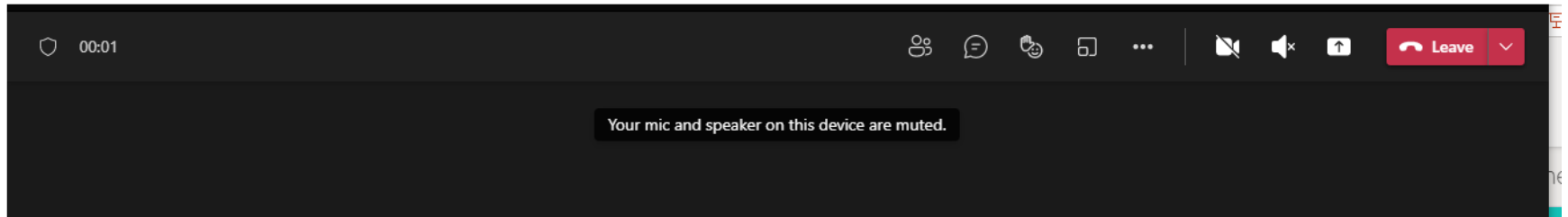


**WELCOME TO THE
Climate Change Vulnerability
& Resilience Plan
Working Group Session – Resilience Plan
Status Update & Next Steps**

The meeting will begin shortly

Engagement during this call

Please Note: This meeting is being recorded



Chat box – you can type comments or questions

**WELCOME TO THE
Climate Change Vulnerability
& Resilience Plan
Working Group Session – Resilience Plan
Status Update and Ongoing & Next Steps**

July 26, 2024

Agenda

- Welcome and introductions
- Project Context & Role of this Working Group
- Recap of Central Hudson's Climate Change Vulnerability Study and Resilience Plan Results
- 2024 Ongoing Initiatives
- Discussion & Feedback
- Next Steps



Welcome and Introductions

Welcome

- Thank you for your involvement
- Stakeholder collaboration and feedback are key

Central Hudson staff on today's call:

- Ryan Hawthorne – Vice President, Engineering & Operations
- Jennifer Paull – Senior Engineer, Electric Distribution Reliability & Resiliency
- Walter Rojowsky – Senior Director, Energy Policy and Regulation

This Working Group

- Membership is open to any stakeholder wishing to participate
- Please contact ClimateResilience@cenhud.com to be added to the distribution list.
- Participating organizations have included:

City of Poughkeepsie	Orange County
City of Kingston	Greene County
City of Newburgh	DPS Staff
Columbia County	NYS DOS UIU
Ulster County	Town of Olive
Dutchess County	NYSERDA
Albany County	Multiple Intervenors
Sullivan County	PULP
Putnam County	NY Geo
Sustainable HV	Others

Project Context & Role of the Working Group

Why are we here?

Meeting Purpose

New York State recently passed legislation requiring electric utilities to perform climate vulnerability studies designed to understand the impacts for the expected increase in severe weather due to climate change.

Following the study, utilities will prepare resilience plans detailing what changes are needed to prepare for harsher climate realities, including stronger storms, more flooding, temperature extremes.

The Resilience Plans will be reviewed and approved by the Public Service Commission.

The purpose of today's meeting is to tell you more about these new requirements and timeline as well as Central Hudson's efforts to respond.

An important part of our planning is to understand and incorporate local concerns and priorities. We will discuss with you today how we can organize those discussions.



NY Public Service Law §66(29) Effective 3/22/2022 and PSC Case 22-E-0222

Climate Change Vulnerability Study

- Establish “climate resilience working group” by 3/2023 to advise on Resilience Plan including municipalities, customer advocacy groups, and energy/environmental advocates
- Study Filed September 2023
- Evaluate infrastructure, design specifications, and procedures to identify vulnerabilities
- Include adaptation measures to address vulnerabilities; feeds into Resilience Plan
- Study performed with supporting climate data from NYSERDA & Columbia University

Climate Change Resilience Plan

- Filed November 2023
- Propose storm hardening measures for next 10 and 20 years
- Detail how climate change reflected in planning, design, operations, & emergency response
- Address impacts on costs, outage times, potential for undergrounding lines, etc.

PSC Review and Approval

- Within 11 Months of Filing Resilience Plan (by October of 2024)
- Stakeholder engagement into utility plans is an important component

Role of Working Group and Stakeholder Engagement Roadmap



September 2022	February 2023	Spring 2023	Summer 2023	Fall 2023 and Beyond	2024 and beyond
<ul style="list-style-type: none"> • Initial Outreach to Create Awareness and Seek Preliminary Input 	<ul style="list-style-type: none"> • Local Community Feedback to Identify Priorities 	<ul style="list-style-type: none"> • Initial Meeting Climate Resilience Working Group • Input into scenarios 	<ul style="list-style-type: none"> • Development of Stakeholder Feedback Loop in Draft Study and Plan 	<ul style="list-style-type: none"> • Input from Stakeholders on Plan • Filing of Resilience Plan • Approval and Execution 	<ul style="list-style-type: none"> • PSC Determination • Report to Stakeholder on plan and other updates • Implementation

Recap of Central Hudson's Climate Change Vulnerability Study and Resilience Plan Results

Vulnerability Study: Climate Variables Assessed

Extreme Heat

Extreme Cold and Ice

Extreme Precipitation

Flooding

Wind/Compound Storm
Events

Vulnerability Study: Biggest Risk Areas

- Extreme Precipitation and Flooding
 - Substation switchgear-style circuit breakers
 - Distribution poles
- Extreme Wind
 - Distribution poles and overhead conductors
 - Impacts are primarily wind on **vegetation** which in turn contacts poles and wires
- Extreme Heat
 - Transmission overhead conductors

Resilience Plan: Proposed Mitigation Measures

- Extreme Precipitation and Flooding
 - Raise vulnerable switchgear-style circuit breakers at three substations
 - Process changes:
 - Inspect vulnerable substations following significant rain/flooding events
 - Add floodplain considerations to capital budget project submittal forms
 - Install protective pole wraps to new distribution poles set in floodplains



Resilience Plan: Proposed Mitigation Measures

- Extreme Wind
 - Strategic distribution undergrounding program
 - Distribution lateral line rebuild program utilizing composite poles
 - Targeted “ground-to-sky” distribution trimming program
 - Four distribution microgrid installations
 - Incremental hazard tree removals on select sections of transmission lines that are especially prone to tree outages caused by wind
- Extreme Heat
 - Use of High Temperature Low Sag (HTLS) conductor on a planned transmission rebuild



Resilience Plan: Cost Impacts

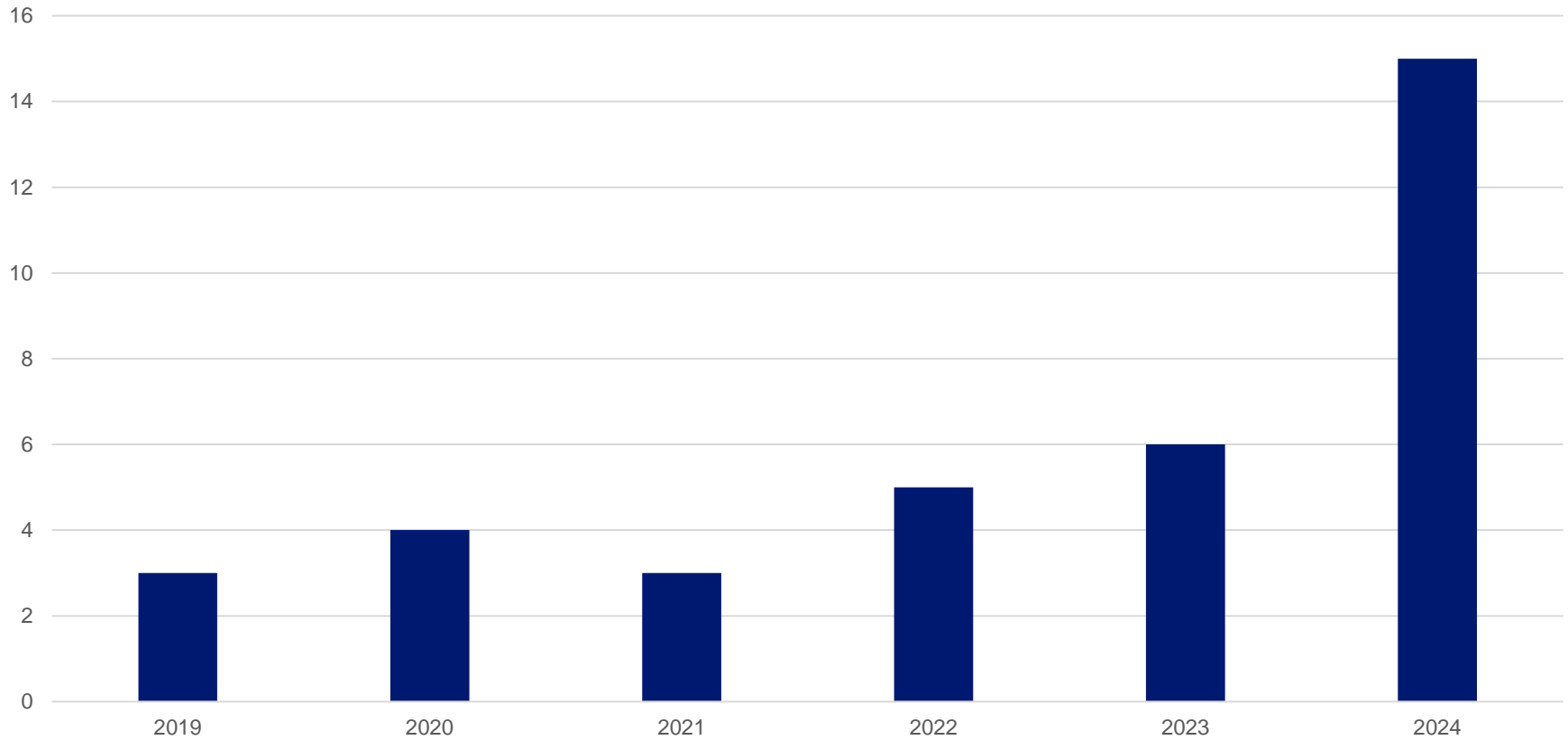
- Total cost for implementation of the first five years of the plan (2025-2029) = \$28.6M
- Average annual increase to the delivery portion of customer bill = 0.14%
- Average annual increase to total bill = 0.06%



2024 Ongoing Initiatives

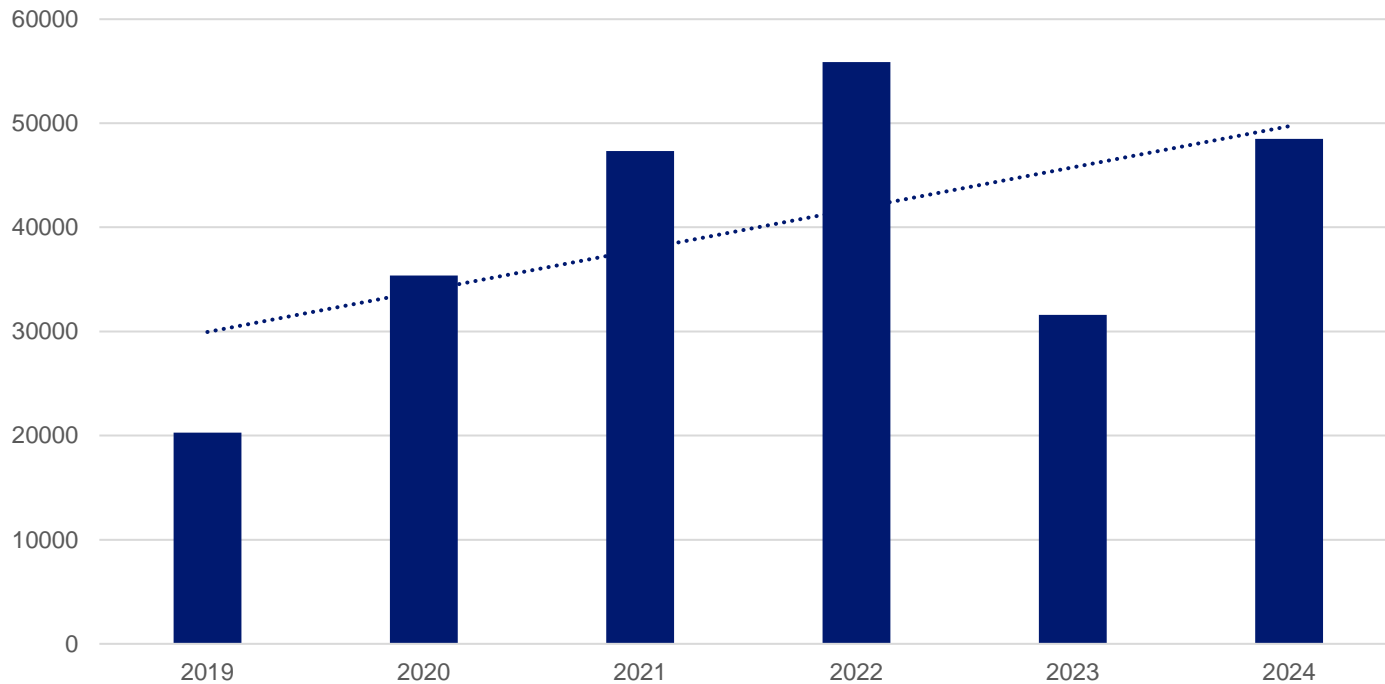
Internal Focus: Continued Monitoring of Storm Activity

of Major Storms during Q1 & Q2 by Year



Internal Focus: Continued Monitoring of Storm Performance

of Customers Interrupted on Priority Distribution Circuits Due to Storms/Trees, Q1 & Q2 by Year



- Programs proposed in the CCRP to address: Targeted “Ground-to-Sky” trimming, Strategic Undergrounding, Distribution Lateral Line Rebuilds.

Internal Focus: Wildfire Risk Mitigation Review

- Low risk compared to other climate variables (and thus was not included in this CCVS), but Central Hudson is taking a proactive look at current and potential future mitigation practices
 - R&D project underway to implement Early Fault Detection on 34.5kV system
 - R&D project underway to identify high-risk vegetation encroachment via satellite technology
 - Grid Modernization program will allow operators to remotely de-energize segments of the distribution system that are in jeopardy of becoming ignition sources



External Focus: Industry Initiatives

EPRI



Three Workstreams:

- Physical Climate Data & Guidance
- Energy System & Asset Vulnerability Assessment
- Resilience/Adaptation Planning & Prioritization

Discussion and Feedback

Participant Questions & Feedback

Questions

Comments

Feedback

Next Steps

Working Group Next Steps

Climate Resiliency Working Group

- Central is awaiting PSC determination on the Climate Change Resilience Plan.
 - PSC has scheduled an in-person public statement hearing:

<p style="text-align: center;">CENTRAL HUDSON GAS & ELECTRIC CORPORATION</p> <p>DATE: July 31, 2024 TIME: 11:00 a.m.</p> <p>LOCATION: Poughkeepsie Town Hall 1 Overocker Road Poughkeepsie, NY 12603</p>
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- Looking ahead
 - We plan to reconvene this Working Group in the fall, upon receiving PSC Order.
 - Please feel free to stay in touch via ClimateResilience@cenhud.com and see <https://www.cenhud.com/en/my-energy/our-energy-future/climate-change-resilience-plan/>.

Additionally, if you or your organization would like to make your voice heard in the statewide proceeding, you can submit comments directly to the PSC by filing comments in the case number 22-E-0222.

Thank You

