Massachusetts Clean Energy RFP Update

vermont electric power company

VELCO

Operating Committee

April 20, 2017

Overview

- Drivers
- RFP History
- Key RFP Items
- Cost Recovery Models
- Project Updates
- VELCO Guiding Principles
- Next Steps

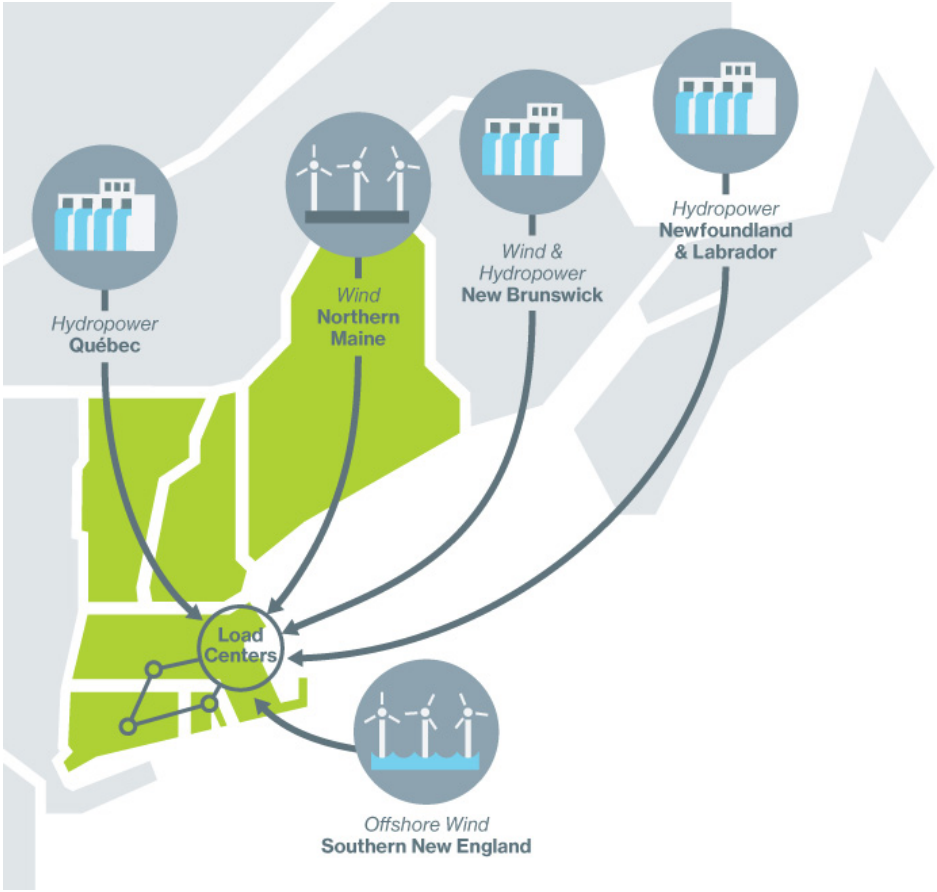
Drivers: Southern New England's Renewable Picture

- Aggressive carbon reduction goals

	2020*	2035*	2050*	RPS (2020)
CT	10	-	80	20
MA	25	-	80	15
RI	10	45	85	14.5
* % reduction in GHG (CO_2) emissions compared to 1990 levels				

- Meeting these targets with in-state resources will be difficult
  - Cape Wind's contracts with Eversource and NGrid cancelled in early 2015
- External resources are likely to play a significant role in meeting these targets

Waiting Solutions: Developers Are Proposing to Move Renewable Energy to New England Load Centers



Map is representative of the types of projects announced for the region in recent years

- As of January 1, 2017, seventeen elective transmission projects had been proposed in the ISO Interconnection Queue, totaling more than 10,000 MW of potential transfer capability, including:
  - Large-scale hydro resources from eastern Canada, and
  - Onshore wind resources from northern New England
- Projects seek to address public policy goals, not reliability needs
- In addition, offshore wind resources are emerging in southern New England

Source: ISO Interconnection Queue (January 2017)

New England Energy RFPs

- New England Clean Energy RFP (MA, CT & RI) issued in 2015
  - 24 bidders
  - Selected six (6) “small” wind and solar projects
  - VT Green line and Northern Pass submitted proposals – neither were selected
  - Considered as “test-case” for larger MA RFP
- On August 8, 2016, MA governor signed energy law in to effect
- MA RFP released March 31, 2017
  - Solicits renewable energy proposals, includes hydro
  - Considered to be the second phase of the 2015 RFP to seek bigger solutions

MA RFP: Noteworthy Items

- RFP Structure
  - Allows for separate proposals for generation and transmission projects
  - Does not require a firm price
  - Required contract with MA DUs by 2022
  - Requires energy delivery w/out material constraint or curtailment
    - Commitment of 70% delivery during winter months
  - Includes Liquidated Damages (LDs) for failure to meet delivery schedules
- Major Bid Review Criteria
  - Costs
  - Permits
  - Proven experience (permitting, construction, O&M, etc.)
  - Control or rights to acquire lands
  - Itemized costs (e.g. transmission, system reinforcements, etc.)

MA RFP: Noteworthy Items, Continued

- Decision
  - Use of Independent 3rd Party Reviewer (Bidders include MA DUs)
    - Decision process is unclear
    - RFP for review consultant has been issued
  - Monitored by MA DPU and AG's office
  - Contract developed with winning bidder subject to MA DPU approval
    - MA AG's office provides recommendation
    - DU can terminate contract if MA DPU makes unreasonable changes; merchant cannot
- Timeline
  - Proposals due: 7/27/17
  - Selection of bidders to enter negotiation: 1/2018
  - Contract to MA DPU for approval: 4/2018

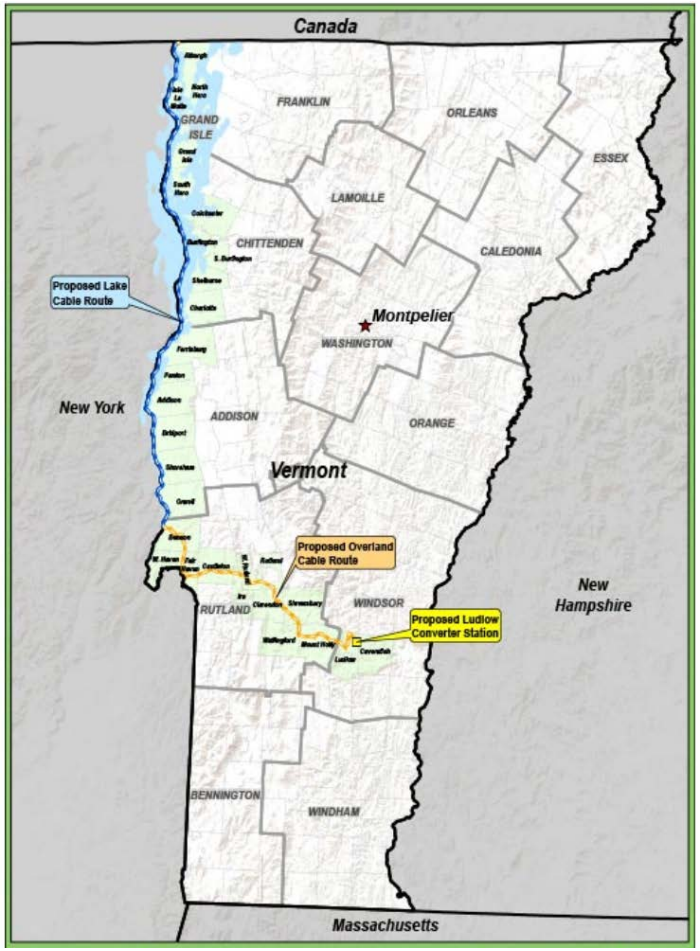
Cost Recovery: Merchant transmission investment challenges

- Pure merchant model (TDI-currently)
  - Costs recovered from customer through FERC-approved tariff
- Supplier pays model (HQ-Northern Pass)
  - Large supplier pays cost to construct transmission to provide access to market
  - HQ recovers costs through FERC-approved tariff

Project Updates

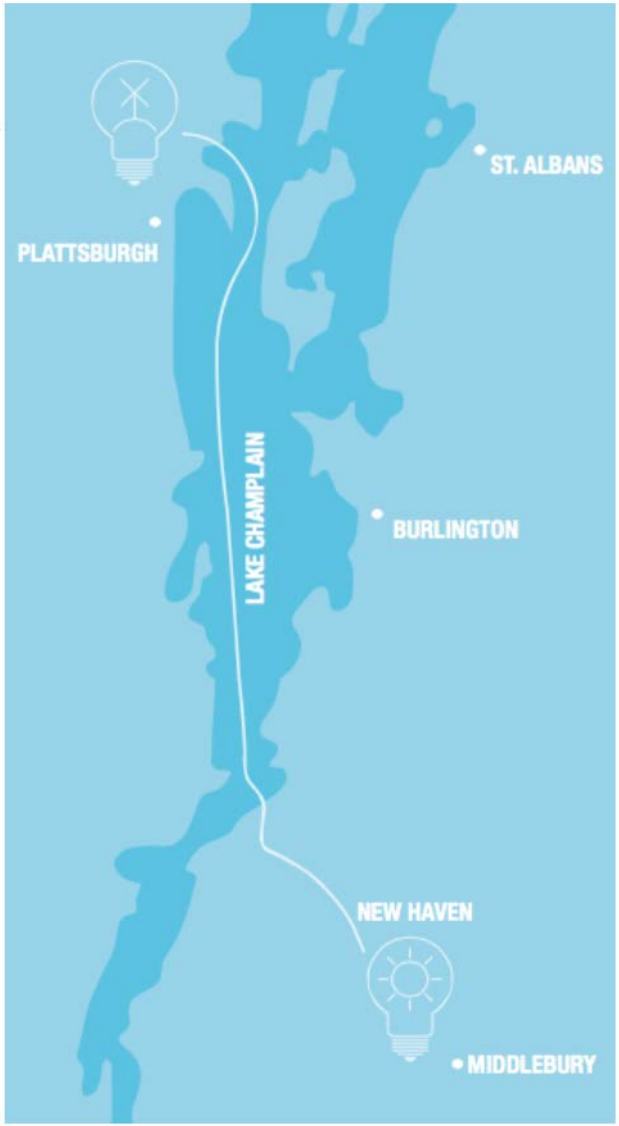
New England Clean Power Link (TDI)

- 1,000 MW—all underground
- Route: HQ—VELCO Coolidge substation
- System impact study (SIS) complete – impacts are being refined
- All permits in hand (e.g., CPG, ACOE, Presidential Permit)
- Costs recovered through FERC tariff
- Ratepayer Relief Value Stream Secured: $135M over 40 years

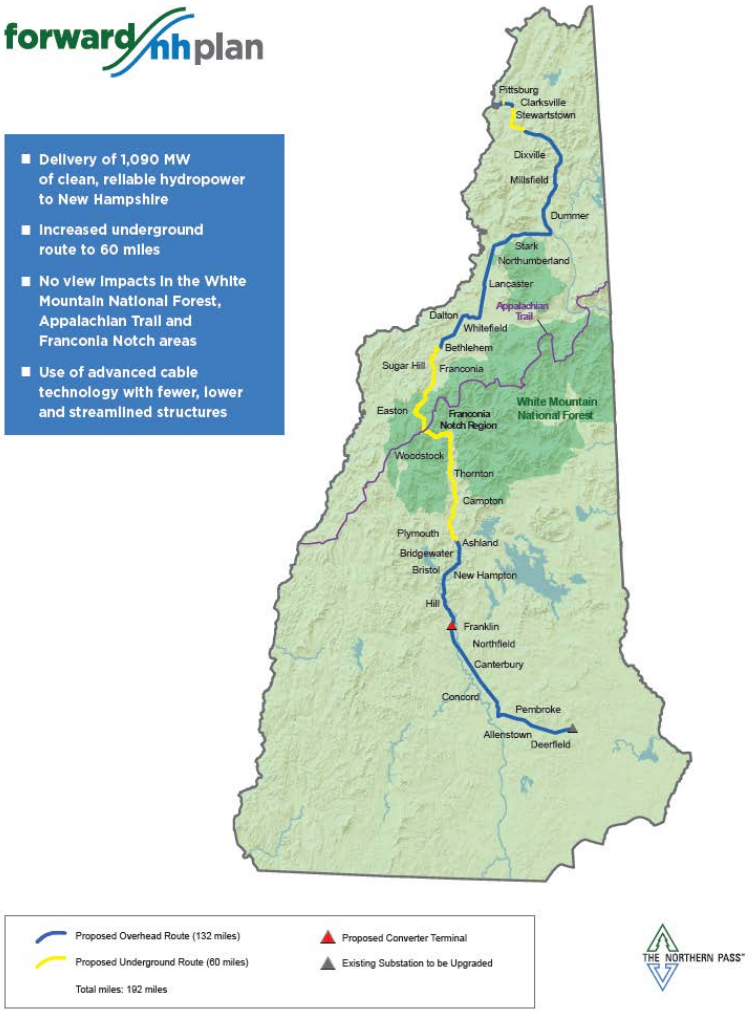


Vermont Green Line (NGrid)

- 400 MW—all underground
- Route: Plattsburgh, NY to VELCO's New Haven substation
- ISO-NE study (SIS) complete but being appealed
- §248 filed October 2016
- Suppliers: HQ (hydro), new wind in NY
- VELCO-Anbaric MOU (2013)
  - Options to manage all phases of project (permitting to O&M)

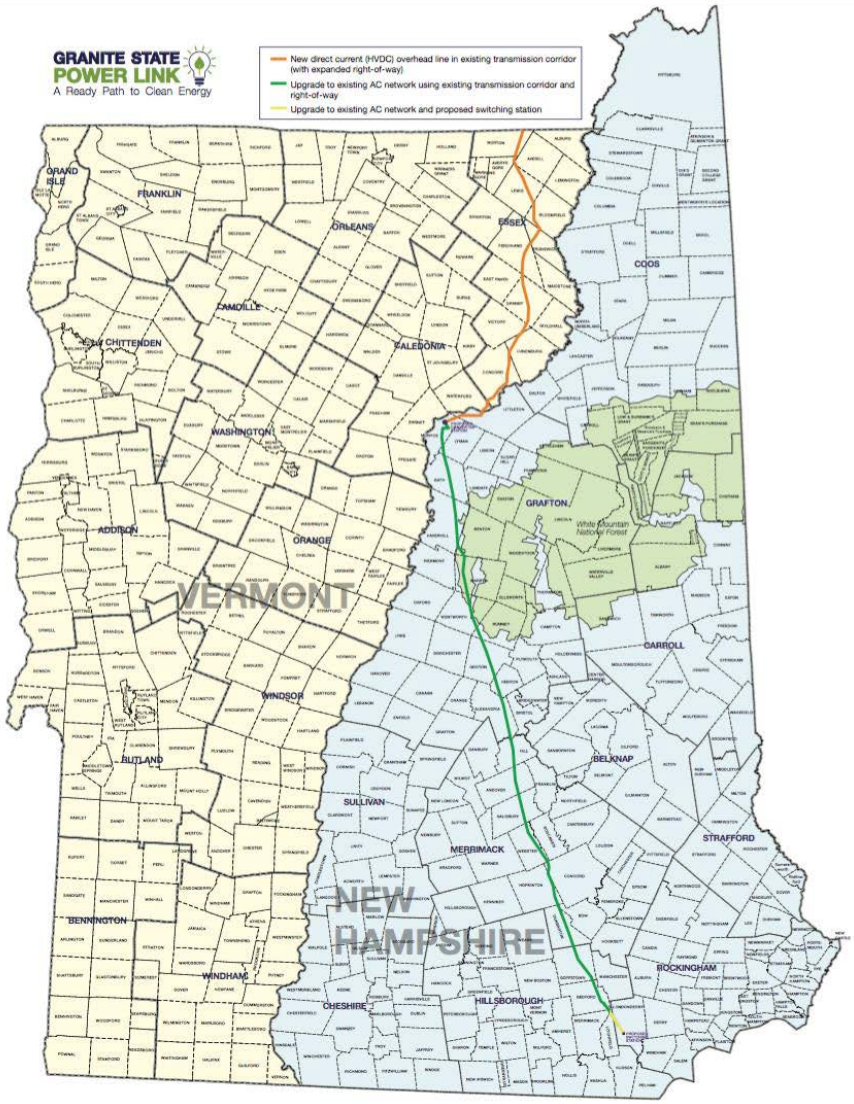


Northern Pass (Eversource/HQ)



- 1,090 MW—overhead and underground
- Route: HQ—new substation in central NH
- SIS complete—AC upgrades in NH
- NH siting controversial
  - Resolution expected by fall 2017
- Suppliers: HQ (hydro), possibly a wind supplier
- Supplier pays model (HQ-Northern Pass)
  - Large supplier pays cost to construct transmission to provide access to market
  - HQ recovers costs through FERC-approved tariff

Granite State Power Link (NGrid)



- 1,200 MW—overhead and underground
- Route: HQ—Norton, VT, to Monroe, NH, new HVDC line
  - Upgrade existing line Monroe, NH, to southern NH
  - Proposal would use VETCO ROW
  - Interconnection request filed at ISO-NE in 1/2017
- Starting state siting activity
- Suppliers: TBD
- Announced March 2017

VELCO guiding principles

- Interconnecting TO: preserve reliability
- Preserve independence (FERC Standards of Conduct)
  - Consider multiple projects
- Maximize risk-adjusted value
  - Recover expenses, obtain revenue stream for customers
  - Provide services (e.g., ROW, permitting engineering, O&M, etc.)
- Evaluate investment possibilities
  - Explore appropriate investment scenarios that align with the general good of state of Vermont and Company mission

Next Steps

- Perform project work in accordance with ISO Process
  - Focus on Secondary Upgrades
  - Engineering and other Scoping Efforts
  - Subject to billable agreements using market rates
- Continue to Evaluate investment possibilities
  - Secure DayMark to evaluate projects
    - Likelihood of winning RFP
    - Benefits to VT
    - Identify impacts (positive and negative) to Vermont and VELCO
  - Allows for informed decisions/aids negotiation and overall effort to secure value for VT