

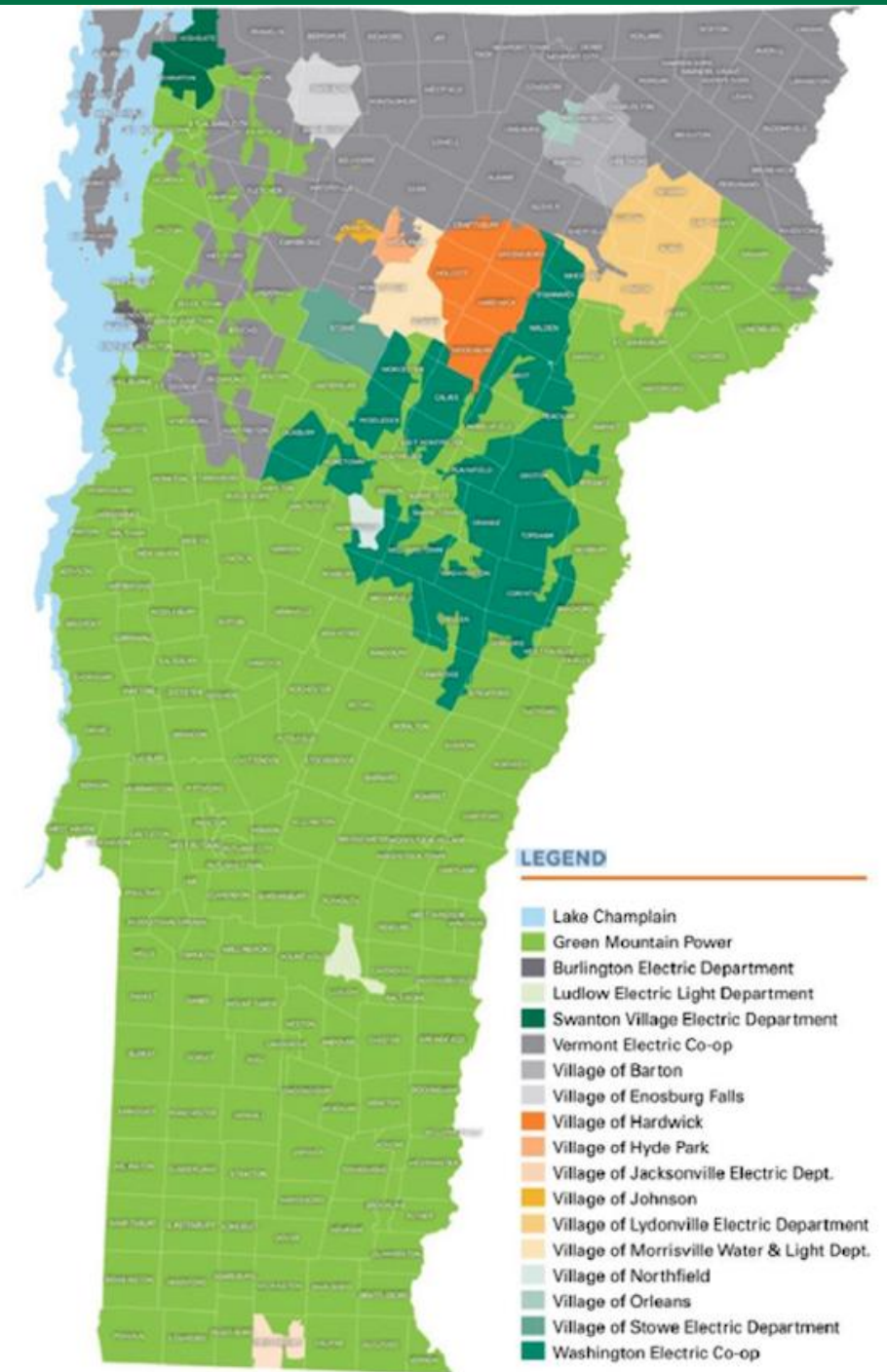
Green Mountain Power

Resiliency Work to Keep Vermont Connected



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



Climate Change: Storms are getting worse

Overall Trend:

- ▶ Warming climate means stronger storms, more severe weather in Vermont
- ▶ Storms are more frequent
- ▶ Storms bringing higher precipitation amounts in all seasons, higher wind speeds.
- ▶ More risk for infrastructure
- ▶ More outages for customers



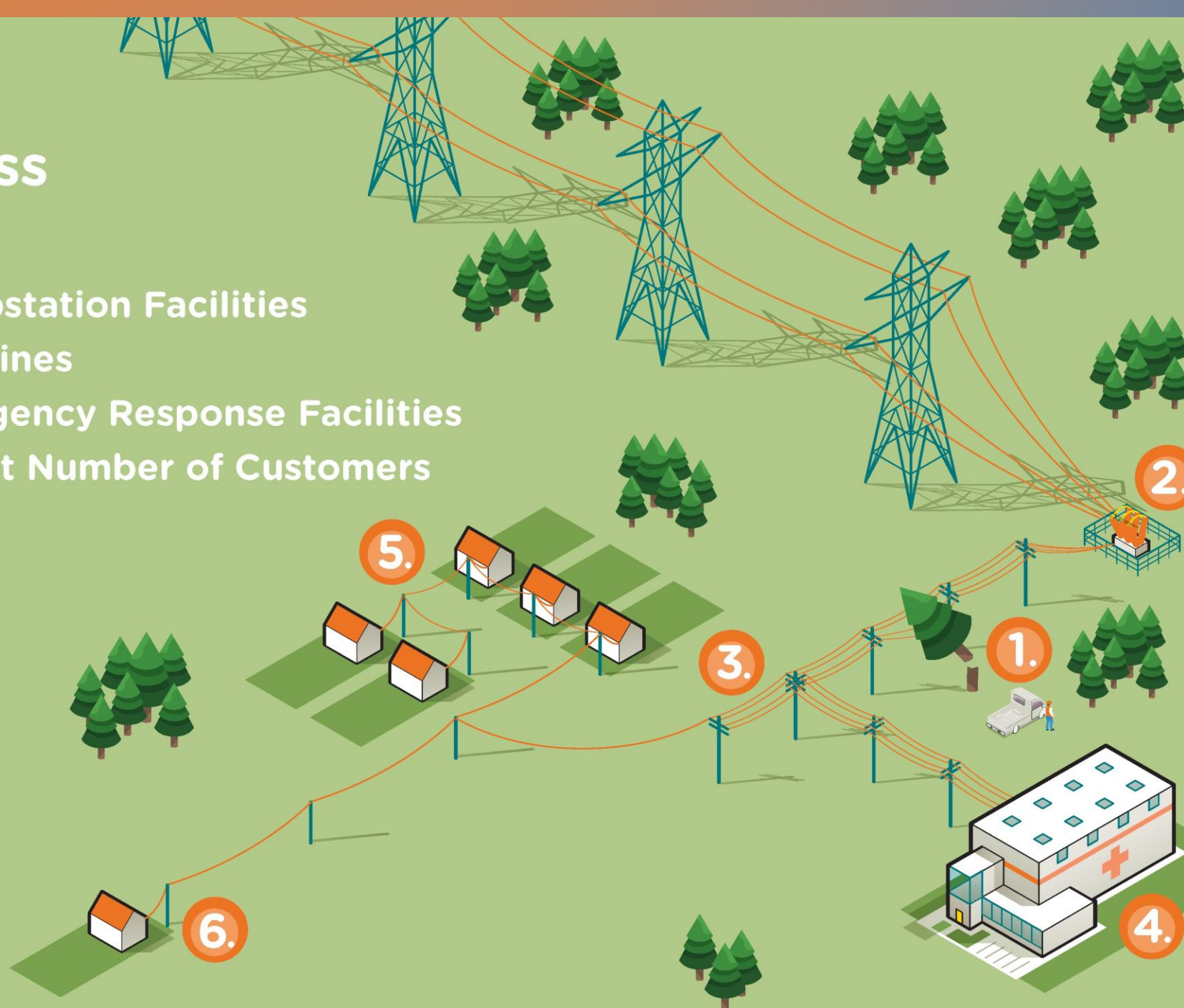
Storm Prep & Planning



- ▶ GMP monitors 4 forecasters and multiple weather models days in advance of any storm.
 - ▶ Forecasters-
 - ▶ VT Utility Forecaster Roger Hill
 - ▶ 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.
 - ▶ Customer Outreach: Proactively alert customers/communities
 - ▶ Text alerts, emails, social media, web site, press releases, robo-calls, critical care customer outreach
- ▶ Secure and pre-position GMP team, and extra crews brought in to help, as needed

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



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

Helping Vermonters Stay Informed and Safe



- ▶ Town/RPC Meetings
 - ▶ Coordinating communication
- ▶ VEM Meetings/Coordination
- ▶ Lifted the Cap on Energy Storage, support CC customers
- ▶ Custom/Frequent messaging

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-Overhead Storm Hardening

Spacer Cable-Steel Messenger Reinforced Covered Wire

Covered Wire



Quick look: Undergrounding



Storm Resilience-Undergrounding



Underground installation-
Rock Saw

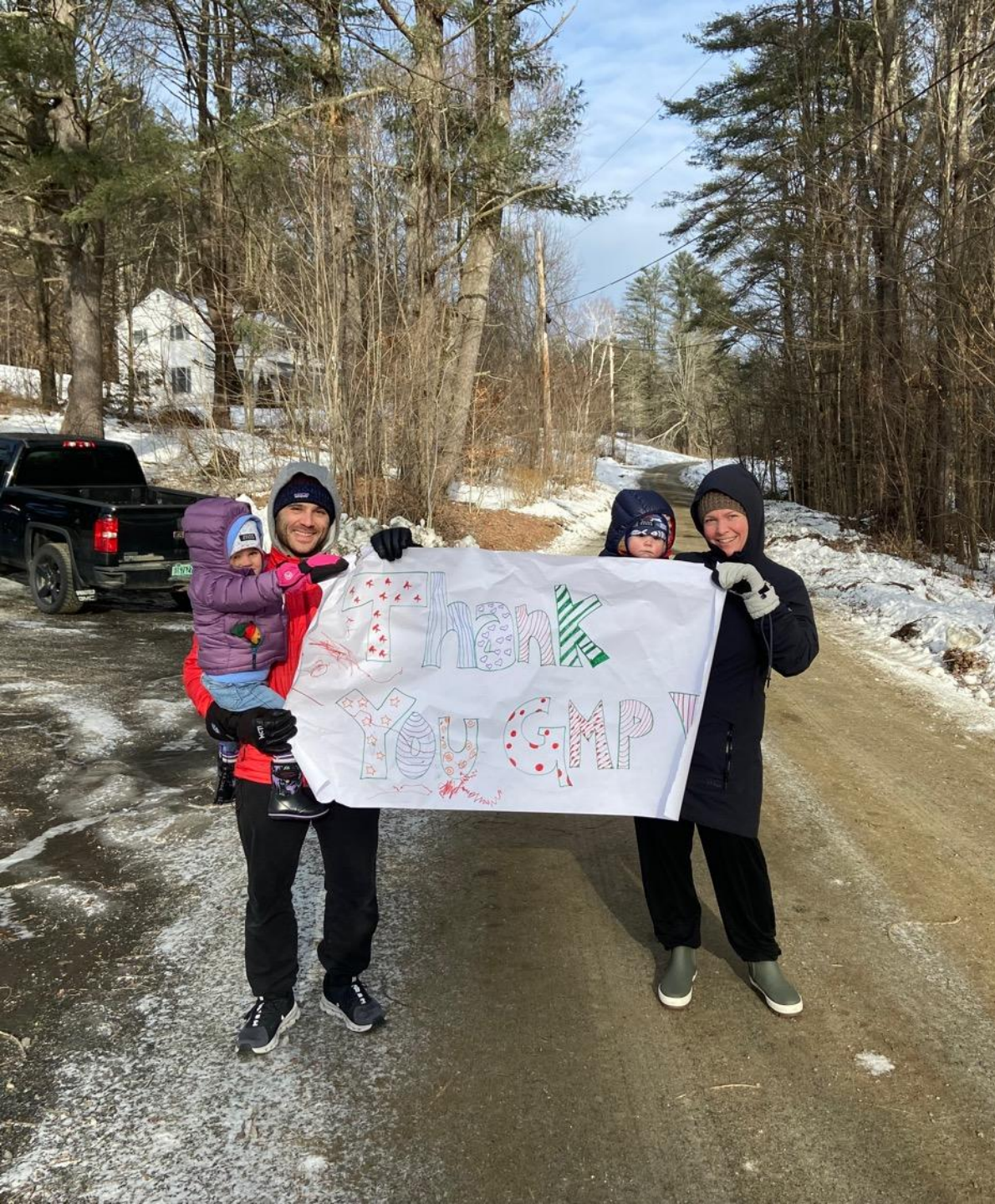


Underground-Cable in Conduit



Underground installation-Vibrating Plow





QUESTIONS?

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