposed Preliminary Route

- Line routing goals:
  - Utilize existing transmission rights of way (ROW)
  - Minimize impacts to social and natural resources
  - Meet technical requirements of the project
- Hundreds of potential routes evaluated to identify a preliminary, least-impact route
- Parts of the proposed preliminary route may change as a result of the permitting process and input from local communities and organizations
- Coordinating with federal and state agencies, environmental organizations, and others to ensure potential impacts are considered and avoided, minimized, or mitigated

# The Proposed Preliminary Preferred and Alternate Routes



# Preliminary Routing in Deerfield

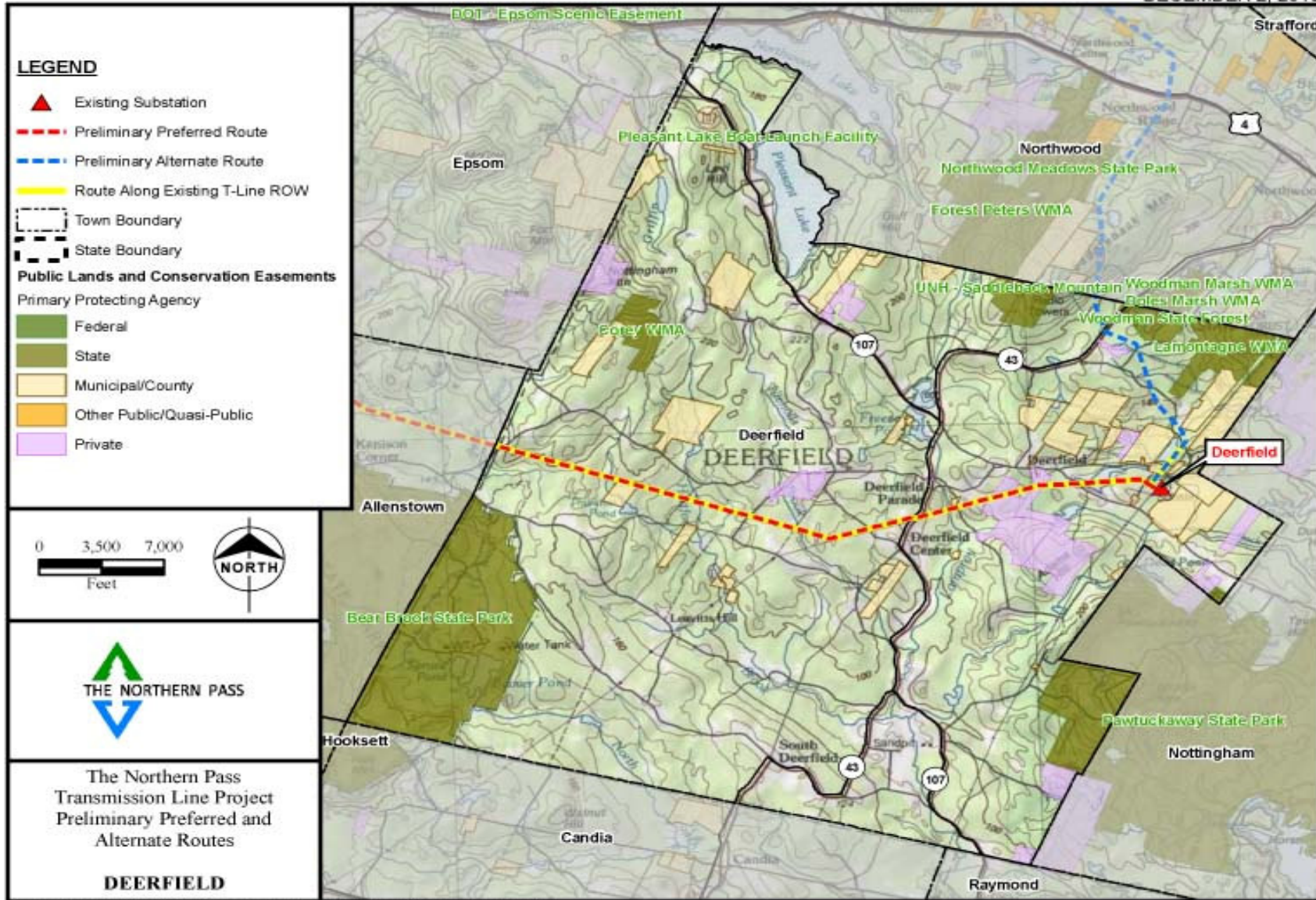
## Proposed for Your Community:

- Preliminary Preferred Route: Approximately 7.3 miles in **existing** ROW
  - Includes 5.3 miles of widened ROW
- Preliminary Alternate Route: approximately 2.7 miles of ROW (approximately 2.1 miles of **new** ROW and 0.6 miles in **existing** ROW)
- Structure heights will vary depending on terrain
  - In most cases, the wider the ROW, the lower the height of the structure

***Every new mile of transmission line adds approximately \$2.5 million to a community's local tax base.***

# Deerfield Map – Proposed Routes

DECEMBER 2, 2010



Source: USGS 1:100,000 Topographic Quadrangle, New Hampshire GRANIT GIS Data, Burns & McDonnell.

# Federal Permitting and Approvals

- U.S. Department of Energy (DOE): Presidential Permit
  - Full Environmental Impact Statement (EIS) required by National Environmental Policy Act (NEPA) to determine environmental impacts
  - Consideration of effects on operating reliability
  - DOE will hold public scoping meetings in NH in early 2011
- Army Corps of Engineers
- Federal Aviation Administration
- Secretary of the U.S. Department of Agriculture: Special Use Permit (required to cross the WMNF)
- Federal Energy Regulatory Commission (FERC): Must approve Transmission Service Agreement

# State Permitting and Approvals

- New Hampshire Site Evaluation Committee (SEC) “Certificate of Site and Facility”
  - SEC issues certificate to authorize the development of energy facilities and establish all terms and conditions for such development
- SEC Process
  - Municipal consultations
  - Application filed includes all information necessary to satisfy the application requirements of each state agency represented
  - Public comments sought and evidentiary hearings held
  - Decision & Order

***Federal and state regulatory review and public evaluation of the proposed project are expected to take about two years.***



## NH Site Evaluation Committee: Member State Agencies

- Public Utilities Commission
- Office of Energy and Planning
- Department of Environmental Services
  - Division of Water
  - Division of Air Resources
- Fish and Game Department
- Department of Health and Human Services
- Department of Transportation
- Department of Resources and Economic Development
  - Division of Parks and Recreation
  - Division of Forests and Lands

# Project Timeline

## ■ Project to Date

- Received Federal Energy Regulatory Commission (FERC) approval of “participant pays” model
- Conducted routing study to determine preliminary preferred routes; initiated environmental data collection on existing ROW
- Submitted interconnection request to ISO-NE (regional electrical system operator)
- Announced location of converter terminal in Franklin
- Filed Presidential Permit application with U.S. Dept. of Energy
- Filed Transmission Service Agreement with FERC
- On-going meetings with municipalities and landowners along the preliminary preferred route
- On-going outreach with state and federal agencies, environmental organizations, business groups and other interested parties

# Project Timeline

- **2011**

- DOE public scoping meetings to begin; public input sought; NEPA data collection begins
- Open houses (hosted by The Northern Pass) to seek public participation and comment and provide greater detail about proposed project routing and components

- **2011 – 2012**

- New Hampshire Site Evaluation Committee application process
- Completion of DOE and environmental permitting processes

- **2013 – 2015** Proposed Construction schedule

- **Late 2015** Proposed In-service date

# The Benefits of The Northern Pass

- A significant step forward toward a **cleaner energy future**
- Supplies **competitively priced, low-carbon, renewable energy** for decades to come
- **Lowers electricity prices** throughout the region
- Brings much needed **local jobs**
- **Increases local sales** of goods and services during project development
- Provides **lasting new tax revenues**

# Questions?

**Call:**

**1-800-286-7305**

**Email:**

**[info@northernpass.us](mailto:info@northernpass.us)**

**Visit:**

**[www.northernpass.us](http://www.northernpass.us)**

