

Green Mountain Power

House Energy and Digital Infrastructure | January 24, 2025



Green Mountain Power: Who We Are

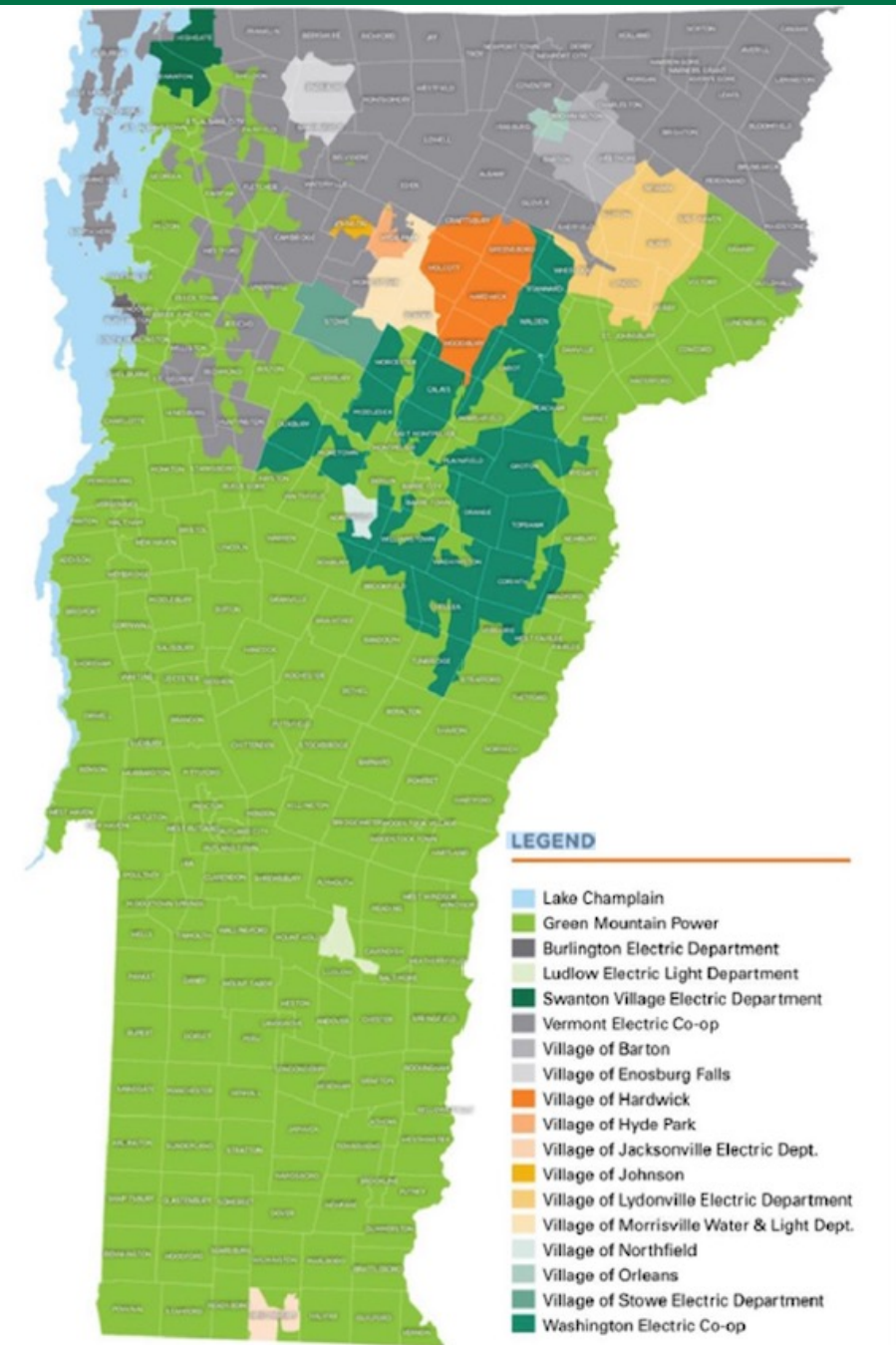
We serve more than 275,000 customers across Vermont

- ▶ 85% residential
- ▶ 15% commercial
- ▶ 77% of Vermont

- ▶ 510 Employees
- ▶ 285 are IBEW Local 300 members
- ▶ Storms bringing higher precipitation amounts in all seasons, higher wind speeds.

- ▶ Mostly rural territory
- ▶ 12,500 miles of distribution lines
- ▶ 1,000 miles of sub-transmission lines

- ▶ 2023 peak load on the system was 650 MW



Energy Storage and Renewable Resources

- ▶ Residential & utility-scale batteries, microgrids
 - ▶ 4,500 customers with more than 8,000 residential batteries
 - ▶ Virtual Power Plant (VPP)
 - ▶ 70 MW stored energy (all types together)
 - ▶ 7MW of grid-scale battery storage at solar sites
 - ▶ Largest power source in Vermont
 - ▶ Saves all customers up to \$3 million annually
- ▶ Fleet of renewable generation resources
 - ▶ 41 hydroelectric generators with 117MW in nameplate capacity
 - ▶ Wind resources: Kingdom Community Wind and Searsburg
 - ▶ Combination of owned (38MW) and PPAs across the system
 - ▶ Panton microgrid, pairing energy storage with solar to keep 51 customers and essential town building connected if the larger grid is damaged
 - ▶ Resilient all electric neighborhood in South Burlington, 155 homes



Innovative Customer Programs



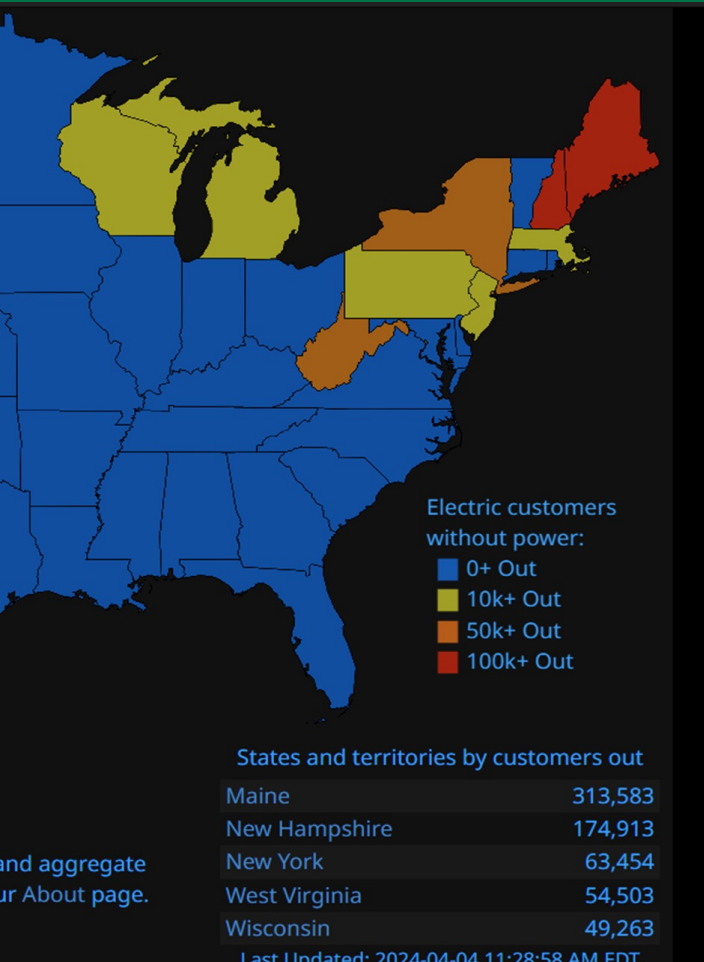
- ▶ Tier III Programs
 - ▶ Part of the Renewable Energy Standard
 - ▶ Last year more than 10,000 customers participated in a Tier III program
- ▶ Energy Storage Programs
 - ▶ Lease program (ESS)
 - ▶ Bring Your Own Device (BYOD)
 - ▶ Energy Storage Assistance Program (ESAP)
 - ▶ ARPA-funded program in partnership with Department of Public Service
- ▶ ACRE Pilot, Shared Solar
 - ▶ ARPA-funded with DPS building new solar and connecting income eligible customers with a discount
 - ▶ Shared Solar projects getting built now and will ramp up with customers getting connected

What We're Seeing: Storms Are Getting Worse

- ▶ Warming climate means stronger and more frequent storms, more severe weather in Vermont
 - Storms bringing higher precipitation amounts in all seasons, higher wind speeds.
 - More risk for infrastructure
 - More outages for customers
- ▶ Over 50% of storm costs Since 2013 have occurred in the past 2 years.
- ▶ Storm costs were escalating prior to that but not at the frequency we are seeing now.
- ▶ Average 1.4 "Major Storms" per year for previous 9 years, 5 per year in past two years.
- ▶ These stronger more frequent storms are affecting Vermont overall and the rest of the Northeast.



Storm Prep and Planning



- ▶ GMP monitors 4 forecasters and multiple weather models days in advance of any storm.
 - ▶ Forecasters-
 - ▶ DTN Weather
 - ▶ Disaster Tech-Northern VT University born weather prediction
 - ▶ National Weather Service-Burlington(12 VT Counties)
 - ▶ National Weather Service-Albany(2 VT Counties)
 - ▶ Weather Models-
 - ▶ GFS-Global Forecast System
 - ▶ Euro-European Forecast Model
 - ▶ NAM-North American Model
 - ▶ High Resolution Rapid Refresh
 - ▶ Outage Prediction-
 - ▶ Internal GMP present weather vs prior weather prediction
 - ▶ Disaster Tech-Prediction based on total precipitation and how much is frozen.
- ▶ Secure and pre-position GMP team, and extra crews brought in to help, as needed

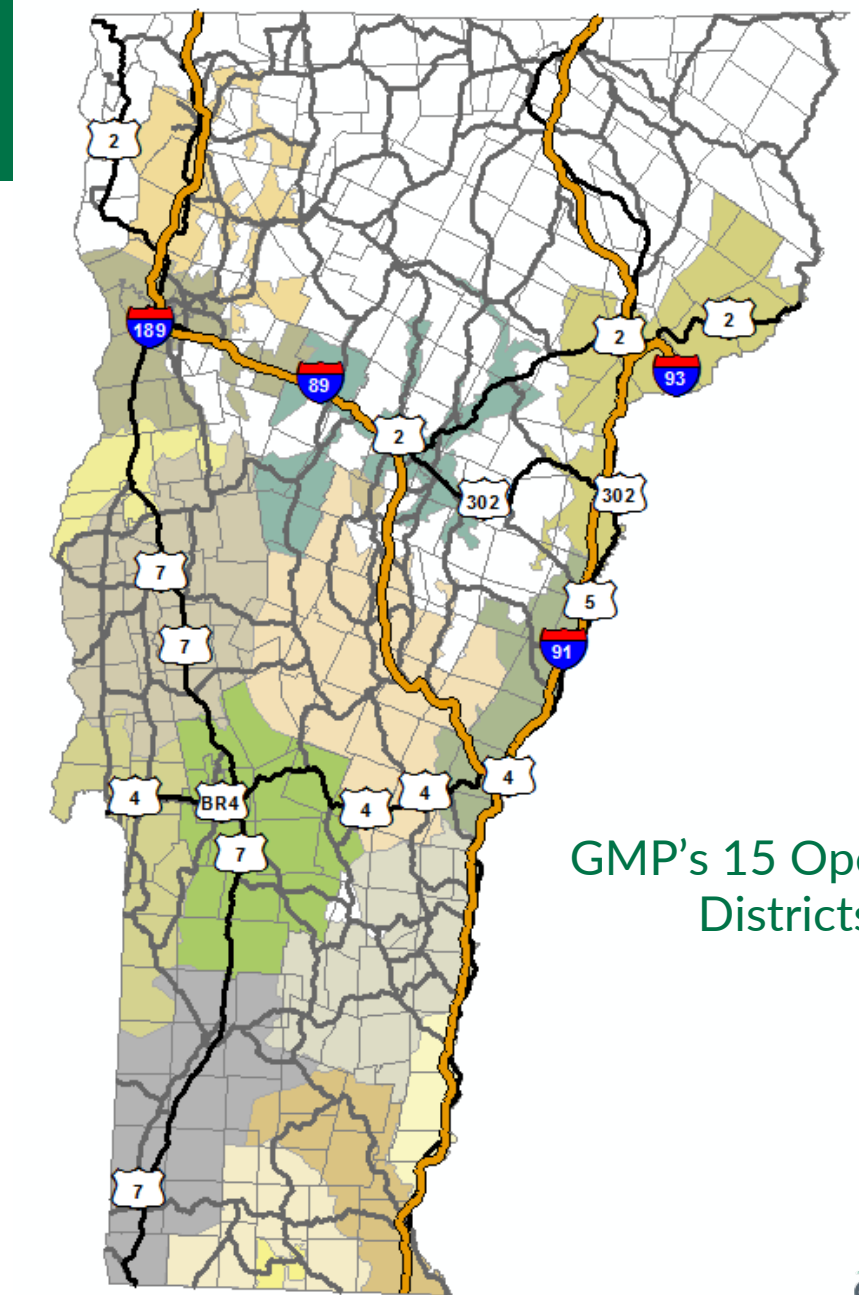
Partnering with Communities on Storm Plans and Response



- ▶ Extensive Outreach before, during, and after storms
 - ▶ Regional and local updates to state and local officials
 - ▶ Targeted updates by email and phone for customers on our critical care list
- ▶ Communities with their own plans/staffing for severe weather are more resilient
 - ▶ Identifying points of contact is key

Storm Restoration

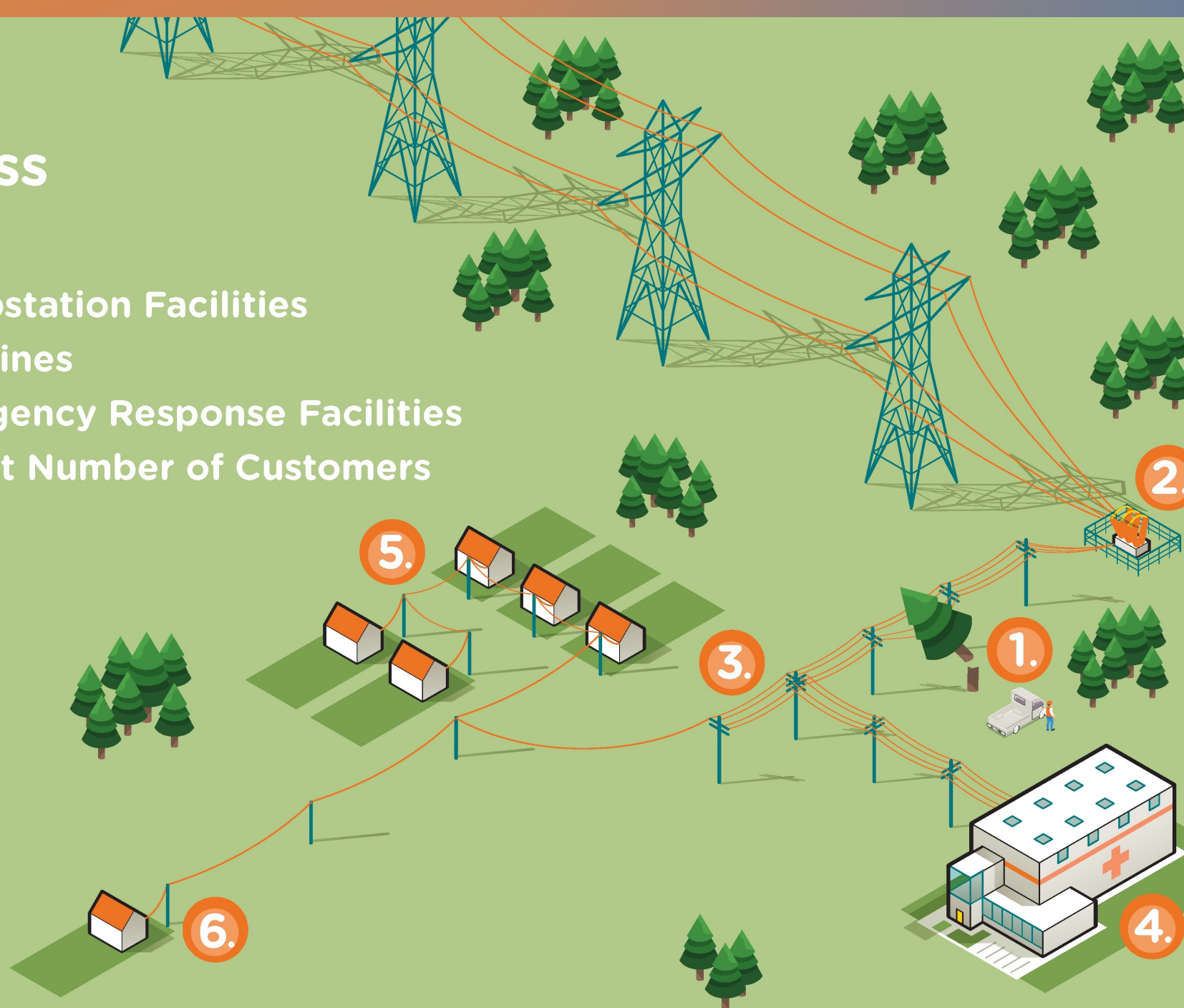
- ▶ Distribute Resources to the hardest hit areas.
- ▶ Communicate often with customers as information becomes available. High level restoration times once damaging weather stops, when the last customers in a geographic area will be back on.
- ▶ Give customers restoration time ranges to help customers make decisions.
- ▶ Decentralize to have districts run storm response locally in their areas for efficiency.



GMP's 15 Operating Districts

GMP Power Restoration Process

1. Clear Hazards
2. Repair Transmission & Substation Facilities
3. Repair Main Distribution Lines
4. Restore Hospitals & Emergency Response Facilities
5. Restore Areas with Largest Number of Customers
6. Restore Isolated Events



GMP: Delivering Solutions

A resilient energy system

- Undergrounding
- Storm hardening above ground lines
- Energy storage, microgrids

Together, keeping communities connected and safe

Lowers costs for customers

- Reduce storm / restoration costs
- Eliminate overhead maintenance where we underground



Storm Resilience: Proven Techniques



Underground Installation-
Rock Saw



Underground-Cable in Conduit



Spacer Cable-Steel Messenger Reinforced
Covered Wire



Covered Wire



Questions?

Candace Morgan | 802-488-4111

Candace.Morgan@GreenMountainPower.com

Mike Burke | 802-324-8012

Mike.Burke@GreenMountainPower.com