



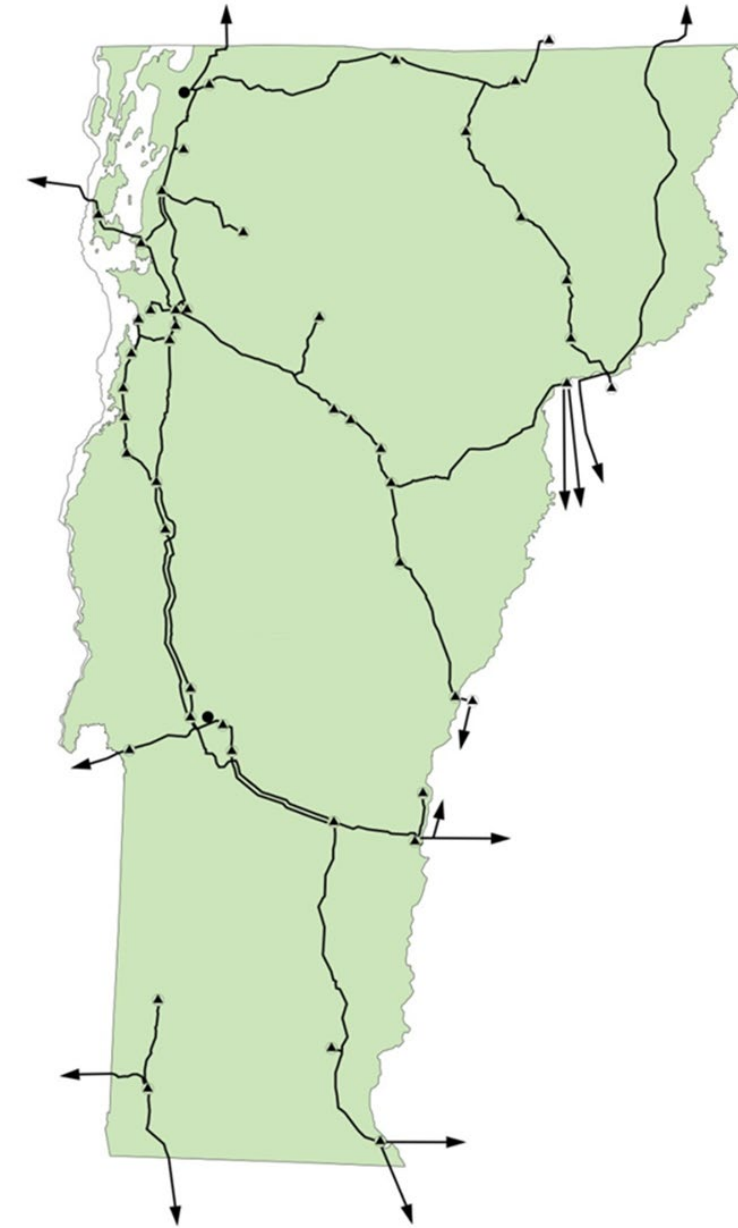
January 15, 2025
Senate Natural Resources and Energy
VELCO overview
Shana Louiselle, Communications Manager

Background

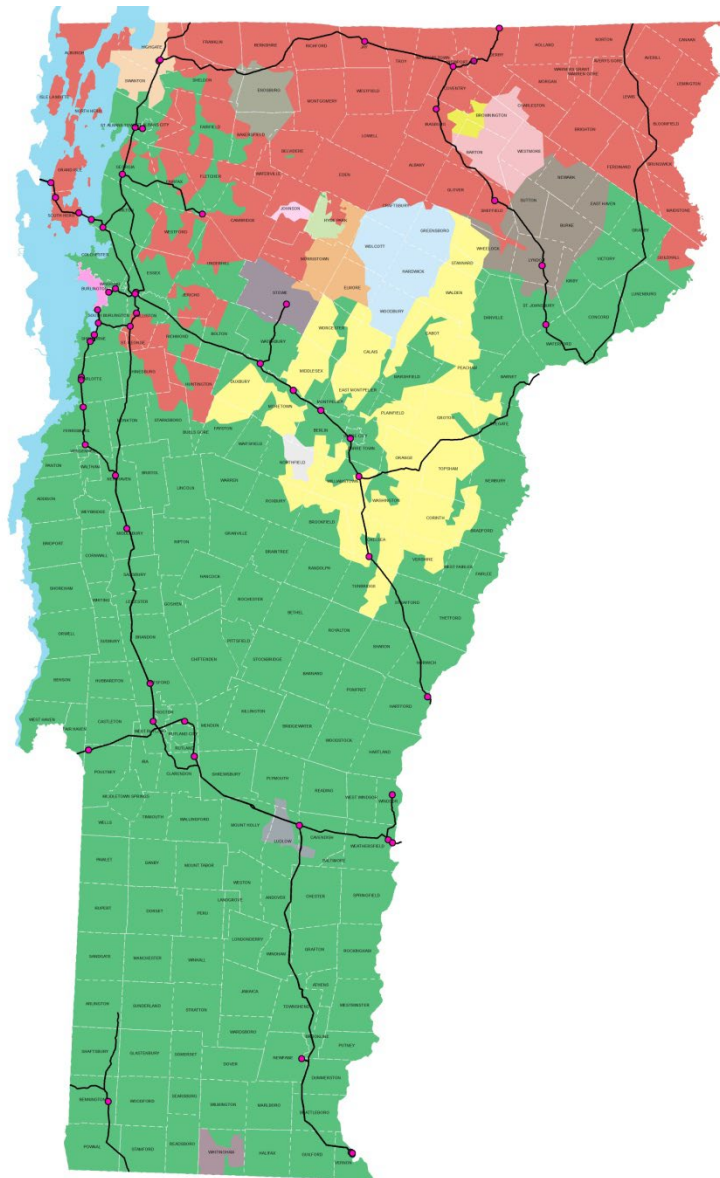
- ▶ VELCO: 1956, Vermont's utilities united to form the first U.S. transmission-only company, delivering New York hydropower to Vermont
- ▶ Owned by Vermont's 17 distribution utilities and a public benefits corporation
- ▶ For-profit structured to deliver cooperative like value to every grid connected customer (i.e. VELCO profits lower customers' rate pressures)

Managed assets

- ▶ 740 miles of transmission lines
- ▶ 14,000 acres of rights-of-way
- ▶ 55 substations, switching stations and terminal facilities
- ▶ 1,600+ miles fiber optic communication networks that monitor/control electric system and aid Vermonters' high-speed data internet access
- ▶ Adding 800+ more miles of fiber to connect 500 MW of distributed energy resources
- ▶ 56-site Statewide Radio System to enable both daily operations and emergency response
- ▶ HVDC equipment that enables interconnected operations with Hydro-Québec
- ▶ More than 172 communities served by VELCO middle-mile fiber
- ▶ 193 Vermont towns host VELCO assets receiving more than \$31 million in property taxes



Distribution Utility customer/owners



- Stations
- Transmission Lines
- VT Distribution Utilities**
- Burlington Electric Dept.
- Green Mountain Power
- Ludlow Electric Light Dept.
- Swanton Village Electric Dept.
- Vermont Electric Co-op
- Village of Barton
- Village of Enosburg Falls
- Village of Hardwick
- Village of Hyde Park
- Village of Jacksonville Electric Dept.
- Village of Johnson
- Village of Lyndonville Electric Dept.
- Village of Morrisville Water & Light Dept.
- Village of Northfield
- Village of Orleans
- Village of Stowe Electric Dept.
- Washington Electric Co-op

- ▶ VELCO substations connect to the sub-transmission systems of...
- ▶ BED (20,000 customers)
- ▶ GMP (270,000 customers)
- ▶ Lyndonville (5,700 customers)
- ▶ Swanton (3,500 customers)
- ▶ Stowe (5,000 customers)
- ▶ Vermont Electric Cooperative (32,000 members)
- ▶ Washington Electric Cooperative (11,000 members)

Roles & responsibilities

VELCO's vision is to create a sustainable Vermont through our people, assets, relationships and operating model.

VELCO's role is to ensure transmission system reliability by planning, constructing and maintaining the state's high-voltage electric grid.

Related responsibilities

- ▶ Serve as Local Control Center for Vermont grid operations
- ▶ Serve as Vermont's metering and power contract settlement agent
- ▶ Advocate owner and state positions at ISO-NE
- ▶ Develop and submit Vermont's Long-Range Transmission Plan
- ▶ Manage the Vermont System Planning Committee



Federal Energy Regulatory Commission (FERC)

Regulates interstate transmission of electricity



U.S. DEPARTMENT OF
ENERGY

Federal energy policy

North American Electric Reliability Corporation (NERC)

Develops and enforces reliability standards

Northeast Power Coordinating Council (NPCC)

Establishes, monitors, and enforces region-specific reliability requirements

ISO New England (ISO NE)

Oversees planning and operation of NE electric grid

State of Vermont

Public Utility Commission, Department of Public Service,
Agency of Natural Resources, Agency of Agriculture Food and Markets



Operates Vermont transmission grid

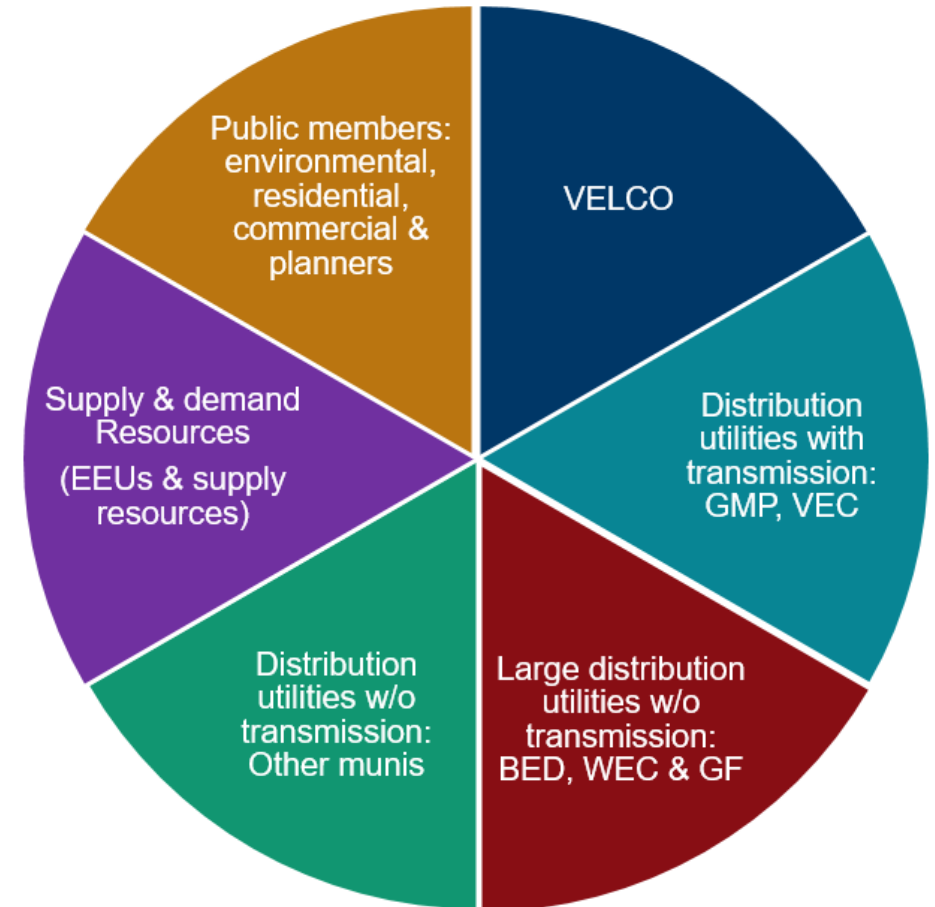
Vermont Distribution Utilities

Coordinate with VELCO for bulk power delivery and subtransmission system planning



Vermont System Planning Committee

- ▶ **Act 61 of 2005 Legislature (30 V.S.A. § 218c)**
 - ▶ Prepare a 10-year transmission plan at least every three years beginning July 1, 2006
 - ▶ “Identify potential need for transmission system improvements *as early as possible, in order to allow sufficient time to plan and implement more cost effective non transmission alternatives* to meet reliability needs, wherever feasible.”
- ▶ **Public Utility Commission Docket 7081 established VSPC in 2007**
 - ▶ Objective: Full, fair and timely consideration of cost-effective non-transmission alternatives
 - ▶ Process binding on all Vermont utilities
 - ▶ Requires 20-year long-range transmission plan



2024 Draft VT Long-Range Transmission Plan Takeaways

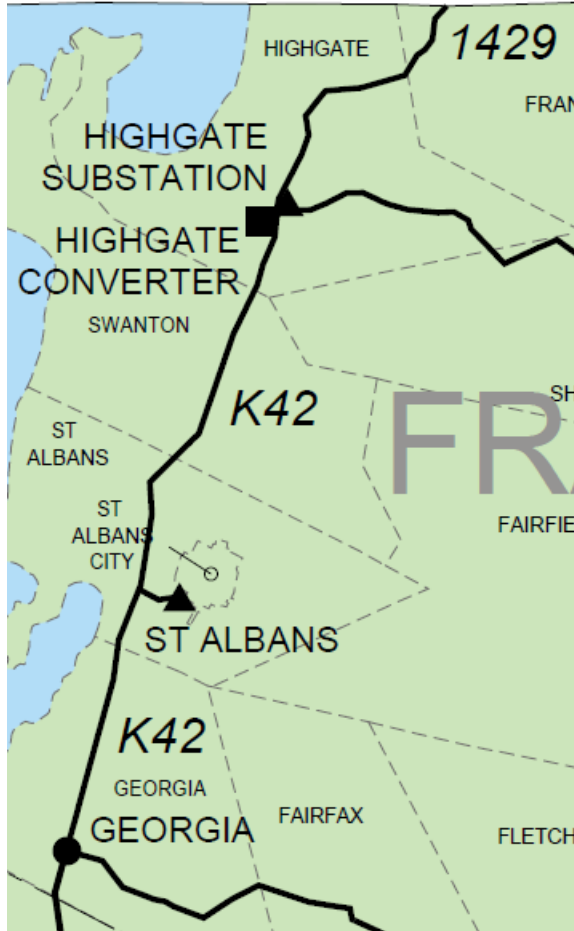
- ▶ Vermont will continue to depend on transmission
- ▶ Vermont Roadmap forecast scenario will lead to reliability concerns in about 10 years
- ▶ Significant DG growth in the same historical pattern will exceed system capacity
 - Storage
 - Grid upgrades
 - Curtailment
 - Grid support from inverters
 - Load management
 - Statewide coordinated planning
- ▶ Collaboration and innovation needed to achieve renewable goals
- ▶ Non-Transmission Alternative process will take place over the next two years

Current Priorities

- ▶ Optimize existing transmission system
- ▶ 600-mile fiber reliability project:
 - ▶ Enables visibility of Distributed Energy Resources (~500 MW)
 - ▶ Enables system planning using actual data vs. estimated data
 - ▶ Accelerates Vermont broadband access
- ▶ Secure collaborative data sharing with customer/owners, e.g., VX Platform
- ▶ New transmission improves resilience, delivers clean energy and moderate rate pressures
 - ▶ Franklin County Line Upgrade Project
 - ▶ Alliance Transmission Project



Franklin County Line Upgrade



Overview

- ▶ \$85 million project
- ▶ Replace existing K42 transmission line
- ▶ Right-sizing existing transmission 16.7 mile transmission line
- ▶ Georgia – Highgate, main transmission path for energy from Quebec and in-state wind generation toward load center of Burlington

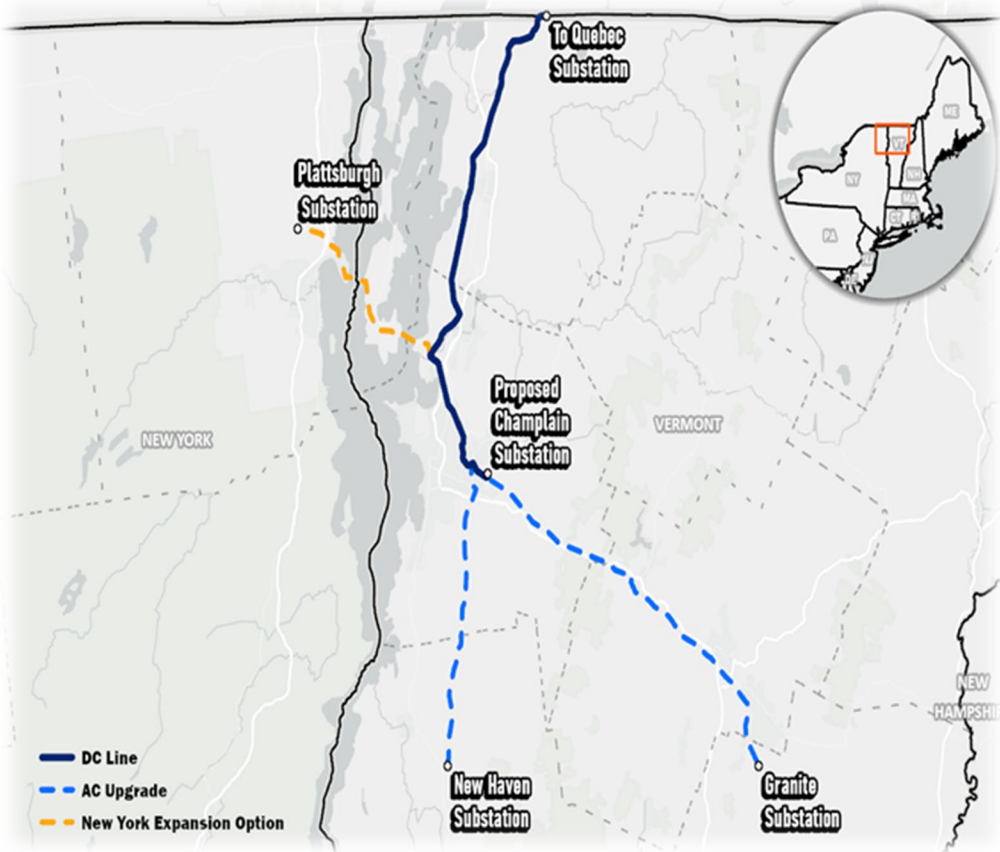
Benefits

- ▶ Replaces 212 structures of which 146 will not last until the next inspection
- ▶ Maintain safe operation of system
- ▶ Increased reliability
- ▶ Creates space in existing right-of-way for future line to serve region
- ▶ Increased property tax contributions to host towns
- ▶ Double-bundled conductor reduces energy-line losses
- ▶ Facilitates 20 MW in additional renewable energy growth capacity in area

Project elements

- ▶ Maintains existing line in service during construction, avoiding 30 daily outages
- ▶ Mono-pole double-conductor design
- ▶ Steel structures bring lower maintenance costs and longer useful life
- ▶ Certificate of Public Good received summer 2024
- ▶ Construction begins September 2024
- ▶ Commissioning 2026

Alliance Transmission



Alliance Transmission (“Alliance”) will introduce a modernized HVDC intertie to Northwest Vermont, offering full deliverability to the major demand centers of New England. Alliance is:

- ▶ A joint venture 1,200MW bidirectional HVDC VSC/HVAC interregional link between New England and Québec, with a New York expansion option;
- ▶ A constructible, permittable, more affordable, lower-risk interregional project to be sited within existing rights-of-way (ROW);
- ▶ A solution for local congestion and curtailment issues in Vermont, for regional objectives outlined in NESCOE/ISO-NE planning processes, as well as DOE interregional transfer capacity objectives;
- ▶ A joint venture that leverages an impending infrastructure upgrade for the greater benefit of Vermont and New England ratepayers; as well as
- ▶ Capable of delivering long-duration storage and reliability gains via a new “energy banking” product that Hydro-Québec is exploring in connection with HVDC bi-directional

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